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PROMOTING THE MENTAL AND SOCIAL HEALTH OF SCHOOL CHILDREN: THE PLACE OF BASIC EDUCATION AND EDUCATOR

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Abstract

Mental health and many common mental disorders are shaped to a great extent by the social, economic, and physical environments in which the child lives. Social inequalities are associated with increased risk of many common mental disorders. Taking action to improve the conditions of daily life from before birth, during early childhood and at school age provides opportunities both to improve the population of school age children's mental health and to reduce the risk of those mental disorders that are associated with social inequalities. While comprehensive action across the life course is needed, scientific consensus is considerable that giving every child the best possible start will generate the greatest societal and mental health benefits. Action has to be universal; across the whole society, and proportionate to need in order to level the social gradient in health outcomes. This paper highlights effective actions to reduce risk of mental disorders throughout the life course, at the basic education level. It includes environmental structural, and local interventions. Such actions to prevent mental disorders are likely to promote mental health in the population of children undergoing basic education in Nigeria.

Keywords: Mental Health, Social Health, School Children, Basic Education, Mental Disorders

Introduction

The prevalence and social distribution of mental disorders has been well documented in high-income countries (World Health Organization, 2014). While there is growing recognition of the problem in low- and middle-income countries, a significant gap still exists in research to measure the problem, and in strategies, policies and programmes to prevent mental disorders. There is a considerable need to raise the priority given to the prevention of mental disorders and to the promotion of mental health through action on the social determinants of health by the basic educators in Nigeria.

Certain population subgroups especially school children are at higher risk of mental disorders because of greater exposure and vulnerability to unfavourable social,

economic, and environmental circumstances interrelated with gender. Disadvantage starts before birth and accumulates throughout life. A significant body of work now exists that emphasizes the need for a life course approach to understanding and tackling mental and physical health inequalities (Movement for Global Mental Health, 2013). This approach takes into account the differential experience and impact of social determinants throughout life. A life course approach proposes actions to improve the conditions in which people are born, grow, live, work, and age.

Actions that prevent mental disorders and promote mental health are an essential part of efforts to improve the health of the world's population and to reduce health inequities. There is firm consensus on known protective and risk factors for mental disorders. In addition, a growing body of evidence exists, not only from high-income countries but growing in low- and middle-income countries, that shows effective actions can be successfully implemented in countries at all stages of development (United Nations, 2013).

Considerable and growing evidence shows that mental health and many common mental disorders are shaped to a great extent by social, economic and environmental factors. A review or global evidence by Vikram Patel and colleagues for the WHO Commission on Social Determinants of Health reported convincing evidence that low socioeconomic position is systematically associated with increased rates of depression (Patel, Lund, Hatheril, Plagerson, Corrigall and Funk, 2010). Gender is also important, mental disorders are more common in women; they frequently experience social, economic and environmental factors in different ways to men.

Taking action to improve the conditions of daily life from before birth, during early childhood, at school age, during family building and working ages, and at older ages provides opportunities both to improve population mental health and reduce the risk of those mental disorders that are associated with social inequalities. While comprehensive action across the life course is needed, scientific consensus is considerable that giving every child the best possible start will generate the greatest societal and mental health benefits (World Health Organisation, 2013).

The prevalence and social distribution of mental disorders has been reasonably well documented in high-income countries. While there is growing recognition of the problem in low-and middle-income countries, a significant gap still exists in research to measure and describe the problem, and in strategies, policies and programmes to prevent mental disorders (Commission on Social Determinants of Health, 2008). There is a considerable need to raise the political and strategic priority given to the prevention of mental disorders and to the promotion of mental health through action on the social determinants of health, education being the prima facie of such social determinants.

Education has been defined as permanent change in behaviour as a result of learning, consisting of all efforts (conscious or incidental) made by a society to accomplish set objectives, which are considered to be desirable in terms of the individual as well as the societal needs (Labo-Popoola, Bello, Atanda, 2009). In all human societies, particularly the modern ones, education therefore, remains one of the most powerful instruments for both the development of man and transformation of the

human society. However, the ability of education to achieve the objective of mankind development depends entirely on the government policies and the political will on the part of the government to translate the policies into meaningful actions.

In Nigeria, like other countries in the world, efforts are often made to shape the direction and dimension of the educational system for capacity building through articulated policy. In this paper, particular attention is paid to a very recent educational policy of the Nigeria government Known as Universal Basic Education and how it could be used to promote the mental and social health of the child in the face of the present economic hardship ravaging the target population.

Mental Health

The World Health Organization defines mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (World Health Organisation, 2013). In this, the absence of mental disorder does not necessarily mean the presence of good mental health (Keyes, 2015 and Barry, 2009). Looked at in another way, people living with mental disorder can also achieve good levels of wellbeing, that is, living a satisfying, meaningful, contributing life within the constraints of painful, distressing, or debilitating symptoms.

Mental Disorders

Mental disorders include anxiety, depression, schizophrenia, and alcohol and drug dependency. Common mental disorders can result from stressful experiences (Lund, Waruguru, Kingori, Kippen-Wood, Breuer and Mannarath, 2013), but also occur in the absence of such experiences; stressful experiences do not always lead to mental disorders. Many people experience sub-threshold mental disorders, which mean poor mental health that does not reach the threshold for diagnosis as a mental disorder. Mental disorders and sub-threshold mental disorders affect a large proportion of populations (Murray, Vos, Lozano, Naghavi, Flaxman and Michaud. 2012). The less commonly-used term, mental illness, refers to depression and anxiety (also referred to as common mental disorders) as well as schizophrenia and bipolar disorder (also referred to as severe mental illness) (Joint Commissioning Panel for Mental Health, 2013).

In countries around the world, a shift of emphasis is needed towards preventing common mental disorders such as anxiety and depression by action on the social determinants of health, as well as improving treatment of existing conditions. Action is needed as many of the causes and triggers of mental disorder lie in social, economic, and political spheres - in the conditions of daily life.

Universal Basic Education in Nigeria

In 1999, the Nigerian government introduced Universal Basic Education, a programme to provide free primary and secondary education for all. This programme was created after several unsuccessful attempts at improving education in the country. Unfortunately, although there have been some improvements in enrolment in recent years, its results have been limited and Nigeria's educational system still rates very poorly in most international rankings (UBEC, 2018).

The Initiative

The Universal Basic Education (UBE) programme in Nigeria was launched in 1999, with the goal of providing "free, universal and compulsory basic education for every Nigerian child aged 6-15 years" (Aja, Eze and Eke. 2014). The programme, however, was not able to take off immediately after it was launched as it did not have legal backing. Therefore, initial UBE-related activities were carried out only in areas of social mobilisation, infrastructural development, provision of instructional materials, etc. The UBE programme only took off effectively with the signing of the UBE Act in April 2004. The main beneficiaries of the programme are: Children aged 3-5 years, for Early Children Care and Development Education (ECCDE); children aged 6-11+ years for primary school education; and children aged 12-14+ years for junior secondary school education (Bolaji, Gray and Glenda, 2015).

Its scope included the following expansion of activities in basic education: "Programmes and initiatives for [ECCDE]; "programmes and initiatives for the acquisition of functional literacy, numeracy and life skills, especially for adults (persons aged 15 and above); "out-of-school, non-formal programmes for the updating of knowledge and skills for persons who left school before acquiring the basics needed for lifelong learning; "special programmes of encouragement to all marginalised groups: girls and women, nomadic populations, out-of-school youth and the almajiris (Qur'anic student); "non-formal skills and apprenticeship training for adolescents and youth, who have not had the benefit of formal education" (Amuchie, Asotibe and Audul, 2015)

Clarity of Objectives

The objectives of the UBE initiative were stated at the outset, with some measurable targets and some less well-defined objectives: "Develop in the entire citizenry a strong consciousness for education and a strong commitment to its vigorous promotion; "provide free, universal basic education for every Nigerian child of school-going age; "reduce drastically the incidence of drop-out from the formal school system (through improved relevance, quality and efficiency); "cater for the learning needs of young persons who, for one reason or another, have had to interrupt their schooling, through appropriate forms of complementary approaches to the provision and promotion of basic education; "ensure the acquisition of appropriate levels of literacy, numeracy, manipulative, communicative and life skills, as well as the ethical, moral, and civic values needed for laying a solid foundation for lifelong learning" (Obamwony and Aibieyi, 2014).

Alignment with the Objectives

The structural alignment of institutions at the national level is not strong, with several organisations overlapping, or with unclear management objectives. The UBE framework has been described, by Professor Pai Obanya, as "a clear case of discordant dancing to the same musical tune" (UNESCO, 2015). Nigeria's UBE was originally conceived to be a coordinated response to the challenge of basic education. However, it has not managed to achieve that degree of coordination, as there are three different government institutions for basic education: the UBEC, the NMEC, and the NCNE.

A similar lack of coordination is replicated at state level. "The primary section of UBE is controlled by the SUBEB, while the junior secondary segment is under the

control of a Secondary Education Board. Second, the chair of SUBEB is a direct appointee of the state governor and stands on the same pedestal as the head of the education sector in the state, that is, the commissioner for education. Consequently, there is a situation in which a SUBEB is headed by an 'executive chairman', who reports directly to the state governor. By the Act establishing the SUBEB, it means that a large bulk of the school system is under the direct control of SUBEB excluding the state ministries of education" (Olabimtan, 2019).

The underutilization of funds has also become a major challenge in the implementation of the UBE programme. Several reasons relate to the lack of alignment: Insufficient consultation with the states in the design and implementation of the UBE programme; inadequate policy coordination across three tiers of government in the implementation; lack of capacity within states to use funds in accordance with the guidelines; complex conditions for accessing the funds and the associated bureaucracy; lack of capacity and political will at the federal level to amend guidelines in light of experience and to drive through disbursements, etc. (Ogunye, 2021).

Moreover, the economic difficulties of the country aggravate the situation at the household level, where the levels of poverty make it difficult for parents and families to support children's education. "The UBE programme was not actually performing on its mandate because of the harsh economic realities of parents, which have forced many school age children out of school in search of means of livelihood through hawking or other menial jobs" (Ojoye, 2018).

Mental and Social Health through Basic Education

All over the world, primary education has been regarded as the most important as well as the most patronized by people. This perhaps may be due to the fact that it is the foundation of the whole educational pursuit, which is expected to provide literacy and enlightenment to the citizens. The importance of basic education can therefore, be seen in the sense that all beneficiaries of the other levels of education by necessity have to pass through this level (Oni, 2008). What this means is that basic education given in all institution for children aged 3-14 years plus constitute the bedrock upon which the entire education system is built. Indeed the success and failure of the entire system are determined by it and it is at the heart of the concept of basic education also defined as universalization of access to education (Oni, 2008).

Recognizing the importance of basic education, all governments in Nigeria (past and present) have placed premium on it by making basic education the centre piece of their educational policies. This indicates that there is a link between the past and present in the educational development of Nigeria.

Specifically, the social determinant of mental health, exemplified here by poor education is understood as being underpinned by unequal distribution of opportunity and, more deeply, by public policies (for example, legislation that may not specifically pertain to health but ultimately has far-reaching effects on health and social norms such as cultural opinions and biases that set the stage for poorer health among disadvantaged groups). The greatest population-based impact for improving mental health and reducing risk of mental illnesses and substance use disorders will be achieved by optimizing public policies such as universal basic education to make them more health promoting, and by altering social norms so that the health of all members of society is a priority.

Promoting the Mental and Social Health or School Children: The Role of Educators

The beneficiaries of the Universal Basic Education programme as discussed earlier in this paper are numerous and have divergent characteristics that call for expertise, training and retraining on the part of the facilitators (educators) to be able to cope with the peculiarities of the target population. Of particular interest beyond policy implementation is knowing about the mental and social health of children under their care; the knowledge of which will assist them to create a suitable and sustainable environment conducive for learning to take place. The under-listed are examples of social health: Treating others with respect; maintaining and building strong relationships with friends; creating healthy boundaries that help with communication, trust and conflict management and turning to friends and family for support.

Identifying Signs of Mental Illness

The facilitator should be able to identify the following signs of mental illness early among the children before it aggravate or degenerate into handicapping conditions which may likely inhibit or slow down the growth and development of the child: long-lasting sadness or irritability; extremely high and low moods; excessive fear, worry, or anxiety; social withdrawal and dramatic changes in eating or sleeping habits (Dogra, Parkin, Gale and Frake, 2017).

The facilitator should treat each child as an individual because of individual peculiarities; only then can their mental and social health be promoted and in turn sustain the child's interest in learning at the basic education level. The prevalence of mental disorders amongst children and adolescents is an increasing global problem. Schools have been positioned at the forefront of promoting positive mental health and well-being through implementing evidence-based interventions.

A health promoting school is one that constantly strengthens its capacity as a healthy setting for living, learning and working. A health promoting school: Fosters health and learning with all the measures at its disposal; engages health and education officials, teachers, teachers' unions, students, parents, health providers and community leaders in efforts to make the school a healthy place: strives to provide a healthy environment, school health education, and school health services along with school/community projects and outreach, health promotion programmes for staff, nutrition and food safety programmes, opportunities for physical education and recreation, and programmes for counselling, social support and mental health promotion; implements policies and practices that respect an individual's wellbeing and dignity, provide multiple opportunities for success, and acknowledge good efforts and intentions as well as personal achievements; strives to improve the health of school personnel, families and community members as well as pupils; and works with community leaders to help them understand how the community contributes to, or undermines, health and education (Nielsen, Meilstrup, Nelausen, Koushede and Holstein, 2015).

Conclusion

Good mental health is integral to human health and well-being. A person's mental health and many common mental disorders are shaped by various social, economic, and physical environments operating at different stages of life. Risk factors

for many common mental disorders are heavily associated with social inequalities especially in the area of education, whereby the greater the inequality the higher the inequality in risk. It is of major importance that action is taken to improve the conditions of everyday life by ensuring basic education for every child, beginning before birth and progressing into early childhood, older childhood and adolescence. Action throughout these life stages would provide opportunities for both improving population mental health, and for reducing risk of those mental disorders that are associated with social inequalities.

Recommendations

i. A key principle to be taken forward from this paper is proportionate universalism policies should be universal yet proportionate to need.
ii. Focusing solely on the most disadvantaged people will fail to achieve the required reduction in health inequalities necessary to reduce the steepness of the social gradient in health. Therefore, it is important that actions be universal yet calibrated proportionately to the level of disadvantage.
iii. Social arrangement and institutions, such as education, social care, and work have a huge impact on the opportunities that empower people to choose their own course in life. Experience of these social arrangements and institutions differs enormously and their structures and impacts are, to a greater or lesser extent, influenced or mitigated by national and transnational policies.

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COMPETITIVE PERFORMANCE: THE IMPERATIVE INTEGRATION OF SPORTS PSYCHOLOGISTS IN COMPETITIVE SETTINGS

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Abstract

Competitive sports demand not only physical prowess but also exceptional mental fortitude. This academic topic delves into the critical requirement for the integration of sports psychologists within competitive settings. It discussed the multifaceted benefits that sports psychologists bring to athletes and teams, emphasizing the impact on performance enhancement, mental resilience, and overall well-being. This exploration underscores the growing recognition of the integral role sports psychologists play in optimizing competitive outcomes, shaping strategies for success, and fostering a holistic approach to athletic development.

Key Words: *Sports, Competitive sports, Athletic Performance, Sports Psychologists, Mental Fortitude*

Introduction

Both outstanding mental fortitude and physical prowess are necessary for success in competitive sports. The use of sports psychologists in competitive situations has become a crucial component in the quest for the zenith of athletic performance. A crucial and developing aspect of contemporary sports culture is the use of sports psychologists in competitive environments. A thorough strategy for performance improvement is clearly needed as athletes and teams push for excellence. High-level sports performance necessitates a variety of cognitive abilities, including the ability to pay attention, make decisions, and maintain working memory under pressure (Walton et al., 2018)

It is not a luxury but a need to have sports psychologists in competitive environments. Numerous psychological obstacles that athletes must overcome might have a negative impact on their performance and general well-being. The intense pressure, performance anxiety, and other psychological obstacles that athletes face can have a negative impact on their performance and general well-being. Recent studies (Crivelli, D., & Balconi, M. (2022), Deniz Bedir et al., (2023) have revealed that even when they think it would be beneficial, many athletes, coaches, and athletic administrators are still hesitant to use the services of a competent sport psychologist. One of the main causes of this hesitancy seems to be an ignorance of the procedure and the mechanisms through which these mental abilities have an impact on performance (Gee 2010). Findings on performance benefits suggested that Pressure Training enhances performance by providing athletes a chance to practice coping skills and to realize that pressure does not have to hurt performance (*The Role and Creation of Pressure in Training: Perspectives of Athletes and Sport Psychologists*, 2023). Professionals with training in sports psychology work with athletes to improve their mental and emotional states for peak performance and Sports psychologists must now be present in competitive settings in order to address several sociological and psychological problems that may arise during a competitive setting.

Roles of Sports Psychologists:

Psychological Assessment and Profiling: Sports psychologists carry out thorough psychological evaluations to identify an athlete's mental attributes, as well as any areas that require development. In order to create a foundation for specialized interventions, profiling takes into account personality traits, cognitive performance, emotional reactions, and behavioural patterns. The planning, implementation, and monitoring of an athlete's training regimen depend heavily on their psychophysical profile, therefore the athletes themselves, their coaches, and sports organizations pay close attention to this process through a sports psychologist (Crivelli & Balconi, 2022)

Goal Setting and Mental Planning: Sports psychologists collaborate with athletes to establish clear and achievable goals, aligning them with performance aspirations (*Conceptualizing and Measuring Positive Youth Development in Sport: A Scoping Review*, 2021). Mental planning involves developing strategies to manage setbacks, setbacks, and distractions, fostering a focused and goal-oriented mindset.

Stress Management and Anxiety Reduction: Sports psychologists equip athletes with stress coping mechanisms, such as relaxation techniques and mindfulness practices (Adiwignya Nugraha Widhi Harita et al., 2022). Anxiety reduction strategies, including cognitive-behavioural techniques, which helps athlete mitigate performance-related anxiety and pressure. In a competitive setting, there are many things that could post anxiety on the athletes and coach alike. A sports psychologist stands as the piper who create and recreate experiences that could help determine the desired tone for optimal performance.

Team Cohesion and Communication Enhancement: Within team sports, sports psychologists facilitate team cohesion by improving communication, trust, and cooperation among members. The study by Deniz Bedir et al., (2023) showed that empathy and team cohesion predict competition performance through communication skills, and communication skills fully mediate this relationship. Based on the research results, it was concluded that communication skills have a substantial effect on the competitive performance of athletes, team-building exercises and conflict resolution strategies contribute to a harmonious and effective team environment”

Confidence Building and Self-Efficacy: Sports psychologists work on enhancing an athlete's self-confidence and self-belief, which are critical for peak performance. By identifying and addressing self-doubt and negative thought patterns, athletes can bolster their self-efficacy. Psychological and psychosocial interventions have a moderate positive effect on sport performance, and this effect may last at least a month following the end of an intervention (Brown & Fletcher, 2016).

Focus and Concentration Improvement: Techniques like attentional control, pre-performance routines, and mindfulness training assist athletes in maintaining unwavering focus during competition. Improved concentration directly impacts decision-making and reaction time (*A Randomized Controlled Study of Mindful Sport Performance Enhancement and Psychological Skills Training with Collegiate Track and Field Athletes*, 2023). Sports psychologists administer these tools in order to make athletes stay focused throughout the competition since this what most athlete struggle with thereby minimizing distractions.

Motivation and Emotional Intelligence Development: Sports psychologists aid in the cultivation of intrinsic motivation, ensuring athletes remain driven even in the face of challenges. Mental toughness training equips athletes to persevere through adversity and maintain peak performance under pressure.
The relationships established in the structural equation model done by (Isabel Mercader Rubio et al., 2022) are specified below:

a. Emotional intelligence and motivation were positively correlated ($\beta = 0.30$, $p < 0.001$). This explains that, in this case, emotional intelligence is a predictor of motivation; therefore, the presence of this variable explains the existence of the other variable.
b. Emotional intelligence and anxiety were positively related ($\beta = 0.02$, $p < 0.001$). These results show that emotional intelligence also predicts the occurrence of anxiety in an explanatory manner.
c. Emotional intelligence and leadership were not positively related. However, the results do not establish that emotional intelligence is a predictor variable of leadership; therefore, the presence of emotional intelligence does not correspond with the appearance of high levels of leadership.

Visualization Techniques for Skill Enhancement: Visualization exercises help athletes mentally rehearse and refine their skills, improving motor coordination and execution. Visualization fosters a strong mind-body connection, reinforcing muscle memory and confidence which are perfectly taught by a sport psychologist.

Resilience and Mental Well-being: Sports psychologists teach adaptive coping strategies to help athletes navigate setbacks, injuries, and losses. Emphasis is placed on reframing negative experiences and deriving learning opportunities from adversity. Emotional regulation and stress reduction emotional regulation techniques empower athletes to manage intense emotions, ensuring they do not interfere with performance. Stress reduction methodologies promote physiological balance and overall mental well-being.

Burnout Prevention and Mental Health Support: Sports psychologists play a pivotal role in recognizing signs of burnout and offering preventative interventions. Athletes receive mental health support to address issues such as anxiety, depression, and substance abuse which helps in personal growth and life balance. Beyond sport, sports psychologists assist athletes in fostering personal growth and achieving a balanced life outside of their athletic pursuits. This holistic approach to well-being contributes to sustained success and post-career transitions.

Practical Tips for Optimal Competitive Performance

1. **Enhancing Mental Resilience:**

a. **Mindfulness Meditation:** Practicing mindfulness helps athletes stay present, reduce stress, and build mental resilience.
b. **Positive Self-Talk:** Practice how to replace negative thoughts with positive affirmations to boost confidence and self-belief.
c. **Visualization:** Guided imagery exercises can help athletes visualize success, enhancing mental toughness.

d. **Distraction Management:** Develop strategies to block out distractions and stay fully engaged by blocking out every sight and sound.

2. **Managing Performance Anxiety:**
   a. **Pre-Competition Routine:** Develop a consistent routine before competitions to create a sense of familiarity and control.
   b. **Breathing Techniques:** Practice deep breathing exercises to calm nerves and reduce anxiety.
   c. **Focus on Process, Not Outcome:** Shift the focus from winning to executing each step of the game plan.

3. **Coping with Injury:**
   a. **Emotional Support:** Use the services of a sports psychologists to help deal with the emotional impact of injuries.
   b. **Rehabilitation Goals:** Set achievable milestones during the recovery process to maintain motivation.
   c. **Visualization and Mental Imagery:** Continue mental training and visualization to stay connected to the sport during rehabilitation.

4. **Coping with Stress and Burnout:**
   a. **Time Management:** Balance training, competition, and personal life to prevent burnout through a structured disciplined use of time.
   b. **Stress Reduction Techniques:** Learn stress-reduction methods such as progressive muscle relaxation and yoga.
   c. **Communication:** Embrace open communication with coaches about stressors and workload.

5. **Solid Team Communication:**
   a. **Team Building Activities:** Foster team cohesion through team-building exercises and activities.
   b. **Clear Communication Channels:** Establish open lines of communication between your teammates and coaches.
   c. **Conflict Resolution:** Use tools for resolving conflicts provided by your sports psychologist or coach within the team constructively.

6. **Achievable Goal Setting:**
   a. **SMART Goals:** With the help of a sports psychologists, set Specific, Measurable, Achievable, Relevant, and Time-bound goals.
   b. **Short and Long-Term Goals:** Create a mix of short-term goals to build confidence and long-term goals for direction.
   c. **Goal Review:** Periodically review and adjust goals based on progress and changing circumstances.

7. **Reflection on Past Successes and Victory:**
   a. **Post-Event Analysis:** Assess both your successes and areas for improvement after each competition.
   b. **Positive Reinforcement:** Remind yourself of past victories and successes to boost confidence.
   c. **Learn from Mistakes:** Learn from your failures and setbacks to foster growth.

Conclusion

The incorporation of sports psychologists into competitive settings is not a luxury but a necessity. Athletes face a multitude of psychological challenges that can significantly affect their performance and well-being. Sports psychologists offer specialized expertise in enhancing mental resilience, managing stress, and optimizing performance. It is important to note that mental resilience and performance enhancement take time and consistent practice. It's essential to tailor these strategies to each athlete's individual needs and preferences. Working with a sports psychologist can be highly beneficial in implementing and customizing these techniques for maximum effectiveness. Their role extends beyond individual athletes, benefiting teams and organizations as a whole. To maximize the potential of athletes and foster a healthy competitive environment, it is imperative to prioritize the inclusion of sports psychologists in the world of competitive sports.

Recommendation

To implement this essential change, sports organizations, coaches, and athletes should recognize the importance of sports psychology and actively seek the services of qualified sports psychologists.

Funding and resources should be allocated to ensure that every athlete has access to mental health support and performance optimization through sports psychology by expanding the reach of sports psychology services, training and education for athletes and coaches, research and development in sports psychology.

Collaborative efforts between athletes, coaches, and sports psychologists can create a winning formula that combines physical prowess with mental resilience, ultimately leading to greater success in competitive sports.

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ATTITUDE TOWARDS MENTAL HEALTH ASSESSMENT AND COUNSELLING SERVICES AMONG UNIVERSITY ATHLETES IN KWARA STATE

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Abstract
Student athletes especially in tertiary institutions experience academic, social and personal struggles like other students. It is of importance that student athletes to seek mental health service as a means to maintain a balanced mental health and performance as an athlete. Hence, the study investigated attitudes towards seeking mental health services among University athletes in Kwara State. The study adopted a descriptive survey research design. Stratified and proportionate sampling technique was used to select 172 athletes in University of Ilorin. Researcher's designed structured questionnaire was used for the study. The reliability of the instrument was tested and a co-efficient r of .75r was obtained through split-half method. Data was analysed using Chi-square statistic at 0.05 alpha level. The findings revealed that: mental health assessment and seeking counselling services had significant influence on seeking mental health services among University athletes in Kwara State. It was therefore recommended that university administrators, sports coaches, and mental health professionals should create a supportive environment for athletes to encourage mental health screening; sports specialists should also develop appropriate interventions for athletes experiencing mental health issues to assist them in leading quality life.

Keywords: Mental health assessment, Counselling services, University athletes

Introduction

Athletes' mental health is of utmost importance as well as their physical and emotional health. The mental health and strength of athletes are the foundation for efficient practice and competition performance. One of the most important factors in mental health is the ability to handle the stress of everyday life. World Health Organization (WHO, 2017) defined mental health as a state of wellbeing in which every individual realizes his/her potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make meaningful contributions to the society and the immediate community in which they live. American Thyroid Association (ATA, 2016) enumerated a number of factors that affect the individual's mental health; among these are self-esteem, feeling loved by others, confidence,

family breakup or loss, physical ill health and abuse. Most times, people focus more on their physical health while their mental health is neglected. This does not exempt athletes who place much emphasis on mental toughness and play down on the disclosure of weaknesses.

According to Ayobami and Aderonmu (2019), participating in organized sports can positively impact mental health by boosting confidence and reducing feelings of social anxiety, depression, and stress. The experiences of student-athletes in tertiary institutions are different from their non-athlete peers as athletes have responsibilities for competition, performance and academics. These obligations can facilitate tensions, which may result in mental health challenges (Moreland, Cowe & Yang 2018). Barnard (2016) stressed that student-athletes experience psychological disturbances caused by stressors that are related to the demands of competitive sport and competition. These stressors include academic challenges, travel, time compression, or even competition pressure if they experience injuries which require rehabilitation.

A study by Kabir, Iliyasu, Abubakar and Aliyu (2014) indicated aggression, talkativeness, eccentric behaviour and wandering as common manifestations of mental illness as reported by respondents in the study. Moore (2017) and Sudano (2017) in different studies averred that depression is the most common challenge for student-athletes. Depression, disordered eating, substance misuse and suicidal ideation are alarming concerns of university athletes considering their lack of or low level of mental health services utilization (Moore, 2017). Distinct from their non-athlete peers, university student athletes have to contend with managing the challenges of academics while maintaining a peak physical fitness level and the responsibilities associated with sports team membership. Therefore seeking mental health services is a recommended pathway to maintenance of optimum mental health including management of mental health problems or illnesses (Davidson & Roe, 2014).

According to Queensland (2017), mental health services are concerned with the assessment, diagnosis, monitoring and treatment of people who experience mental illness or disorder characterized by a clinically significant disturbance of thought, mood, perception, memory and/or behaviour. Moreland et al. (2018) stated that mental health services offered to athletes in tertiary institutions may be performed by a variety of professionals among which are sport psychology professionals and consultants, licensed clinical social workers, psychiatrists, psychiatric mental health nurses, licensed mental health counsellors, mental skills trainers, mental resilience specialists, and even primary care physicians trained specifically to manage mental health issues. Such professionals possess varied educational and training backgrounds and may provide highly individualized support and treatment or more generalized team support to athletes (Moreland et al., 2018).

For elite athletes, a number of individual barriers to accessing help for mental health issues have been identified. Chinedu, Udo and Chinelo (2023) affirmed that a significant number of undergraduate students were unaware of availability of these services as it was also revealed that students had negative attitude toward the mentally ill, many of them were of the view that the mentally ill should be avoided, and not to be allowed to stay in the hostel with colleagues. Research by Armstrong (2019) demonstrates college students often do not recognize or admit personal mental illness symptoms or are unaware of available mental health services (such as counselling,

psychotherapy and comprehensive treatment plans). Further, Castaldelli-Maia (2019) stated that cultural factors (such as attitudes towards help-seeking) also play a role, particularly where a sport emphasizes mental and physical toughness.

Oyedokun (2021) noted that athletes' attitudes towards seeking psychological help include how willing they are to ask for assistance, how much they value professional help, and whether they prefer to deal with the problems on their own. Some athletes may decide to seek counselling (as a form of mental health service) but may refuse to go for post-hospital care which is also a service rendered by mental health service providers. Gulliver (2017) reported that student-athletes utilize counselling, among other mental health services, less frequently than non-athletes despite experiencing comparable levels of psychological distress and the availability of promising interventions.

Griffiths and Christensen, (2015) stressed that some of the most frequently identified attitudinal barriers to seeking mental health care include athletes' wishes to handle problems on their own, thinking the problem will go away by itself and doubts about the perceived benefits of help seeking. Furthermore, Martin (2017) stated that athlete's intention to engage in sport psychology consulting is a major determinant of seeking mental health care services.

Regarding the issue of knowledge, athletes tend to poorly self-diagnose mental illnesses or do not understand what resources are available to them. Moore (2017) and Putukian (2016) affirmed that student-athletes have a negative attitude towards recognizing mental health symptoms or when they should seek help; they often do not know if what they are feeling is normal or abnormal because of the stress they encounter daily. This uncertainty about mental health status from an athlete can suppress mental health disclosure. Gulliver (2017) noted that poor self-diagnosis is typically due to believing the degree of distress was "normal" and therefore not actively seeking resources to help them change.

Generally, university students are faced with challenges such as meeting with lecture periods, extended hours of lectures on daily basis and the challenge of hustling for vehicles to convey them back to their various hostels at the end of the lecture as sizable number of the students live outside campus. These athletes are tasked to combine educational activities with the demanding training period. Athletes often go for training early in the day prior to lecture period so as to be able to attend lectures and sometimes return for training in the evening. The stress of educational activities combined with training stress and fatigue on these athletes contribute significantly to mental health issues.

Expectedly, university athletes need to utilize mental health services as a means to improve mental health and detect mental issues that may result from both physical activities and academic activities. However, it is pertinent to understand athlete's attitudes towards seeking these services to create a positive mindset to athletes and other stakeholders towards seeking mental health services. Hence, this study examined the attitudes towards seeking mental health services among university athletes in Kwara State.

Statement of the Problem

Student athletes in tertiary institutions do experience academic, social and personal stress like other students. However, these athletes need to learn how to manage the stress of performance, maintain their physical health and how to avoid as well as manage injuries. They must also develop time management strategies for practice, work-outs, games and travel. The combination of these activities could lead to emotional stress and mental health related issues. One of the challenges student-athletes have especially in this part of the world is difficulty in recognizing symptoms of mental health issues/challenges including knowing when to seek for help because they are often concerned about physical performance and injuries. In the process, some of these athletes experience symptoms of depression, loneliness, eating disorder and even suicidal thoughts.

Certain factors inhibit athlete's utilization of mental health services among which are individual intentions, unwillingness to go for mental health assessment, and seeking counselling services. Therefore, understanding the attitudes of athletes towards seeking mental health and counselling services may assist in creating a positive mindset for student athletes to embrace seeking mental health services.

Many of the previous researches have not focused on athletes' attitude towards seeking mental health services examining variables such as mental health assessment, fear of stigmatization, consultation with experts and counselling. Hence, the research believes it is pertinent to investigate the attitudes towards seeking mental health and counselling services among university athletes in Kwara State, Nigeria.

Objectives of the Study

The objectives of the study were to determine if:

a. mental health assessment will influence seeking mental health services among university athletes in Kwara State.
b. counselling will influence seeking mental health services among university athletes in Kwara State.

Hypotheses

The following hypotheses were tested:

a. Mental health Counselling assessments will not significantly influence seeking mental health services among university athletes in Kwara State.
b. will not significantly influence seeking mental health services among university athletes in Kwara State.

Methodology

Descriptive research of survey type was adopted for this study. The population of the study comprised student athletes in University of Ilorin totalling 351. Systematic and proportionate sampling techniques were employed in this research. Proportionate sampling technique was used to select 50% of the total numbers athletes in each sport (football, athletics, basketball, volleyball, badminton, tennis, handball and table-tennis). 172 respondents were selected for the study.

The research instrument adopted for gathering data was a researcher designed structured questionnaire. The questionnaire was entitled Attitude towards Seeking Mental Health Services among Athletes in University of Ilorin. The data collected were sorted, coded and analysed using frequency and percentage for personal data of

the respondents and research questions while mean, standard deviation and inferential statistic of Chi-square were used to test the formulated hypotheses at 0.05 alpha level using Statistical Package for Social Science (SPSS) version 25.

Data analysis

Table 1: Demographic Data of Respondents

Item	Options	Frequency	Percentage
Gender	Male	102	59.3
	Female	70	40.7
	Total	**172**	**100.0**
Age range	16 -18 years	7	4.1
	19 – 24 years	12	7.0
	25 years and above	153	89.0
	Total	**172**	**100.0**
Level	100	22	12.8
	200	23	13.4
	300	35	20.3
	400	92	53.5
	Total	**172**	**100.0**

Table two presents the demographic information of the respondents, 102 (59.3%) were male while 70 (40.7%) were female. indicating that female who participated in this study were more than the male. The table further shows that 7 (4.1%) of the respondents were between 16 – 18 years, 12 (7.0%) were between 19 – 24 years and 153 (89.0%) were 25 years and above. The table further indicates that 22 (12.8%) of the respondents were in 100 level, 23 (13.4%) 200 level, 35 (20.3%) 300 level and 92 (53.5%) 400 level respectively.

Test of Hypotheses

Hypothesis 1: Mental health assessment will not significantly influence seeking mental health services among university athletes in Kwara State.

Table 2: Mean Analysis on Mental Health Assessment and Seeking Mental Health Services

S/N	Items	*Sd*	Mean
1	I do not seek mental health service because I thought the problem would go away	.80	2.61
2	I do not seek mental health service because I thought the problem was not serious	.80	2.67
3	I have had a bad experience with mental health service personnel	1.19	2.24
4	Through assessment results, I am able to understand the severity of my condition influencing me to seek services	.57	3.28
	Total	**0.84**	**2.70**

Table two presents mean analysis on mental health assessment influence seeking mental health services among athletes. The table indicates the grand mean of 2.70and standard deviation of 0.84. This means that mental health assessment influences seeking mental health services among university athletes in Kwara State.

Table 3: Chi-square analysis on Mental Health Assessment and Mental Health Services

N	ITEMS	(SA + A)	(D + SD)	Row Total	df	Cal Value X^2	Table Value X^2	REMARKS
1	I do not seek mental health service because I thought the problem would go away	91 (53.0%)	81 (47.1%)	172 (100)				
2	I do not seek mental health service because I thought the problem was not serious	104 (60.5%)	68 (39.6%)	172 (100)	**9**	**147.30**	**16.92**	**Ho Rejected**
3	I have had a bad experience with mental health service personnel	60 (34.9%)	112 (65.1%)	172 (100)				
4	Through assessment results, I am able to understand the severity of my condition influencing me to seek services	162 (94.2%)	10 (5.8%)	172 (100)				
	Column Total	**417**	**271**	**688**				

@ 0.05 alpha level

Table three presents chi-square analysis on mental health assessment and mental health services. The Chi-square value is 147.30, the critical table value is 16.92, and the degree of freedom is 9 at significant alpha level of 0.05.Therefore, hypothesis two which stated mental health assessment will not significantly influence seeking mental health services among athletes is rejected. This implies that mental health assessment influences seeking mental health services among university athletes in Kwara State.

Hypothesis 2: Counselling will not significantly influence seeking mental health services among athletes in University of Ilorin.

Table 4: Mean Analysis on Counselling and Seeking Mental Health Services

S/N	Items	*Sd*	Mean
1	I learn coping strategies through counselling and it enables me to take the next step and seek additional mental health services	.46	3.21
2	I normalize seeking mental health service I openly discuss my mental health struggles and engagement in counselling	.68	2.84
3	I might seek counselling to regain motivation and enthusiasm for their sport	.40	3.15
4	I believe that counselling promotes the idea that seeking mental health support is a sign of strength	.35	3.11
	Total	**0.47**	**3.07**

Table four presents mean analysis on counselling influence on seeking mental health services among athletes. The table indicates the grand mean of 3.07and standard deviation of 0.47. This means that counselling influences seeking mental health services among university athletes in Kwara State.

Table 5: Chi-square analysis on Counselling and Mental Health Services

N	ITEMS	(SA + A)	(D + SD)	Row Total	df	Cal Value X^2	Table Value X^2	REMARKS
1	I learn coping strategies through counselling and it enables me to take the next step and seek additional mental health services	168 (97.7%)	4 (2.3%)	172 (100%)				
2	I normalize seeking mental health service I openly discuss my mental health struggles and engagement in counselling	117 (68.0%)	55 (32.0%)	172 (100%)	**9**	**179.17**	**16.92**	**Ho Rejected**
3	I might seek counselling to regain motivation and enthusiasm for their sport	169 (98.3%)	3 (1.7%)	172 (100%)				
4	I believe that counselling promotes the idea that seeking mental health support is a sign of strength	170 (98.8%)	2 (1.2%)	172 (100%)				
	Column Total	**624**	**64**	**688**				

@ 0.05 alpha level

Table five presents chi-square analysis on counselling and mental health services. The Chi-square value is 179.17, the critical table value is 16.92, and the degree of freedom is 9 at significant alpha level of 0.05. Therefore, hypothesis four which stated that counselling will not significantly influence seeking mental health services among athletes is rejected. This implies that counselling influences seeking mental health services among university athletes in Kwara State.

Discussion of Findings

The findings of this study revealed that mental health assessment had significant influence on seeking mental health services among athletes in University of Ilorin. This implies that athletes are hesitant to seek mental health services because they thought the problem would go away, thought the problem was not serious and have had a bad experience with mental health professionals. Also, this finding underscores the vital role of proactive mental health assessment in promoting the well-being of athletes. This finding supports that of Hashim et al (2021) which submitted that athletes reported a high score of confidence in sport psychology, which indicated that they have a positive attitude toward sport psychology services. Rooney et al. (2021) reported that athletes involved in individual sports were able to assess themselves and were more likely to have greater confidence in sport psychology consulting. Pandey and Deshmukh (2022) examination of mental health and attitude towards seeking psychological consultation found positive attitude of respondents towards seeking psychological help.

The findings further revealed that counselling had significant influence on seeking mental health services among athletes in University of Ilorin. Through exposure to counselling skills, athletes learn coping strategies through counselling and it enables them to take appropriate steps towards seeking additional mental health

services and might seek counselling to regain motivation and enthusiasm for their sport. Also, this result underscores the critical role that counselling services play in addressing the mental health needs of athletes. This corroborates findings of Tuner (2016) who affirmed that lack of engagement with support services such as counselling among athletes also impacts their mental health seeking services as athletes navigate performance, career transition, and personal life issues. McCarthy et al. (2010) study also revealed that an overwhelming majority of graduate students would not travel to the main campus to utilize counselling services. Daltry et al. (2018) study also revealed that expectations about counselling were a significant predictor of attitudes toward counselling.

Conclusion

Based on the findings from the study, the following conclusions were drawn:
Mental health and Counselling assessments had significant influence on seeking mental health services among university athletes in Kwara State.

Recommendations

i. Mental health professionals should ensure that assessments are conducted in a supportive and non-judgmental manner, encouraging athletes to seek assistance when needed.
ii. University health centres in Kwara State should conduct enlightenment programmes for athletes and student body in general highlighting the benefits of seeking timely help for mental health concerns among athletes and inform them about expert help.
iii. Counselling unit in universities in Kwara State should consider tailoring their services to meet the specific needs of athletes.
iv. Coaches and managers of University athletes in Kwara State should assist athletes through teaching confidence building strategies to embrace mental health services to improve their mental health status which is necessary for good performance.

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HANDICAPPED CHILDREN AND PHYSICAL EDUCATION PROGRAMME: PARENTS' PERCEPTION

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Abstract

Despite the fact that the National Policy on Education 1998, 2001 and 2014 in Nigeria advocated education and recreational opportunities to the handicapped children; some parents are still doubting the practicability of the programme, most especially the involvement of children with various handicapping conditions in physical education programmes. The study investigated the perception of parents on the involvement of handicapped children in Physical Education Programme. The descriptive survey research design was used for the study. A sample size of forty (40) respondents was employed. A structured questionnaire was used as research instrument. The research questions were tested using simple percentage. The result of the study revealed that most parents are ignorant of the availability of teaching materials, specially trained teachers, the existing Physical Education Programme and its benefits for their children's wellbeing.

Key words: *education, handicapped children, physical education programme, wellbeing.*

Introduction

Every society throughout the universe contains two distinctive elements these are, animate and inanimate objects, man and woman; and normal person and abnormal person (Famayo, 2019).

In the past, disabled people or children such as mentally retarded, crippled, lunatic, blind and deaf suffered the fate of taboos, rituals children who displayed deviant behaviour or expression were thrown into the up hills or left to die in the forest by the Greeks in the primitive era (Okunrotifa, 1995; venkateswarlu, 2018). The cruel and prejudice treatment accorded this group of handicapped population in the past is of paramount significance in today's living as some are not recognized or undermined in the society due to their body defects.. However, Nigerian government has made provision for the educational programme, free school fees and medical facilities for many handicapped children. Most of the handicapped children are still under their parents' apron due to non compliance of the parents in enlisting them in public school adapted to their needs and interest. Aharoni (1984), supported that there might be resistance on their (parents) part to the concept of physical education activities for physically and severely handicapped children. He further stated that this phenomenon is visible via non compliance in providing the medical forms completed by a physician indicating the extent of the child's involvement as allowed in Adapted Physical Education.

Some parents also perceived handicapped children as atypical children who deserved little or no education during their maladjustment imposed. Okunrotifa (1996) however held a contrary view to this opinion when he concluded that it is important to understand that the handicapped community is not a monolithic faceless group but a part or cross section of the society with all levels of education, ability, talent, represented in its rank.

Aharoni (1984) maintained that some parents and administrators are not cognizant of adapted physical education's purpose and objectives, perceiving the programme as entailing stressful, strenuous and assiduous activities without realizing the endless possibilities for adaptation yielding safe, appropriate experiences within the Adapted Physical Education framework. Handicapped children are human beings like their normal counterpart, hence they should not be abandoned or exempted from necessary activities that can influence and promote state of living (Ewang, 2019; Kruenger, 2020). In another report, Famayo (2023) observed that people with disabilities are often treated as a ghost or bedevilled elements not required to be in the midst of human beings but whatever their conditions or situation may look like, they were born the same way like the normal persons, hence they should be allowed all the necessary privilege or rights accorded their normal counterparts.

From the above evidences, one could state that handicapped children should be seen as people who have the same human right and privilege accorded normal population for the mere fact that what is good for the goose is also good for the gander (Famayo, 2019; Lieberman, 2020). Considering these, it is imperative to find out the perception of parents towards the handicapped children involvement in physical education programme.

Methodology

Research Design: A descriptive survey research design was used for the study.

POPULATION: The population comprised of all educated parents from the existing secondary schools in llesa East and West local government areas of Osun state.

Sample Size and Sampling Procedure: 40 respondents were randomly selected from four secondary schools (2 from each local government), their ages ranging from 40-45 years with means age of 45.5 years, their experiences as parents ranged from 8-22 years and their gender difference was ratio 3:5 (15 males and 25 females).

Research Instrument: The research instrument used for the study was a structured questionnaire into two sections, one on biodata and the other on the study area with 14 items of yes and no option.

Administration of Study Instrument

In order to have comprehensive perception of parents toward handicapped children involvement in physical education programmes, in 4 schools in Ilesa East and West local government areas, Osun state, the questionnaire guides identifying three facets were developed.

i. Health implication of the handicapped children.
ii. Parents awareness of adapted physical education programme.
iii. Available teaching materials and resources. The instrument was administered with assistance of physical Educator from each school which facilitated 100% return rate. The data collected were analysed using percentage as appropriate.

Results

The responses of the subjects on their perceptions towards handicapped children involvement in physical education programmes were summarized below.

PERCENTILE DISTRIBUTION OF PARENTAL PERCEPTION ON ADAPTED PHYSICAL EDUCATION PROGRAMME FOR THE HANDICAPPED

S/N	ITEM	RESP.	MALE N=15	FEMALE N=25	TOTAL	%
1.	Physical education activity is strenuous and harmful to the handicapped children	Yes No	10 5	18 7	28 12	70 30
2.	Involvement of handicapped children in physical education activities compound their problems	Yes No	9 6	20 5	29 11	72.5 27.5
3.	Engaging in physical activities can shorten their life span	Yes No	13 2	24 1	37 3	92.5 7.5
4.	Their vulnerability is enough evidence for exempting the handicapped from the P.E. Programme	Yes No	14 1	21 4	35 5	87.5 12.5
5.	Involvement of handicapped in P. E. Programme improves their health status.	Yes No	3 12	2 23	5 25	12.5 87.5
6.	Do you aware of special physical education programme for the disabled children?	Yes No	4 11	6 19	10 30	25 75
7.	Do you aware of sporting programme for the handicapped children?	Yes No	5 10	8 17	13 27	32.5 67.5
8.	Have you heard of disabled athletes winning medals for the nation in Paralympics competition?	Yes No	6 9	5 20	11 29	27.5 72.5
9.	Values accrued for normal population in physical education are equally accorded disabled candidates	Yes No	2 13	7 18	9 31	22.5 77.5

10.	Facilities and equipment for the take off of the programme rarely exist in Nigeria	Yes No	11 4	15 10	26 14	65 35
11.	Existing facilities are insufficient for the running of the programme	Yes No	12 3	22 3	34 6	85 15
12.	Available facilities can be improvised by the specialists.	Yes No	2 13	5 20	7 33	17.5 82.5
13.	Do you have confidence in the teachers of handicapped children in physical education?	Yes No	7 8	10 15	17 23	42.5 57.5
14.	Training received by the special teachers is not sufficient enough to manipulate those sophisticated materials for the disabled.	Yes No	13 2	19 6	32 8	80 20

A physical observation in item 3 revealed that engaging disabled children in physical activities and exercises could shorten their life span was the most highly rated with 92.5 % responses. This was followed by item 4 that their vulnerability is enough evidence for exempting the handicapped from the programme with 87.5 % responses. While item 5 (the least rated variable) was involvement of handicapped children in the programme improved their health status with responses of 12.5 %.
Item 9 revealed that values accrued for normal children in physical education were not accorded handicapped ones in similar programme was the most highly rated with 77.5 % responses. This was followed by item 6, ignorance of parents on special physical education programme for the disabled with 75 % responses. While item 7 that served as the least reacted variable was unawareness of sports programme for the disabled by the parents with responses of 67.5%.

Item 11 also revealed that existing facilities and equipment were not sufficient for the running of the programme was the most highly rated with 85% responses; followed by item 14, that the training received by the specialist was not sufficient enough to manipulate those sophisticated materials for the disabled ones with 80 % responses. While item 13, the least reacted variable was non- confidence of the parents for teachers of handicapped children in physical education with responses of 57.5 %.

Discussion

The study found that majority of the parents who attempted the questionnaire was pessimistic about handicapped children involvement in physical education programme for mere fact that they are fragile, delicate and vulnerable to serious injury. This finding contradicts the opinion of Okunrotifa (1995) that a disabled child that is allowed to enjoy success in activities that have an element of risk in them will gain self – assurance and health improvement which an over protected disabled child

that is forbidden to try dangerous activities will never attain. Umendum, Okafor & Azubike (1986) however, opined that physical activity contributed to increase of man's strength, endurance and body efficiency. This same study also found out that majority of the subjects claimed ignorance of existing physical education programme for the disabled individuals. This corroborates the report of (Eskay & Angie, 2013) that parents lack adequate information and guidance on available special education services which prevents its advocacy in the community and society where these children are found. American Heart Association (2019) was of the opinion that engaging children with various disabilities in some activities being handled by experts will enhance their health status in the society.

However, the views of (Okunrotifa,1995; Sambo & Gambo,2015; Allender, Cowburn & Foster, 2020) confirmed that the attitudes of the public towards disabled children in Nigeria is generally positive through the activities of the governments, social welfare, churches, and interested individuals toward disabled. Remarkably, the local, state and federal governments of Nigeria are making useful efforts in providing for education, sports inclusive for disabled children as contained in the National policy of Education (1998 & 2014). The view of Alade (2017) also adds credence to the above that government is striving hard to make sure all children with disabilities are not ignored in the society so that their qualities of life will be improved like their normal counterparts in the society.

Non available teaching materials and qualified personnel were the two major factors hindering the optimistic view of the parents toward handicapped children involvement in physical education programmes (Okunrotifa, 1992; England, 2017). In fact, lack of training facilities, human and material resources, and the unfavourable attitude of the society towards children with disabilities have added to the funding constraint (Eskay, 2009; Sambo & Gambo, 2015). Further, the lack of professional training in the field of special education has led to some school administrators in poor planning, and thus, perceives children with disabilities negatively (Eskay, 2009; Famayo & Adubi, 2019). However, sufficient and appropriate equipment and apparatus facilitate provision of efficient physical education, accommodating the students, individual needs, and aiding the teacher in supplying varied activities (Okunrotifa, 1995; Aharoni, 1984; England, 2017; Retief & Letsosa, 2018).

Conclusion

The study concluded that parents are ignorant of the availability of teaching materials, specially trained teachers, the existing physical education programme and its benefits for their children's wellbeing.

Recommendation

Based on the conclusion of this study, the following recommendations were formulated:-

i. A forum should be created by governments at local, state, and federal to sensitize parents about inherent values in the participation of handicapped children in Physical Education Programmes than their erroneous belief on health hazards.
ii. Parents of handicapped and non handicapped children should be encouraged to have familiarization visit to the schools for the handicapped children for confirmation of positive health values of the programme.

iii. Attempt should be made by the governments in adequate funding of the special programme to facilitate easy access to the standard facilities by the recipients and recruitments of specialists that will promote and enhance students' enrolment.

iv. Avenue may be created between school administrator and the parents to fast track regular communication on the children faring in both academic and sport wise respectively.

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HEALTH-PROMOTING BEHAVIOURS AS CORRELATES OF PHYSICAL ACTIVITY PARTICIPATION AMONG UNDERGRADUATES OF DEPARTMENT OF HUMAN KINETICS AND HEALTH EDUCATION, UNIVERSITY OF IBADAN, IBADAN

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Abstract

Health-promoting behaviour is a multi-dimensional act that is mostly exhibited to safeguard individual's health and improve quality of life. Despite the potential benefits of such behaviour, there is paucity of health-promoting behaviour related studies among students, specifically in Ibadan. This study, therefore, examined health-promoting behaviours as correlates of physical activity participation among

undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan, Oyo State. Multistage sampling procedure was used to select 100 respondents, while Health-Promoting Behaviours and Physical Activity Participation Questionnaire (HBPAPQ) was used for data collection. Descriptive and inferential statistics were used for the analysis. The result revealed that, the level of physical activity participation of undergraduates was moderate (weighted Mean=2.05). Health responsibility ($r=0.79$, $p<0.05$) and stress management ($r=0.77$, $p<0.05$) had positive and significant correlation with physical activity participation of the respondents. It was concluded that, the level of physical activity participation of undergraduates was moderate; while health responsibility and stress management had significant positive relationship with physical activity participation of undergraduates of Departments of Human Kinetics and Health Education, University of Ibadan, Ibadan. Periodic health education programme should, therefore, be organized for the students on benefits of health-promoting behaviours and active participation in physical activities.

Keywords: Health-Promoting, Behaviour, Physical Activity, Active Participation, Quality of Life and Undergraduates

Introduction

Background to the Study

The increasing rate of technology usage and sedentary attitude of youths towards physical activity participation specifically in the 21st century has become a health concern to various countries across the globe. As such, physical inactivity was ascertained as a modifiable risk factor for cardiovascular disease and a widening variety of other chronic diseases, including diabetes mellitus, cancer (colon and breast), obesity, hypertension, bone and joint diseases (osteoporosis and osteoarthritis) and depression. It was also, revealed that that the prevalence of physical inactivity is associated with morbidity and a risk factor for high mortality (Raiyat, Nourani, Samiei Siboni, Sadeghi and Alimoradi, 2012; American College of Sports Medicine, 2018).

Physical activity participation is described as experiences in physically demanding movement, sport, game or recreational play that result in energy expenditure and perceptions of communal involvement. It involves exercises as well as other activities which hinges on bodily movement and are done as part of playing, working, house tasks and recreational activities. There are three common types of structured physical activity: namely the cardio, muscle and bone strengthening. Popular ways to be active include walking, cycling, wheeling, sports, active recreation and play, which can be done at any level of skill and for enjoyment by everybody (Wang, Ou, Chen and Duan, 2009; Knuth and Hallal, 2009; Raiyat et al., 2012).

Raiyat et al. (2012) stated that, all forms of physical activity can provide health benefits if undertaken regularly and of sufficient duration and intensity. Yet, current global estimates show one in four adults and 81% of adolescents do not do enough physical activity (Wang et al., 2009). Participating in regular physical activity has proven to help prevent and treat non-communicable diseases such as heart disease, stroke, diabetes and breast and colon cancer. It also helps to prevent hypertension, overweight, obesity and can improve mental health, quality of life and well-being. The action plan was developed through a worldwide consultation process involving governments and key stakeholders across multiple sectors including health, sports, transport, urban design, civil society, academia and the private sector (Wei,

Gibbons and Kampert, 2000; Mo and Winnie, 2010; dos Santos, Gomes, Damasceno, Prista, Eisenmann and Maia, 2013).

Health promotion behaviours entail a positive approach to living and a means of increasing well-being and self-actualization. Such lifestyle that includes eating a low-fat diet, participating in regular physical activities, maintaining a healthy body weight and avoiding smoking and stress, helps prevent many chronic diseases (Wang et al., 2009; Raiyat et al., 2012; Micklesfield, Pedro, Kahn, Kinsman, Pettifor and Tollman, 2014). Health promotion behaviour therefore means the way individual, or groups synergizes with the issue of health and health practices towards attaining wellness and healthy living within their environment and beyond. Health maintenance and promotion are the fundamental prerequisites to the community development (Raiyat et al., 2012; Wei, Harada, Ueda, Fukumoto, Minamoto and Ueda, 2012; Durand, Petticrew, Goulding, Eastmure, Knai and Mays, 2015; Douglas, Knai, Petticrew, Eastmure, Durand and Mays, 2018).

Wang et al. (2009) opined that health promotion behaviours entail a positive approach to living and a means of increasing well-being and self-actualization. Health-promotion behaviours prevent diseases, decrease morbidities, improve the quality of life and decrease health-care costs (Mo and Winnie, 2010). Therefore, to determine individuals' health status, such behaviours are usually examined. Currently, chronic non-communicable diseases are the first leading cause of disability and death worldwide. According to the estimations by world health organization, chronic non-communicable diseases will become the leading cause of 75% of all deaths in developing countries (Nies and MacEwen, 2001; Wei et al., 2012).

A health-promoting lifestyle is a multi-dimensional pattern of self-initiated feelings and behaviours aiming at ensuring individual's health, self-actualization and self-accomplishment. Such lifestyles include eating a low-fat diet, regular physical activities, maintaining a healthy body weight and avoiding smoking and stress; which help to prevent many chronic diseases (Alpar, Senturan, Karabacak and Sabuncu, 2008; Micklesfield et al., 2014). Physical activity is also an important aspect of health promotion and a predictor of disability and death worldwide. The world health organization estimates that around two million deaths worldwide annually can be attributable to the lack of physical activity (Dumith, Gigante, Domingues and Kohl, 2011; World Health Organisation, 2020).

In order to promote adolescents' lifestyle, healthcare providers need to pay special attention to their eating habits, physical activity, social support, stress management skills, life appreciation and health responsibility (Chen, James and Wang, 2007; Muthuri, Wachira, Leblanc, Francis, Sampson and Onywera, 2014; Oyeyemi, Ishaku, Oyekola, Wakawa, Lawan and Yakubu. 2016). On the other hand, there is lack of studies on relationship between health-promoting behaviours components of health responsibility, stress management, self-actualization, interpersonal relationship and physical activity participation, specifically among the university undergraduates. This study, therefore, investigated health-promoting behaviours as correlates of physical activity participation among undergraduates of health-promoting behaviours as correlates of physical activity participation among undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Statement of the Problem

Participation in physical activities involves exercises as well as other activities which rely on bodily movement and are done as part of playing, working, house tasks and recreational activities. Involving in regular physical activity is proven to help prevent and manage non-communicable diseases such as heart disease, stroke, diabetes and several cancers. Participating in physical activities assists in health promotion and maintenance which are the fundamental prerequisites to community development. Also, health promoting behaviours entail a positive approach to living and a means of increasing well-being and self-actualization.

As such, health-promoting behaviour is a multi-dimensional act that is mostly exhibited to safeguard individual's health, prevent diseases, decrease morbidities, improve the quality of life and decrease healthcare costs. Despite potential benefits of such behaviour, previous study focused on physical activity participation, with little concentration on relationship between health-promoting behaviour and physical activity participation among students, specifically in Ibadan. This study, therefore, examined health-promoting behaviours as correlates of physical activity participation among undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Objectives

The specific objectives of this study were to:

1. Assess the level of physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.
2. Examine the correlation between health-promoting behaviours (health responsibility and stress management) and physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Methodology

Research Design

The study adopted a descriptive survey research design. Therefore, the researcher collected data from respondents on correlation between health-promoting behaviours (health responsibility and stress management) and physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Population for the Study

The population of the study comprised undergraduates of Departments of Human Kinetics and Health Education, University of Ibadan, Ibadan respectively.

Sample and Sampling Techniques

The sample for the study was one hundred (100) respondents from the Department of Human Kinetics and Health Education, University of Ibadan, Ibadan, Oyo State. Moreover, purposive and simple random sampling techniques were used to select the respondents. At stage one, purposive sampling technique was used to consider undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan, Oyo State. Also, purposive sampling technique was

used to consider fifty (50) respondents from each of Department of Human Kinetics as well as Department of Health Education, University of Ibadan, Ibadan, Oyo State. At stage three, simple random sampling technique was used to choose fifty (50) respondents randomly from each of the two selected departments.

Instrument

A self-developed and validated questionnaire was used as instrument for data collection in the study. This instrument was made up of three sections, namely; Sections A, B and C. Section A was used to elicit information on socio-demographic characteristics of the respondents. Two items were generated and responded to by the respondents. These items included sex and age. In section B, Health-Promoting Behaviours Scale was used to gather information from respondents on health responsibility and stress management. In section C, Physical Activity Participation Scale was used to gather information from respondents on physical activity participation. Both sections B and C were scored on a 3-point format of Regularly, Sometimes and Never. The Health-Promoting Behaviours Scale had a reliability value of 0.75, while Physical Activity Participation Scale had a value of 0.72. The data were analysed using both descriptive and inferential statistics. The demographic data and research question were analysed using frequency, mean and standard deviation respectively. Also, inferential Statistics of Pearson product moment correlation was used to test the hypotheses, while a *p*-value equal or less than 0.05 was accepted as significant for each statistical test.

Results

Table 1: Distribution of the Respondents by Sex and Age

S/n		Variable	Frequency	Percent (%)
		Male	48	48.0
1.	Sex	Female	52	52.0
		Total	**100**	**100.0**
		18 years and below	26	26.0
2.	Age	19-29 years	74	74.0
		Total	**100**	**100.0**

As shown in table 1, 48 (48.0%) respondents were male, while 52 (52.0%) were female. Also, 26 (26.0%) respondents were less than 18 years, while 74 (74.0%) were in the age range of 19-29 years of age. The outcome of this study on socio-demographic characteristics of the respondents indicated that, most of the respondents were male, while a substantial number of them were in the age range of 19-29 years.

Research Question:

Research Question 1: What is the level of physical activity participation of undergraduates of Department Human Kinetics and Health Education, University of Ibadan, Ibadan?

Table 2: Result on Level of Physical Activity Participation of Undergraduates of Department Human Kinetics and Health Education, University of Ibadan, Ibadan

S/n	Statement	Regularly	Sometimes	Never	Mean	Standard Deviation
1	I participate in sport, recreation or leisure-time physical activity	40 (40.0%)	52 (52.0%)	8 (8.0%)	2.32	0.62

2	On the average, I participate in sport-related or recreational physical activity for 1-3 hours per week	34 (34.0%)	38 (38.0%)	28 (28.0%)	2.06	0.79
3.	I involve in moderate physical activities such as brisk walking, jogging, light swimming, stair climbing as part of my work (for at least 10 minutes at a time)	36 (36.0%)	52 (52.0%)	12 (12.0%)	2.24	0.65
4.	I engage in vigorous physical activities like fast running, fast cycling or climbing up stairs as part of my daily routine activity (for at least 10 minutes at a time)	24 (24.0%)	52 (52.0%)	24 (24.0%)	2.00	0.70
5.	During the last 7 days, I engage in aerobic activities such as fast running, swimming, walking and dancing at least 10 minutes at a time in my leisure time	22 (22.0%)	44 (44.0%)	34 (34.0%)	1.88	0.74
6.	I involve in muscle-strengthening activities like pushups and sit-ups for 10 minutes in the last 7 days.	24 (24.0%)	40 (40.0%)	36 (36.0%)	1.88	0.77
7.	I involve in stretching activities such as touching of toes, side stretches and yoga exercises	24 (24.0%)	48 (48.0%)	28 (28.0%)	1.96	0.72
					Weighted Mean= 2.05	

Decision rule: 1.00 – 1.49=low, 1.50 – 2.49=moderate, 2.50 – 3.00=high

As revealed in table 2, 40 (40.0%) respondents regularly participated in sport, recreation or leisure-time physical activity, 52 (52.0%) sometimes involved in it, while 8 (8.0%) never involved in it. Moreover, 34 (34.0%) respondents regularly participated in sport-related or recreational physical activity for 1-3 hours per week on the average, 38(38.0%) sometimes involved in it, while 28 (28.0%) never involved in it. In addition, 36 (36.0%) respondents regularly involve in moderate physical activities such as brisk walking, jogging, light swimming, stair climbing as part of my work (for at least 10 minutes at a time), 52(52.0%) sometimes involved in it, while 12 (12.0%) never involved in it.

Furthermore, 24 (24.0%) respondents regularly engaged in vigorous physical activities like fast running, fast cycling or climbing up stairs as part of my daily routine activity (for at least 10 minutes at a time), 52 (52.0%) sometimes engaged in it, while 24 (24.0%) never involved in it. Also, 22 (22.0%) respondents regularly engaged in aerobic activities such as fast running, swimming, walking and dancing at

least 10 minutes at a time in my leisure time during the last 7 days, 44 (44.0%) sometimes engaged in it, while 34 (34.0%)never involved in such activities.

Equally, 24 (24.0%) respondents involved in muscle-strengthening activities like pushups and sit-ups for 10 minutes in the last 7 days, 40 (40.0%) sometimes involved in it, while 36 (36.0%) never involved in such muscle-strengthening activities. Likewise, 24 (24.0%) respondents involved in stretching activities such as touching of toes, side stretches and yoga exercises, 48 (48.0%) sometimes involved in it, while 28 (28.0%) in such activities. Table 2 further showed that the obtained weighted mean value of 2.05 which indicated that the score was moderate based on the decision rule. This means that the level of physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan was moderate.

Test of Hypotheses

The following hypotheses were tested in the study:

$H_0$1: There is no significant correlation between health responsibility and physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Table 3: Result on Correlation between Health Responsibility and Physical Activity Participation

Variables	Mean	Std. Dev.	Physical Activity Participation	Health responsibility	N	Sig. (p value)	Remark
Physical Activity Participation	14.34	3.26	1	0.79	100	.000	Significant
Health responsibility	8.58	8.58	0.79	1			

Correlation is significant at 0.05 alpha level ($p<0.05$)

Table 3 showed that health responsibility was tested significant on physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan (r=0.79, $p<0.05$). It was further established that health responsibility had positive correlation with physical activity participation; while correlation coefficient's magnitude was strong. The null hypothesis was therefore rejected. The positive relationship of health responsibility and physical activity participation implied that, decision to continuously engage in physical, mental and social well-being would positively influence physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

$H_0$2: There is no significant correlation between stress management and physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Table 4: Result on Correlation between Stress Management and Physical Activity Participation

Variables	Mean	Std. Dev.	Physical Activity Participation	Stress Management	N	Sig. (p value)	Remark
Physical Activity Participation	14.34	3.26	1	0.77	100	.000	Significant
Stress Management	7.56	2.30	0.77	1			

Correlation is significant at 0.05 alpha level (p<0.05)

Table 4 revealed that stress management was tested significant on physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan (r=0.77, p<0.05). It was further established that stress management had positive correlation with physical activity participation; while correlation coefficient's magnitude was strong. The null hypothesis was therefore rejected. The positive relationship of stress management and physical activity participation implied that, involvement in frequent stress management would positively influence physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan.

Discussion of Findings

The findings of this study on socio-demographic characteristics revealed that, most of the respondents were female, while a substantial number of them were in the age range of 19-29 years. The finding of the study on physical activity participation revealed that, the level of physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan was moderate. This was evident through the responses of the respondents that some respondents regularly participated in sport, recreation or leisure-time physical activity, while most of the respondents sometimes involved in it. In addition, some of the respondents regularly participated in sport-related or recreational physical activity for 1-3 hours per week on the average. Besides, majority of the respondents sometimes involved in moderate physical activities such as brisk walking, jogging, light swimming, stair climbing as part of their work.

The outcome of this study on the level of physical activity participation of undergraduates was in line with the finding of Raiyat et al. (2012) which revealed that involvement in some beneficial sporting activities could influence physical activity. Also, the finding of the present study was in congruence with the outcome of Knuth & Hallal (2009) which revealed that the increasing level of physical inactivity in Nigeria and many other countries in the world was largely due to motorisation, urbanisation, automation of daily activities.

In addition, the finding of this study revealed that health responsibility was tested significant on physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan. It was further established that health responsibility had positive correlation with physical activity

participation; while correlation coefficient's magnitude was strong. The positive relationship of health responsibility and physical activity participation implied that, decision to continuously engage in physical, mental and social well-being would positively influence physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan. The outcome of this study on the relationship between health responsibility and physical activity participation was in contrast to the finding of Douglas, Knai, Petticrew, Eastmure, Durand & Mays (2018) which revealed that health responsibility was not associated with activities of individuals.

Moreover, the finding of this study established that stress management was tested significant on physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan. It was further established that stress management had positive correlation with physical activity participation, while correlation coefficient's magnitude was strong. The positive relationship of stress management and physical activity participation implied that, involvement in frequent stress management would positively influence physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan. The outcome of this study on stress management and physical activity was in line with the finding of Oyeyemi et al. (2016) which established that stress management was associated with physical activity. In the same vein, the outcome of this present study was in contrast to the study of Wei, Gibbons & Kampert (2000) which established that physical activity had no significant relationship with stress.

Conclusion

It was concluded that the level of physical activity participation of undergraduates of Department of Human Kinetics and Health Education, University of Ibadan, Ibadan was moderate. Also, the health-promoting behaviours of health responsibility and stress management independently had significant and positive correlation with physical activity participation.

Recommendations

Based on the findings of this study, the following recommendations were made:

i. Periodic sensitization programmes should be jointly organized by the University of Ibadan Health Service Unit and Sports Council for the students on the importance of physical activity.
ii. Periodic health education programme should also be organized for the students on benefits of health-promoting behaviours and active participation in physical activities.

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ASSOCIATED FACTORS AS CORRELATES OF FOOTBALL RELATED INJURIES AMONG SHOOTING STARS FOOTBALLERS IN IBADAN, OYO STATE, NIGERIA

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Abstract
This research investigated the associated factors as correlates of football related injuries among shooting stars footballers in Ibadan, Oyo State, Nigeria. Football (soccer) is the most popular sport in the world. Players are required to repetitively perform sudden accelerations and decelerations, rapid changes of directions, jumping and landing tasks, as well as being involved in several tackling situations to keep possession of or to win the ball. The population for this study comprises all Shooting Stars Footballers in Ibadan, Oyo State, Nigeria. Descriptive survey was used to obtain information from the respondents. Inferential statistics of Pearson Product Movement Correlation (PPMC) was used to analyse the hypotheses at 0.05 level significance. The study revealed that training exposure ($r=0.413$, $p<0.05$) was tested significant on Football related injuries among shooting stars footballer of Ibadan. Also, competition exposure ($r=0.531$, $p<0.05$) was tested significant on Football related injuries. Furthermore, rough tackle ($r=0.487$, $p<0.05$) was tested significant on Football related injuries. Finally, that field of play ($r=0.413$, $p<0.05$) was tested significant on Football related injuries among shooting stars footballer of Ibadan Conclusively, it was recommended that, Proper use of shin guards, tapes, braces gloves for goal keeps and appropriate shoes in both training and match sessions by all Shooting Stars football club players is paramount. Also, adequate infrastructure should be made available by qualified institutions to ameliorate the injuries in football at club level.

Key Words: Associated Factors, Football, Injuries, Shooting Stars, Footballers.
Word Count: 228

Introduction

Background to the Study

Football (soccer) is the most popular sport in the world. Players are required to repetitively perform sudden accelerations and decelerations, rapid changes of directions, jumping and landing tasks, as well as being involved in several tackling situations to keep possession of or to win the ball. These high-intensity situations alongside frequent exposure to collisions and contacts result in a notable increase in injury risk compared to individual sports such as tennis or gymnastics. In fact, it has been suggested that football is among the top 5 injury-prone sports (Hägglund, Waldén & Ekstrand., 2017). Injuries are also common events in youth footballers, especially at periods of rapid changes in growth and maturation. Football-related injuries can counter the health-related beneficial effects of sports participation at a young age if a child or adolescent is unable to continue to participate because of the residual effects of injury (Salim & Wadey, 2016)

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There is a clear necessity to develop and implement measures (e.g., integrative neuromuscular training, appropriate rule enforcement and emphasis on safe play) aimed at preventing and reducing the number and severity of football-related injuries in youth players. However, before implementing any injury preventive measure it is essential to know the injury profile of youth football. In the last two decades, a number of prospective studies have been published describing the incidence and pattern of injuries in youth football players. Recently, a systematic review has combined and meta-analysed most of the incidences available in elite male youth football and has reported overall injury rates of 7.9 and 3.7 time-loss injuries per 1000 hours of exposure for players aged under (U) 17 to U21 and U9 to U16 years old, respectively (Larruskain, Lekue & Diaz, 2018).

As competitive level rises, it is a common practice for some football teams to play one or two matches per week, and take part in international tournaments, such as world championships and the Olympic Games. These heavy schedules of practice, matches, and high psychophysical demands, lead to high risks and rates of injury in professional and amateur. Furthermore, soccer players in an overreaching phase of training or intense competition would appear to be particularly vulnerable to injuries and psychophysical stress. In other words, this intensive phase may lead to the accumulation of stress, fatigue and its concomitants (i.e., non-functional overreaching or overtraining), and, consequently, can increase the risk of injury and illness to the athlete (López-Valenciano, Raya González & Garcia, 2019). For this reason, because the potential to eliminate physical stressors is limited in sport, a potential avenue for decreasing injury rates is to help players cope psychologically with stressors.

Although elite athletes experience high numbers of both acute and overuse injuries, questions regarding which athletes are at risk remain largely unanswered due to limitations in current risk prediction models. While the focus often has been to target physiological and biomechanical parameters when investigating risk factors for sports injuries, there has also been an increasing interest to examine the potential influence of psychosocial factors. A recent meta-analysis on the investigation of psychosocial factors and their association to injury risk concluded that high levels of negative life event stress and strong stress responsively were the two variables that had the strongest associations with injury risk in athletes. European football studies, involving male elite players and female junior players, have reported high levels of

perceived stress to be associated with injury risk. Also among youth players, there was a moderate, positive association between injury risk during the 8 months season and perception of a mastery climate (Venkatasubramaniam, Wolfson & Mitchell, 2017).

When planning training sessions, coaches should take into account that playing and training affect each individual player differently. One of the objectives of a fitness test battery is to identify differences in players' physical characteristics. A variety of fitness tests are currently used to monitor performance and evaluate training response. Unfortunately, there is no exact measure for 'physical performance' in a football match. This stresses the fact that individual performance in fitness tests should not be used to directly predict performance in competition. Nonetheless, player fitness should be considered as a factor that contributes to match result (Stanisławski, 2019). This means that using fitness tests together with physiological data might be useful for monitoring performance measure changes and directing training prescription. If testing and/or monitoring are not done often, coaches might not detect adaptations, which can occur faster than the time between tests. From an applied perspective, this remains a challenge, as coaches are sometimes reluctant to sanction frequent testing within the season. This is despite the fact that routine monitoring may aid periodisation strategies, prevent under/ overtraining and maintain players in optimal condition.

Muscle injuries often occur towards the end of each half and this has been associated with fatigue (BBC SPORT, 2017). Current practice often means injury prevention training is performed at the start of the session. Training is performed in a fresh state it allows players to demonstrate better form, fitness and training order to question this existing practice and build a case for performing injury prevention at the end of practice, when in a fatigued state. Football is a sport where players perform bouts of high intensity activity interspersed with periods of lower intensity. The demands are increased by having to execute complex movements such as accelerating and decelerating, changing direction, jumping and tackling, parts of which are likely to impact on the characteristics of the match. To do this players need an appropriate level of fitness, namely moderate-to-high aerobic and anaerobic power, good agility, flexibility and muscular development and the ability to generate power during fast movements. Although players may not excel across all of the physical components, they should possess levels that will allow them to remain competitive for the whole match (BBC SPORT, 2017).

It is clear that physical qualities are not the only determinant of match performance. The outcome of a match depends on the complex interaction of several physical, psychological, technical and tactical factors (Yang, Schaefer & Zhang, 2014). The prevention of athletic injuries, particularly in a violent contact sport such as football, is of major concern to most educational institutions. At the college level, comparison of natural turf and artificial surfaces in regard to football injuries has received attention in recent years, but differences in quality of the turf on grassed fields has been a topic that has received only minor attention (Golding, Gillingham & Perera, 2020).

A pronounced reduction in practice-field injuries at one high school when practice sessions were moved from a dry and heavily compacted area to a field where

the turf had been adequately maintained. Of course, the reduction in injuries may have been influenced by factors not under consideration. Also, conclusions based on data from a single high school may not be valid for other schools. Soil compaction of athletic fields is a leading cause of football players' knew injuries. He advocated a full maintenance program of verification, over seeding, fertilization, and weed control to provide a playing surface that would tend to reduce the incidence and severity of injuries (Hägglund, Waldén & Ekstrand,2017).

In Nigeria, football is unarguably the most popular sport, with an increasing number of tournaments organized both locally and internationally. Moreover, numerous amateur football clubs are evolving and producing elite football players across the nation. However, the increase in popularity of this sport and the physical and mental demands from a footballer in addition to limited sport medicine resources could lead to a higher incidence of football injuries. Though several studies have been conducted on soccer injuries and related factors among football players, a vast majority of them were performed in the Western world among professional football players, particularly during international tournaments (Salim & R. Wadey, 2016).

Shooting Stars is one of the most followed football clubs in Nigeria and play their home matches at the Lekan Salami Stadium. The stadium was named after one of the prominent supporters of the club who is now deceased. Before, "Sooting" as it is called by its supporters used to play at the famous Liberty Stadium, one of the venues for the world youth soccer championship in 1999. Shooting stars is the first club to win the FA cup on club basis in Nigeria in 1971, players like Aderoju Omowon, Niyi Akande, Jossy Lad, Amusa Adisa were prominent in the squad. Shooting Stars is one of the most decorated club sides in Nigeria alongside Enugu Rangers and the defunct Stationery Stores of Lagos. In fact, Shooting Stars and Enugu Rangers are known as the traditional football clubs in the country, both dominating the football scene in the country during the 1970s and 1980s (Larruskain, Lekue & Diaz, 2018).

Shooting Stars have played and won many matches against top club sides in Africa. 3SC won the first edition of CAF Cup, defeating the Nakivubo Villa of Uganda 3–0 in the finals at the Lekan Salami stadium after the first leg ended goalless. They won the African Cup Winners' Cup in 1976, becoming the first Nigerian club side to win an international trophy. Many well-known international stars have played for Shooting Stars in the past, including former African footballer of the year Rashidi Yekini, "the mathematical" Segun Odegbami and so on. Notable players Rashidi Yekini, Segun Odegbami, Felix Owolabi, Niyi Akande, Taiwo Ogunjobi, Duke Udi, Olumide Harris, Golden Ajeboh, Ajibade Babalade, Ademola Johnson, and Jude Axelsson (López-Valenciano, Raya González & Garcia, 2021). Therefore, this study is to evaluate the associated factors as correlates of football related injuries among shooting stars footballers in Ibadan, Oyo State, Nigeria.

Statement of the Problem

The increase in popularity of football and the physical and mental demands from a footballer in addition to limited sport medicine resources could lead to a higher incidence of football injuries. Though several studies have been conducted on football injuries and related factors among football players, a vast majority of them were performed in the Western world among professional football players, particularly

during international tournaments (Venkatasubramaniam, Wolfson & Mitchell, 2017). Majority of elite athletes had terminated their career because of an injury, nearly half of football players reported that one of the reasons for ending their career in sport was an injury. Moreover, soccer-related injury expenses are a large problem nationally and internationally. It is in this regard that this study has been done for identifying ways of preventing soccer related injuries in among shooting stars players. Therefore, this research is set out to investigate the associated factors as correlates of football related injuries among shooting stars footballers in Ibadan, Oyo State, Nigeria.

Aim and Objective to the Study

The aim of the study is to ascertain associated factors as correlates of football related injuries among shooting stars footballers in Ibadan, Oyo State, Nigeria. The objectives of this study are to;

i. Evaluate the knowledge of shooting stars footballers on football related injuries
ii. Determine training exposure in relation to football related injuries among shooting stars footballers in Ibadan, Oyo State.
iii. Examine competition exposure on football related injuries among shooting stars footballers in Ibadan, Oyo State.
iv. Determine whether rough tackle have effect on football injuries among shooting stars footballers in Ibadan, Oyo State.
v. Determine whether field of play could lead to football injuries among shooting stars footballers in Ibadan, Oyo State.

Research Question

To aid the research work, the following research questions are drawn;

1. What is the knowledge level of shooting stars footballers on football related injuries?

Hypotheses

The following null hypotheses were made in relation with stated problems and objectives of the study

Ho1: There will be no significant relationship between Training exposure and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Ho2: There will be no significant relationship between competition exposure and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Ho3: There will be no significant relationship between rough tackle and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Ho4: There will be no significant relationship between Field of play and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Methodology

Research Design

The research design that will be used in gathering the data for this study is a descriptive survey research design. The descriptive survey research design is a design in which a group of people or items is studied by collecting and analysing data from only a few people or items consisting to be the representative of the entire group (Moses & Yamat, 2021). Therefore, information will be collected from sampled respondents to describe the population of interest.

Population of the Study
The population for this study comprises all Shooting Stars Footballers in Ibadan, Oyo State, Nigeria.

Sample Size and Sampling Techniques
The sample for this study will comprise of fifty (50) football players in Shooting stars Ibadan, Oyo State. Fifty (50) respondents were purposively and randomly selected for this study.

Description of Research Instrument
The instrument used was a self-developed structured questionnaire. This was used to obtain information from the respondents. The questionnaires was structured into four sections A, B, C and D in a way that demonstrate Associated Factors as Correlates of Football Related Injuries Among Shooting Stars Footballers In Ibadan, Oyo State, Nigeria. Section A contained the demographic data of the respondent. Section B measured rate of exposure to training, competition exposure, rough tackle and field of play, and Section C measured football injury and associated factors, which matches with four options of SA, A, D, SD. Each rating 4, 3, 2, 1 points respectively.

Validity of Research Instrument
To ensure the validity of the instrument, a draft of the modified structured questionnaire was presented to the researcher's supervisor and other experts in the field. Comments and suggestions from these experts were studied carefully and followed to improve the quality of the instrument. This was necessary to ensure both the content and face validity of the instrument.

Reliability of Research Instrument
The questionnaire was pre-tested through a pilot study to ascertain the effectiveness in getting the information needed. The research instruments will test-retested on a sample of ten respondents drawn from other football club not used in the study. Cronbach-Alpha test was used to verify the stability and internal consistency in the questions in the questionnaire.

Data Collection
A letter of introduction was collected from the Department of Kinesiology, Sports Science and Health Education by the researcher which was presented to the team coach, to obtain permission that aided the collection of data from the study area. Data collection was done by the researcher with the help of two trained research assistants who assists in the distribution and collection of the filled questionnaires. The questionnaire was collected on the spot.

Data Analysis
The complete copies of the questionnaire were collected; coded and analysed using descriptive statistics of frequency counts and percentages to analyse the socio-demographic characteristics of the respondents and the research questions. Inferential statistics of Pearson Product Movement Correlation (PPMC) was used to analyse the hypotheses at 0.05 level at significance.

Data Presentation and Analysis

Demographic Data

This section is mainly concerned with personal data in respect of respondents and its shows information on Age distribution, National League Division, Position in the Club, Dominant Leg and years of experience under study.

Table 1: Shows the Distribution of Respondents by Age

Options	Frequency	Percentage (%)
16-20 years	4	8.7
21-25 years	17	37
26-30 years	17	37
31 and above	8	17.3
Total	46	100

Source: Field Survey 2023.

Result: The table above shows that 8.7% of the respondents were between age 16-20 years, 37% of the respondents were between age 21-25 years, 37% of the respondent were between 26-30 years and 17.3% of the respondents were 31 years and above. This is in line with the age distribution of the club.

Table 2. Distribution of the Respondents by National League Division

Options	Frequency	Percentage (%)
Glaucoma Premier league	4	8.7
National Premier league	9	19.6
Shooting Stars	33	71.7
Total	46	100%

Source: field survey, 2023

Result: from the table above, 8.7% of the respondents were from Glaucoma Premier league, 19.6% were from National premier league and 71.7% of the respondents were from Shooting Stars club.

Table: 3 Distribution of the Respondents by Playing Position

Options	Frequency	Percentage (%)
Keeping	5	10.9
Defense	7	15.2
Midfielder	19	41.3
Striker	15	32.6

Total	**46**	**100**%

SOURCE: Field survey, 2023

Result: From the above, the present Position in the Club of the respondents are as follows:
Keeping were 10.9%, Defense were 15.2% respondents, Midfielder were 41.3% of the respondents and Striker were 32.6% of the total respondents.

Table 4: Distribution of Respondent by Dominant Leg

Options	Frequency	Percentage (%)
Right Leg	36	78%
Left Leg	10	22%
Total	46	100%

Source: field survey, 2023
Result: from the table above, 78% of respondent are right leg dominant, while 22% of the respondents were left leg dominant.

Table 5: Distribution of Respondent Years of Experience

Options	Frequency	Percentage (%)
1 year	12	26.1
2 years	15	32.6
3 years	10	21.7
More years	9	19.6
Total	**46**	**100**

Source: field survey 2023

Result from the table above, 26.1% of respondent have spent a year in the club, while 32.6% of the respondents have spent two years with club, 21.7% of the respondent have spent 3 years with their club and while 19.6% of the respondents have spent more years with their club.

Presentation of Data
Research Question One: What is the knowledge level of shooting stars footballers on football related injuries?

Table 6. showing the knowledge level of shooting stars footballers on football related injuries

S/N	Knowledge Level of Shooting Stars Footballers on Football Related Injuries	SA	A	D	SD
1.	Concussions is one of the injury that I always try to avoid	24	17	5	
		52.2%	37%	10.9%	
2.	Head injury is very complicated and is better to avoid it	26	14	4	2
		56.5%	30.4%	8.7%	4.3%
3.	I always have Muscle cramps	24	16	6	
		52.2%	34.8%	13%	

4.	Sprains and strains is common to all footballers	24	15	4	3
		52.2%	32.6%	8.7%	6.5%
5.	Overuse injuries, such as low-back pain knee injury cannot be avoided among footballers	27	12	5	2
		58.7%	26%	10.9%	4.3%

Source: Field Survey, 2023

Table 6 shows that 52.2% respondents strongly agreed that concussions is one of the injury that they always try to avoid, 37% of the respondents disagreed while 10.9% of the respondents disagreed with the statement. 56.5% of the respondents agreed that head injury is very complicated and is better to avoid it, 30.4% of the respondents strongly agreed, 8.7% of the respondents disagreed with the statement and 4.3% of the respondents strongly disagreed. Furthermore, 52.2% of the respondents disagreed that they always have Muscle cramps, 34.8% of the respondents strongly disagreed with statement, while 13% of the respondent disagreed with the statement. In addition, 52.2% of the respondents strongly agreed that sprains and strains is common to all footballers, 32.6% of the respondent agreed with the statement, 8.7% of the respondent disagreed with the statement, while 6.5% of the respondents strongly disagreed. Also, 58.7% of the respondents Strongly agreed that overuse injuries, such as low-back pain knee injury cannot be avoided among footballers, 26% of the respondent agreed with the statement, 10.9% of the respondent disagreed with this stamen, while 4.3% of the respondent strongly disagreed.

Hypotheses

Hypothesis One: There will be no significant relationship between Training exposure and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Table 7: Summary of Result on relationship between Training exposure and football related injuries

Variables	**N**	**Mean (X)**	**(Std. Dev.) SD**	**R**	**Sig.**	**Remark**
Training exposure	46	14.67	4.92			
Football related injuries	46	20.33	2.94	0.413	0.05	Sign

Correlation is significant at 0.05 alpha level (p<0.05)

Table 7 revealed that Training exposure (r=0.413, p<0.05) was independently tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that Training exposure had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's magnitude of Training exposure was moderate. The positive relationship of Training exposure and Football related injuries implied that, continuous training exposure could influence Football related injuries among shooting stars footballer of Ibadan.

Hypothesis Two: There will be no significant relationship between competition exposure and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Table 8: Summary of Result on relationship between competition exposure and football related injuries

Variables	N	Mean (X)	(Std. Dev.) SD	R	Sig.	Remark
Competition exposure	46	14.34	4.31			
Football related injuries	46	16.12	1.44	0.531	0.05	Sign

Correlation is significant at 0.05 alpha level (p<0.05)

Table 8 revealed that competition exposure (r=0.531, p<0.05) was tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that competition exposure had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's was weak. The positive relationship of competition exposure and Football related injuries implied that, constant competition exposure could influence Football related injuries among shooting stars footballer of Ibadan.

Hypothesis Three: There will be no significant relationship between rough tackle and football related injuries among shooting stars footballers in Ibadan, Oyo State.

Table 9: Summary of Result on Relationship between Rough Tackle and Football Related Injuries

Variables	N	Mean (X)	(Std. Dev.) SD		Sig.	Remark
Rough tackle	46	26.28	2.84			
football related injuries	46	8.62	4.92	0.487	0.05	Sign

Correlation is significant at 0.05 alpha level (p<0.05)

Table 9 revealed that rough tackle (r=0.487, p<0.05) was tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that rough tackle had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's magnitude of rough tackle was moderate. The positive relationship of rough tackle and Football related injuries implied that, rough tackle could influence Football related injuries among shooting stars footballer of Ibadan.

Hypothesis Four: There will be no significant relationship between field of play and football related injuries among shooting stars footballers in Ibadan, Oyo State

Table 10: Summary of Result on relationship between field of play and football related injuries

Variables	N	Mean (X)	(Std. Dev.) SD	R	Sig.	Remark

Field of play	35	17.28	6.82			
Football related injuries	35	11.99	2.34	0.636	0.05	Sign

Correlation is significant at 0.05 alpha level (p<0.05)

Table 10 revealed that field of play (r=0.413, p<0.05) was independently tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that field of play had positive relationship with Football related injuries. In addition, it was revealed in the table that correlation coefficient's magnitude of field of play was moderate. The positive relationship of field of play and football related injuries implied that, the type of field the players are exposed to could influence football related injuries among shooting stars footballer of Ibadan.

Discussion of the Findings

This study examines associated factors as correlates of football related injuries among Shooting Stars Footballers in Ibadan, Oyo State, Nigeria**.** The result of the finding indicate that injury in football have a lot of effect on the footballer and is one of those things that can determine how far they go in their career. Exercise and training is the life blood of the footballer, majority of the respondents strongly agreed that they always observing training even before any match. This study examines associated factors as correlates of football related injuries among Shooting Stars Footballers in Ibadan, Oyo State, Nigeria. The study revealed that Training exposure was independently tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that Training exposure had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's magnitude of Training exposure was moderate. The positive relationship of Training exposure and Football related injuries implied that, continuous training exposure could influence Football related injuries among shooting stars footballer of Ibadan (Danes-Daetz, Rojas-Toro & Tapia- Mendoza, 2020).

The study also revealed that, competition exposure was tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that competition exposure had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's was weak. The positive relationship of competition exposure and Football related injuries implied that, constant competition exposure could influence Football related injuries among shooting stars footballer of Ibadan (Witt & Dangi, 2018).

Furthermore, the study revealed that rough tackle was tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that rough tackle had positive relationship with Football related injuries. Furthermore, it was revealed in the table that correlation coefficient's magnitude of rough tackle was moderate. The positive relationship of rough tackle and Football related injuries implied that, rough tackle could influence Football related injuries among shooting stars footballer of Ibadan (Close, Sale, Baar & Bermon, 2019).

Finally, it was also revealed that field of play was independently tested significant on Football related injuries among shooting stars footballer of Ibadan. It was further established that field of play had positive relationship with Football related injuries. In addition, it was revealed in the table that correlation coefficient's

magnitude of field of play was moderate. The positive relationship of field of play and football related injuries implied that, the type of field the players are exposed to could influence football related injuries among shooting stars footballer of Ibadan.

Conclusion

The study concluded that injury prevalence was high and that the most affected body parts were the ankle followed by the knee and shin. The injuries sustained during matches were more severe than the ones sustained during training and most of the injuries were slight followed by moderate, minor and severe injuries.

This study also revealed that the mechanisms that seemed to play a big role in injury occurrence were collision, being tackled, tackling and overuse. Furthermore, despite their evident role in injury prevention, the soccer players were still misusing the protective equipment as well as not putting emphasis on warm up and cool down. The possibility of a football player sustaining an injury due to lack of wearing protective equipment and poor performance of sporting activities is high. The result of the finding indicate that injury in football have a lot of effect on the footballer and is one of those things that can determine how far they go in their career.

Recommendations

Based on the findings of this study, the following recommendations were made:

i. Proper use of shin guards, tapes, braces gloves for goal keeps and appropriate shoes in both training and match sessions by all Shooting Stars football club players. Oyo State Ministry of Sport commission should be approached and asked to intervene to provide the required protective equipment for players.

ii. Proper coaching also significantly helps to control football related injury occurrence. Being of the same opinion, the researcher insists that all coaching schedules in Shooting Stars football club should include warm-up, stretching, cool down, strengthening, plyomeric and skills training sessions to maximize their positive effects on soccer injury prevention. The coaches must be responsible for it to ensure its implementation. Thus education related to injury prevention for coaches is advice.

iii. Football is not an injury free sport. Each Shooting Stars football team is required to have a permanent qualified medical practitioner to look after its injured players. This would not only increase the awareness of the players but would minimize the injury occurrence rate which most of the time is associated with improper rehabilitation or early return from a previous injury. It is thus recommended that awareness be created among the soccer fraternity involving all key stakeholders.

iv. Shooting Stars football club soccer is training on uneven and poor playground surfaces. This because, the club cannot afford to properly manage their training field. It is for this reason that the researcher emphasized that adequate infrastructure should be made available by qualified institutions to ameliorate the injuries in football at club level. Longitudinal research studies measuring the impact of intervention programmes for injury prevention needs to be conducted.

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PERCEIVED LEVEL OF ACADEMIC STRESS AMONG STUDENT-ATHLETES OF LEAD CITY UNIVERSITY, IBADAN

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Abstract
Academic stress is common among undergraduates and may be further compounded among athletes because of their need to be successful in both classroom and their respective sports. Therefore, this study investigated levels of academic stress among student-athletes of Lead City University, Ibadan (LCU, Ibadan). Descriptive survey research design was employed. Population for the study included all student-athletes of LCU, Ibadan. Thirty-nine respondents (n = 26 males, n = 13 females) were selected through purposive and convenient sampling technique. The research instrument was structured and validated questionnaire. Descriptive statistics and t-test were used to analyse the data. Results of the study indicated that student-athletes had low level of academic stress. Gender was not significant on academic stress (t=0.859, df=37, p>0.05). Hence, it was concluded that the respondents had low level of academic stress. It was therefore, recommended among others that special attention should be given to student-athletes by coaching staff on how to balance their athletic and academic demands, as this will enable them to maintain low level of academic stress.

Keywords: Academic stress, Convenient sampling, Gender, Student-athletes, Stress, Undergraduates
Word Count: 172

Introduction

Background to the Study

Students' lives are greatly impacted by their academic pursuits. Entering any postsecondary institution of higher learning is seen as a game-changer for each student, since they encounter a variety of both good and bad circumstances over their academic careers. The abrupt transition from secondary to postsecondary education may present challenges for students. Stress results from not being able to handle these issues. Any shift that puts strain on one's body, mind, or emotions is referred to as stress. It is the physical reaction to everything that has to be attended to or dealt with (Scott, 2022). It is any circumstance in which people's health, relationships, or academic achievements are adversely affected (Epel, Crosswell, Mayer, Prather, Slanch, Putterman, and Mendes, 2018). Stress may be viewed in three ways: as a trigger (stimulus), a reaction, and a dynamic process.

Everyone, especially students, experiences stress from time to time. Stress is a normal aspect of academic life, especially for students (Khan, Altaf, and Kausar,

2013). Most institutions contain both student-athletes and non-athletes, although one group may be more stressed than the other, particularly student-athletes who must balance academic demands with sporting activity. Both groups face similar academic challenges, although their levels of stress may differ. Undergraduates face significant pressure and pressures in many aspects of their lives, which contributes to academic stress. Academic stress occurs when internal and external pressures exceed an individual's coping capabilities (Aafreen, Priya and Gayathri, 2018; Bhargava and Trivedi, 2018). Academic life entails individual mental, social, psychological, financial, and personal obligations, as well as hard work and emotions (Adom, Chukwuere, and Osei, 2020).

According to Lee and Larson (2000) and Lou and Chi (2000), academic stress is defined as a state of worry brought on by a student's assessment of high academic expectations. According to Anjana (2021) it describes the experience of distress in all spheres of life, but especially in the academic realm, where students feel overburdened and their lives get out of control because of excessive pressure, fear, panic, and worry about how awful they are feeling because of new educational concepts, adjusting to new social settings, studying for exams, work overload, the amount of material to learn, and the pressure to perform well. According to this study, academic stress results from student-athletes taking on more work than they are capable of handling. Undergraduates' academic growth and work success are negatively impacted by excessive academic stress. For the majority of undergraduates, managing their academic lives is a major source of stress. For student-athletes, this stress may be exacerbated by their dual demands to succeed academically and in their respective sports (Aquilina, 2013; López de Subijana, Barriopedro and Conde, 2015; Huml, Hambrick and Hums, 2016).

Student-athletes are bonafide students of a university who also participates in an organised and competitive athletic offered by the institution. They are enrolled full-time in a university's organised, competitive sports programme. On campus, they are considered as a unique group of individuals. According to Aquilina (2013), student athletes are often more dedicated to the advancement of athletics and may see their studies as a backup plan for their athletic career rather than as a means of personal growth. They occasionally put athletics before studies as a result (Miller and Kerr, 2022; Cosh and Tully, 2014; 2015).

According to the National Collegiate Athletic Association (NCAA), 2014, student-athletes who see the demands of academics and sports as a positive challenge—that is, when one's self-confidence or belief in oneself to complete the task outweighs any anxiety or emotional worry that is felt—may be able to increase learning capacity and competency. However, stress may be harmful to one's physical and mental well-being as well as one's ability to perform effectively in athletics when these expectations are seen to be beyond one's capabilities (Li, Moreland, Peek-Asa, and Yang, 2017). Stress levels range from low to high. According to research by Ward, Stead, Mangal, and Ganti (2023) on high school athletes, 58% of them reported experiencing moderate to intense levels of stress.

Gender differences may have an impact on academic pressures, according to Turecki and Meaney (2016). For example, research showed that males report feeling more in control of their emotions than do women. Men, on the other hand, tend to

describe managing their emotions, whereas women tend to report expressing their sentiments (Niemiec and Ryan, 2009). According to Hussain, Ullah, and Khan's study from 2022, respondents in both the male and female groups reported feeling stressed. In contrast to their female counterparts, the male athletes reported greater levels of stress on the teacher's stress, results stress, test stress, and time management stress when their mean scores on multiple dimensions were compared. Furthermore, according to a research by Lu, Hsu, Chan, Cheen, and Kao (2012), male athletes had greater levels of stress across a range of academic stress characteristics. According to Yogesh, Shrivastava, and Singh (2014), stress levels were also higher in male students than in female students in previous research, with 82% of male students and 61% of female students experiencing stress. The research (Bertsch, Erude, Saeed, Ondracek, Piazza, Kwiatek, Melton, Selmi, Lower and Freeman, 2022) that found male athletes to be more stressed than female athletes supported this. However, other research revealed that women were more inclined to believe they were under more stress (Ng and Jeffery, 2003; Thawabien and Qaisy, 2014). Melinda, Ellen, Jeannne, and Robert (2008) discovered that female college students experience higher levels of stress in comparison to their male counterparts but according to the findings of another study, male and female students did not significantly vary in how stressed they were (Maduagwu, Nelson-Okarter and Fyneboy, 2019). The purpose of this study was to ascertain the academic stress level of the undergraduate athletes. By being aware of their level of stress, stakeholders may assist in keeping an eye on them and developing a better programme for them.

Statement of the Problem

Stress is a psychological, emotional and physical illness that, depending on how severe it is for a person and their coping mechanisms, may have both beneficial and detrimental effects. Most university students experience a great deal of stress related to their academic success. Student-athletes may experience even more stress because they have to succeed in both athletics and academics at the same time. They may be more likely to have mental health problems including anxiety and depression as a result of the strain to maintain both high academic and athletic performance levels (Li, Moreland, Peek-Asa and Yang, 2017; Moreland, Coxe, Yang, 2018). This might lead to academic stress. On the other hand, academic stress directly affects academic performance and students who are unable to effectively manage their stress may find it challenging to juggle their obligations. Therefore, this study looked into how much academic stress athlete undergraduates at Lead City University in Ibadan felt they were under. Furthermore, compared to male students, female students are allegedly more anxious. The study also examined how student athletes' gender differed in terms of academic stress.

Objectives of the Study

The objectives of the study were to:

a. investigate the level of academic stress among student-athletes of Lead City University, Ibadan.
b. ascertain gender difference in academic stress among student-athletes of Lead City University, Ibadan.

Research Question

The following research question was raised and answered in the study:

a. What is the perceived level of academic stress among student-athletes of Lead City University, Ibadan?

Hypothesis

The following hypothesis was tested in the study:

There will be no significant gender difference in academic stress among student-athletes of Lead City University, Ibadan.

Methodology

This study adopted a descriptive survey design. The population for this study consisted all undergraduate student-athletes of Lead City University, Ibadan. A sample of thirty-nine (39) student-athletes were used (n = 26 males, n = 13 females, Mage = 2.38 years, SD = 0.78). Student-athletes were purposively selected and convenient sampling technique was used to select those who volunteered to participate in the study. An online questionnaire tagged Perceived Academic Stress Questionnaire (PASQ) was used as the research instrument for the study. It was a self-developed and validated questionnaire. The items were derived from literature reviewed. PASQ is divided into two sections. Section A is on demographic characteristics of the respondents, section B gathered information on academic stress. The items covered in section A include gender, age, type of sports and level. Section B with 8 items assessed academic stress level. Each response was scored on a 4-point modified Likert format of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with allotment of points 1, 2, 3 and 4 respectively. The scoring for each respondent is done by summing up the total ratings given to all situation experienced by respondent.

The validity of the research instrument for this study, the instrument was subjected to face and content validity by experts on the field of Kinesiology, Sports Science and Health Education. Cronbach Alpha method was used to determine the internal consistency of the instrument. The PASQ yielded a reliability co-efficient of 0.71. The process of data collection started by sending messages to the various students' platforms of the prospective respondents. Volunteers were asked to sign consent forms. The consent form informed the respondents about the purpose of the study and the anonymity of their identity, as well as their right to decline participation. Questionnaire items were written in simple language that every participant was able to understand. The researchers introduced briefly the topic and the purpose of the research to them through consent form. Descriptive statistics of frequency counts and percentage was used to analyse the demographic data of the respondents. The research question was analysed with frequency counts, percentages, mean and standard deviation, while t-test was used to test the hypothesis set at 0.05 alpha level.

Results
Demographic Data Analysis

Table 1: Table Showing Demographic Characteristics of Respondents (*n= 39)*

Variable		Frequency	Percentage
Gender	Male	26	66.7%
	Female	13	33.3%
Age	16-18 Years	3	7.7%
	19-21 Years	21	53.8%
	22-24 Years	13	33.3%
	25-27 Years	1	2.6%
	28-30 Years	1	2.6%
Sports Type	Badminton	4	10.3%
	Table-tennis	2	5.1%
	Swimming	5	12.8%
	Track Events	6	15.4%
	Football	18	46.2%
Level	100 Level	2	5.1%
	200 Level	4	10.3%
	300 Level	11	28.2%
	400 Level	18	46.2%
	500 Level	4	10.3%

Source: Field Survey (2023)

Table 1 reveals that 26(66.7%) were male, while 13(33.3%) were female. It further shows that 3(7.7%) were between 16-18 years old, 21(53.8%) were in the age range of 19-21 years, while 13(33.3%) were between 22-24 years, 1(2.6%) were between 25-27 years and 28-30 years of age respectively. As for sports type, 4 (10.3%) respondents played Badminton, 2 (5.1%) played table-tennis, 5 (12.8%) respondents engaged in swimming, 6 (15.4%) while track events, 18 (46.2%). In addition, Table 1 shows that 2 (5.1%) were of the respondents were in 100 level, 4 (10.3%) were in 200 level, 11 (28.2%) were in 300 level, 18 (46.2%) were in 400 level, while 4 (10.3%) were in 500 level. This means that most of the respondents were 400 level students.

Research Question 1. What is the perceived level of academic stress among student-athletes of Lead City University, Ibadan?

Table 2: Result on Perceived Level of Academic Stress among Student-athletes of Lead City University, Ibadan

	Statements	SA	A	D	SD	Mean	Std. Dev.
1	I do have conflict with my colleagues	5 (12.8%)	12 (30.8%)	18 (46.2%)	4 (10.3%)	2.5	0.85
2	I have frustration due to misunderstanding by colleagues	9 (23.1%)	13 (33.3%)	12 (30.8%)	5 (12.8%)	2.3	0.98
3	I have difficulty in combining other aspect of my life with academics	5 (12.8%)	13 (33.3%)	14 (35.9%)	7 (17.9%)	2.6	0.94
4	I felt difficulties were piling up so high that I could not overcome them	7 (17.9%)	7 (17.9%)	18 (46.2%)	7 (17.9%)	2.6	0.99
5	Sometimes I have difficulties in understanding certain courses	6 (15.4%)	28 (71.8%)	5 (12.8%)	0 (0%)	1.9	0.54
6	I am always stressed up before examinations	7 (17.9%)	17 (43.6%)	13 (33.3%)	2 (5.1%)	2.3	0.82
7	I am always disturbed by lack of vacation/breaks	16 (41.0%)	10 (25.6%)	12 (30.8%)	1 (2.6%)	1.9	.092
8	I am stressed about accommodation	6 (15.4%)	11 (28.2%)	19 (48.7%)	3(7.7%)	2.5	0.85
Total		173 (21.6%)		140 (17.5%)		Weighted mean=2.33	

Decision rule: Low=<2.49; Moderate=2.50-2.99; High=3.00-3.49; Very High=>3.50
Source: Field Survey, 2023

It can be seen from table 2 that 5 (12.8%) respondents strongly agreed to the statement that says I do have conflict with my colleagues 12 (30.8%) agreed, 18 (46.2%) disagreed while 4 (10.3%) strongly disagreed. 9 (23.1%) agree with the statement which states that "I have frustration due to misunderstanding by colleagues", 13 (33.3%) agreed, 12 (30.8%) disagreed, 5 (12.8%) strongly disagreed. As for the statement which say "I have difficulty in combining other aspect of my life with academics" 5 (12.8%) strongly agreed, 13 (33.3%) agreed, 14 (35.9%) disagreed and 7 (17.9%) strongly disagreed. To the statement, I felt difficulties were piling up so high that I could not overcome them, 7 (17.9%) strongly agreed, 7 (17.9%) agreed, 18 (46.2%) disagreed, 7 (17.9%) strongly disagreed. Furthermore, 6 (15.4%) strongly

agreed, 28 (71.8%) agreed, while 5 (12.8%) disagreed to the statement "Sometimes I have difficulties in understanding certain courses".

For the statement I am always stressed before examinations, 7 (17.9%) strongly agreed, 17 (43.6%) agreed, 13 (33.3%) disagreed while 2 (5.1%) strongly disagreed. 16 (41.0%) of the respondents strongly agreed with the statement I am always disturbed by lack of vacation/breaks, 10 (25.6%), 12 (30.8%) agreed, 12 (30.8%) disagreed while 1 (2.6%) strongly disagreed. To the statement "I am stressed about accommodation 6 (15.4%) strongly agreed, 11 (28.2%) agreed, 19 (48.7%) disagreed and 3 (7.7%) strongly disagreed. Table 1 further revealed that most (54.4%) of the respondents agreed on all of the negatively developed question items, while few (45.6%) did not. Table 4.6 also revealed that the weighted mean score was 2.33, which indicated that the score was low based on the decision rule. This means that the perceived level of academic stress was low among undergraduate athletes of Lead City University, Ibadan.

Hypothesis 1: There will be no significant gender difference in academic stress among student-athletes of Lead City University, Ibadan.

Table 2: t-test Analysis on Gender Difference in Academic Stress among Student-athletes

Variable	Gender	N	Mean	Std. Dev.	df	t-value	Sig. (p value)	Remark
Academic Stress	Male	26	18.69	3.68	37	0.859	0. 943	NS
	Female	13	18.92	3.98				

NS: Not Significant

Table 4.11 shows that there was no significant gender difference on academic stress among student-athletes of Lead City University, Ibadan (t=0.859, df=37, p>0.05). Hence, the null hypothesis was therefore not rejected. It further reveals that, female respondents had a higher mean score ($\bar{x}$ =18.92) than their male counterparts with a mean score of 18.69. This means that, female student-athletes in Lead City University, Ibadan were more stressed than their male counterparts.

Discussion of Findings

The aim of this study was to investigate level of academic stress among student-athletes of Lead City University, Ibadan. The finding of this study revealed that level of academic stress among student-athletes was low. In addition, the outcome of this study on gender and academic stress revealed that female had higher level of stress than male. This finding was is in line with studies which found that females were more likely to feel as though they experienced higher levels of stress (Ng and Jeffery, 2003; Thawabien and Qaisy, 2014). Also research has found that stress levels among female college students is elevated compared to males (Melinda, Ellen, Jeannne and Robert, 2008). This study set out to find out level of academic

stress among student-athletes of Lead City University, Ibadan. The finding of this study revealed that level of academic stress among student-athletes was low. The results of this study on gender and academic stress also showed that female had higher levels of stress than male. This result is consistent with research showing that female were more likely to perceive themselves as having had higher stress levels (Ng and Jeffery, 2003; Thawabien and Qaisy, 2014). Additionally, studies have shown that female college students experience higher levels of stress than their male counterparts (Melinda, Ellen, Jeannne and Robert, 2008). This result, however, did not align with a study's results that male athletes had greater levels of stress across a range of academic stress dimensions (Lu, Hsu, Chan, Cheen and Kao, 2012).

In addition, additional research revealed that male students experienced higher levels of stress than female students, with 82% of male students experiencing stress and 61% of female students experiencing stress (Yogesh, Shrivastava and Singh, 2014). The research (Bertsch, Erude, Saeed, Ondracek, Piazza, Kwiatek, Melton, Selmi, Lower and Freeman, 2022) that found male athletes to be more stressed than female athletes supported this. Some reasons why female students may be under more stress include the fact that women often take on the job of family caregiver in addition to working and excelling academically and athletically. Men tend to report lower levels of stress because they are trained to be emotionally strong and not display emotional weakness, whereas women often report greater levels of self-imposed stress and stronger physiological reactions to stresses than men (Stevenson and Harper, 2006). However, according to the findings of another study, male and female students did not significantly differ in their levels of stress (Maduagwu, Nelson-Okarter and Fyneboy, 2019).

Conclusion

This study examined the level of academic stress experienced by Lead City University, Ibadan, student-athletes. Based on the results, it concluded that Lead City University in Ibadan's student-athletes experienced low academic stress. Furthermore, there was no discernible gender difference among all of the respondents.

Recommendation

Based on the conclusion of this study, the following recommendations were made:

i. Undergraduates should attend workshops on academic stress at the beginning of each semester so they may learn practical strategies for maintaining low academic stress.
ii. The institution should concentrate on raising students' understanding of mental health issues, particularly among female students. The university can accomplish this by setting up counselling programmes.
iii. In order to help student-athletes maintain a low level of academic stress, coaching staff should pay special attention to how they balance their athletic and academic obligations.

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RESTRICTED CARBOHYDRATE AND INCREASE PROTEIN DIET ON SPORTS PERFORMANCE

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Abstract

This paper is concerned with restricted carbohydrate and increase protein diet on sports performance. This is with a view to providing updated information on nutritional manipulation as ergogenic aids. Restricted Carbohydrate Diet is the minimization of intake of refined carbohydrate sources such as added sugars, high glycemic grains, and fructose. The essence of RCDs lies in the prevention of glycogen depletion. Increase Protein Diet is high protein diet typically include large quantities of protein and only a small amount of carbohydrate. This paper presents a review on current literature and research on restricted carbohydrate and increase protein diet on performance in an attempt to providing useful information on the benefits of diets to athletic performance. Though low-carbohydrate (LC) diets have been indicated to be capable of decreasing body weight and increasing insulin sensitivity; however, the effects of lower carbohydrate intake, complemented with higher intakes of fat and protein on exercise performance are equivocal.

Keywords: Restricted Carbohydrate, Increase Protein Diet, Performance.

Word Count: 153

Introduction

Diet is considered as one of the most efficacious means to enhance performance. In present times, there is more awareness among athletes and their coaches on how important diet is to physical performance (Hough, 2018). Generally, energy needs for athletes are on the high side. This can be as a result of increase in physical activity, body growth and repairs. Consequently, if nutrient intake is insufficient, it results in poor athletic performance and other problems that are health related (Rosenbloom, Jonnalagadda and Skinner, 2002). To evade ailment or injury

and then to properly fuel each phase of an event, education on nutrition is essential (Burke, 2017). Difference in culture, economic status, and then the type of sport activity, results in differences in practices that are nutritionally related (Rosenbloom, Jonnalagadda and Skinner, 2002). Also, numerous environmental factors hinder individuals including athletes from carrying out the necessary dietary practices. Nutrition based facts also affect attitude and eating conduct (Burke, van Loon and Hawley, 2017). Lack of appropriate training on diet and nutrition results in probable damage if the coaches and athletes are not properly informed (Wong, et al., 1999). This validates the status of appropriate nutritional information and dietary practices for athletes and as well as their coaches. Athletes and their coaches are the suitable target assembly for adequate nutritional education as they possess the possibility for changes in the right direction (Cipryan, 2018).

Energy Source for Exercise

Energy currency for metabolic processes in the body is Adenosine triphosphate (ATP) derived from the digestion, absorption and assimilation of nutrients from food. When an athlete exercises or carries out physical activity, extraordinary physical and mental efforts are exerted and experienced. ATP accessibility is important for the contraction of skeletal muscle, especially in power events that lasts for some seconds, and in endurance activities that lasts for few hours. ATP is essential for enzymes action, that is needed for "membrane excitability (Na^+/K^+ ATPase)", myofilament cross-bridge cycling "(myosin ATPase)" and sarcoplasmic reticulum calcium handling (Ca^{2+} ATPase). Since ATP stores intramuscularly are in minimal quantities "(5 mmol/kg wet muscle)", thus, the ATP is incapable of sustaining motion "contractile", for prolonged duration. Exercise activities that require maximal efforts (for example, sprinting) at an average power output of 900W (300% maximal oxygen uptake (VO2 max)), the projected rate of ATP use is 3.7 mmol ATP kg−1 s−1, and exercise can be sustained for <2 s if ATP already stored were the only energy source. All through submaximal exercise at 200W (75% VO2 max), the corresponding values are 0.4 mmol ATP kg−1 s−1 and 15s, correspondingly (Hawley, 2014).

Nutrition and Exercise Performance

Nutrition is gradually being known as a principal component when aiming to attain top sporting performance. The science and practice of sports nutrition is rapidly developing (Scheiman, 2019). Studies have shown that a well outlined nutritional strategy (comprising of fluid, carbohydrate, sodium, and caffeine) in comparison to a self-chosen nutritional strategy has helped nonelite racers complete a marathon race faster, and has also helped, trained cyclists complete a time trial much faster (Hargreaves and Spriet, 2018). Certainly, training has the most potential to influence performance, thus, it has been projected that consuming a carbohydrate drink or comparatively low doses of caffeine can improve a 40 km cycling time trial performance by 32–42 and 55–84 seconds, respectively (Nelson, 2017). Variety of dietary stratagems can be employed while aiming to enhance sports performance. Combining several stratagems will be more beneficial to the athlete than engaging in only one strategy. Dietary routines aimed at enhancing performance consist of maintaining consumptions of macro and micro nutrients, fluids, and its composition while also considering its spacing. The status of a custom-made nutritional dietary pattern is seemingly getting relevant (Fagerberg, 2017). With dietary approaches that vary based on individual sport, goals, and food preferences, supplements can boost

performance, as far as they are consumed in the appropriate manner (Hottenrott, et al., 2012).

Carbohydrate, Fat and Protein Ingestion during Exercise Performance

Ingestion of carbohydrate during events lasting for approximately 1 hour has been shown to improve performance (Impey, et al, 2018). Evidence has shown that a carbohydrate mouth rinse has positive effect on performance. Seemingly, receptor cells in the mouth send impulses to the central nervous system (CNS) so as to result in the modification of motor output (Burke and Maughan, 2015). In events of longer duration, CHO enhances performance principally by avoiding hypoglycemia and upholding a seemingly high level of the oxidation of carbohydrate (Peeling, et al., 2019). Glucose is absorbed by the "sodium-dependent transporter (SGLT1)", that later becomes saturated with intake of about 1g/minute. The instantaneous absorption of fructose absorbed via glucose transporter 5 [GLUT5] permits oxidation time of about 1.3g/minute, with exercise performance aids that becomes apparent at about 3 hour of exercising (Maughan, et al., 2018). Slower athletes that are exercising at a low intensity, need for carbohydrate might be minimal because of the reduced rate of carbohydrate oxidation. Engaging in training on a daily basis on a carbohydrate level that is high causes the exogenous oxidation rate of carbohydrate to increase (Hearris, et al., 2018). There has been an increased interest in fat as a fuel source, especially for ultra-endurance exercise. A high-carbohydrate approach hinders fat utilization during exercise, and this might not be advantageous based on the copiousness of stored energy, in the form of fat in the body. Generating an environment that augments the oxidation of fat hypothetically occurs especially when dietary carbohydrate is abridged to a level that encourages ketosis (Hall, 2017). The absence of any performance benefits seen in studies that has investigated "high-fat" diets can be attributed to inadequate carbohydrate restriction and adaptation period (Thurecht and Pelly, 2020). Despite the fact that protein ingestion pre and post endurance exercise has been shown to be able to improve the rates of muscle protein synthesis (MPS), a review carried out recently proves that consumption of protein combined with carbohydrate while exercising does not improve time–trial performance in comparison with just the consumption of adequate amounts of carbohydrate (McLeman, Ratcliffe and Clifford, 2019).

Undergoing exercise with a minimal level of carbohydrate has gained the attention of investigators especially with endurance activities (Close, Hamilton and Philp, 2016). It was posited by several authors that beginning endurance-based exercise with a low endogenous and exogenous level of carbohydrate intensifies the movement of lipids for oxidation and augments instigation and gene transcription, thereby encrypting vital proteins, which further underpin adaptations related to a phenotype of enhanced endurance capacity (Costa, M. D. Hoffman & T. Stellingwerff, 2018). In view of this, athletes engage in "training low" in order to attain better aerobic and fat oxidation ability (Mitchell and Cook, 2017).

Restricted Carbohydrate and Increase protein and performance

In an attempt to increase fat oxidation while exercising, various athletes' resort to restricted carbohydrate diets (RCDs). The essence of RCDs lies in the prevention of glycogen depletion. Glycogen depletion is as a result of energy lost. Most times, this occurs during exercise or energy consuming tasks, and during this period, the body

rapidly breaks down glycogen into glucose for energy. With time, the body runs out of the glucagon break down and this results to fatigue. It has also been proposed that the consumption of some amount of carbohydrate boosts the ability to carry out physical task. A short-term RCD such as training in a fasted/low glycogen state could enhance mitochondrial biogenesis. This energy factory termed mitochondrial, is responsible for processing oxygen and in converting substances from the foods into energy. Through mitochondrial biogenesis, the body cell rapidly increases mitochondrial numbers (Hough, 2018).

RCDs is described severally to result in decreasing body mass, especially amongst obese individuals. However, reports on its ability to improve athletic performance is in opposition, since there is very few documented evidence, as to its effects on the overall outcome of sport performance (Webster, et al., 2016). Among the few existing ones, the results were contrary and in most of the case, it was observed that there is no contribution to athlete's performance. For instance, in a study conducted to ascertain the effects of a three ketogenic diet on metabolism and performance of elite race walkers, all dietary groups (high CHO, periodized CHO and ketogenic) showed an improved aerobic capacity, by at least 3-7%, which further indicates that the physiological markers of performance can become better, following a RCD. However, contrary to the other groups, there was no improvement observed in 10 km race performance (–1.6%) in the ketogenic group (Burke, et al., 2017). It was thus posited that for any potential benefits to materialise, a diet must be sustainable in the long-term (Aragon, Schoenfeld and Wildman, 2017).

Concerns were expressed on the growing approval of diets low in carbohydrate amongst athletes of various sports. Exercise regimens like "training low" entails that an athlete carries out a high intensity exercise routine, then afterwards intentionally skip meals in order to ensuring the reduction in carbohydrate accessibility, thereby further training the muscles to eagerly make use of fat as a form of energy, which will result in the conservation of restricted glycogen supplies and further promotes response in molecular indicators that will eventually result in adaptation. It has been contented that "train low" ultimately highlight that athlete must contend with a large quantity of glycogen, thus various researchers identify that "train low" may as a result, weaken the capability to make use of carbohydrate as the source of energy during competition, intensify the dangers of ailment, decrease exercise intensity, and intensify oxidation of protein throughout physical activities (Kanter, 2018). Hence, it should be noted that further research work should be carried out so as to make clear the usefulness of "train low" schedules, aimed at optimum health condition and recuperation after exercise bouts. Train-low regimens, also regarded as restricted carbohydrate diets, will eventually lead to the reduction in training intensity and potentially compromise performance improvements (Jeukendrup, 2014).

Furthermore, low-carbohydrate, as a means of improving performance has been questioned. Although the usage of ketone as source of fuel when engaging in a low carbohydrate diet has been encouraged for athletes who are physically active, however, the long-term engagement of such eating regimens has also been said to be possibly harmful to the performance of the athlete. Weakened mental performance and attitude, exhaustion, and incapability to fully concentrate on events have been noted as a basis for evading low-carbohydrate diet routines. Other impairment

observed from restricted carbohydrate diet was, higher predisposition towards skeletal muscle injury during physical activity while being challenged with a low-carbohydrate store. A study posits that elite race walkers that consume a low-carbohydrate and a high-fat diet for a total duration of three weeks, went through exercise economy loss, which further resulted in performance gains decline (Cipryan, Tschakert and Hofmann, 2017). It was also indicated that athletes eventually experience dehydration while exercising, as athletes dependence on carbohydrate as source of energy essentially increased, which further suggests an additional benefit of adequate carbohydrate stores. Therefore, it was opined that low-carbohydrate store will eventually cause decline in the levels that competitive athletes train and training become very strenuous (Drew, Raysmith and Charlton, 2017).

There can be implications that come with restricted carbohydrate diet. Amino acid, which is a constituent of protein, contributes about 5% of total energy in endurance exercises (Heatherly, et al, 2018). Nevertheless, beginning to train with a low level of carbohydrate availability will result in doubling this input, this apparently is carried out by intense acceleration of muscle protein metabolism (McSwiney, et al, 2018). As observed, little endogenous carbohydrate presence supplements leucine oxidation, therefore, amino acid get released from the active muscles through physical activity this then drastically reduces the synthesis of protein during physical activity (Bone, et al, 2017). Addiction to RCD over a long period of time is a caveat as it may negatively affect skeletal muscle mass, which will result in compromisation of athletic performance. As a means to improve the effects associated with RCD, the consequence of protein ingestion before and while training low was examined (Impey, Smith and Robinson, 2015). It was revealed that protein feeding while training-low, activate the suppression of the synthetization of muscle protein while exercising (Venhorst, Micklewright and D. Noakes, 2018).

Carbohydrate Restricted Diet with Protein Increase and Track Athletes Performance

By means of current approaches of low-CHO availability while training, it was hypothesized that engaging in endurance exercise with a low-CHO availability, augments amino acid oxidation post exercise. This proposes an augmented dietary protein need in the recovery stage post exercise. The experimental strategy involves holding CHO after an intense evening exercise bout and then resting in a low-CHO availability beforehand, then carrying out a morning run in the fasted state at moderate intensity. This approach is referred to as “sleep-low” and it has earlier been publicized to enhance athletic performance in comparison with carrying out exercise sessions with a high CHO availability over a “3 weeks” intervention period. Identifying the status of protein in the post exercise transformation of muscle proteins that then offer the source of numerous training-induced adaptations that are physiological and influences performance. This situation might have significant consequences on enhancing recovery in athletes undergoing endurance sessions on a low-CHO (Damas, 2016). Training low is the overall term used in describing training with a restricted carbohydrate availability. The restricted carbohydrate availability can be as a result of low muscle glycogen, low-carbohydrate consumption pre or post exercise, low liver glycogen or combinations therefrom (Paulussen, 2021). The basis for restricted carbohydrate presence is consequential from studies that shows the relation between carbohydrate availability and gene expression. It is commonly assumed that variations that are training related are as a result of accrued little

differences in protein synthesis that then result in a reformed phenotype that then enhances performance. For protein synthesis to happen, it is vital that there is a stress indicator, transcription, and translation, that messenger RNA stays steady, and that adequate amino acids are present for the synthesis of protein.

Effect of "Train-Low, Compete-High" Approach

The "train-low, compete-high" concept involves training with low carbohydrate availability to promote adaptations such as enhanced activation of cell-signalling pathways, increased mitochondrial enzyme content and activity, enhanced lipid oxidation rates, and hence improved overall exercise capacity (Brownstein, Millet and Thomas, 2021). For example, when highly trained cyclists were separated into once-daily (train-high) or twice-daily (train-low) training sessions, increases in resting muscle glycogen content were seen in the low-carbohydrate-availability group, along with other selected training adaptations (Heikura, Stellingwerff and Burke, 2018).

Protein Net Balance in Non-Exercising Muscles and Athletes Performance

The post-exercise ingestion of protein is relevant for growth and recovery in youth and in athletes as it would top-up "exercise-induced" amino acid oxidative losses, and make available amino acid substrates in order to build new protein body (Peake, Neubauer, Walsh and Simpson, 2017). It is well recognized in adults that the consumption of carbohydrate and protein augments muscle net balance post exercise. Muscle protein breakdown is decreased in response to "exogenous" amino acids, and the insulin response related with moderate (30g) carbohydrate ingestion. Muscle protein synthesis is maximally stimulated by "0.25g protein/kg− 1" (which is the equivalent to 0.06–0.08g protein/kg− 1·h− 1). In contrast to muscle net balance, it has been recommended that, there is no plateau in whole-body net balance in response to mixed meal ingestion (Larsen, et al., 2020). Based on the how important dietary protein is post exercise, it is the restoration of muscle proteins that offers the root to various "training-induced" physiological and performance variations. The can have significant consequences for enhancing recovery in athletes carrying out endurance training bout by means of low-CHO availability (Kim, Deutz and Wolfe, 2018).

Athletes engaging in consistent endurance exercise training have more daily protein requirement compared to their inactive counterparts with approximations using the indicator amino acid oxidation (IAAO) method equalling about "1.8g/kg−1·d−1" on a day in which they run "20km". This augmented protein need may partly reflect the requirement to refill amino acid oxidative loss acquired while exercising particularly of the branched chain amino acid "(BCAA)" and to offer amino acid substrates in other to enhance "whole-body" protein synthesis. Though amino acids contribute about 5% of the general energy that is provided all through endurance exercise. Oxidation of amino acid could be intensified based on circumstances of reduced accessibility to muscle glycogen and also, basing it on urea production, it can contribute up to 10% of total energy use through 1h of cycling (Witard, et al., 2014). Additionally, the activity of the "branched-chain" oxo-acid dehydrogenase, which is the preventive phase in skeletal muscle "BCAA" oxidation, is augmented in the occurrence of reduced accessibility to muscle glycogen, that possibly contributes to an enhanced exercise induced "whole body leucine oxidation" secondary to an upsurge in the breakdown of muscle protein. Jointly, data propose that "protein breakdown is augmented during exercise, as well as a projected double

upsurge in amino acid oxidation in the glycogen-depleted state (·Kim. L.Y, et al., 2016). The indicator amino acid oxidation (IAAO) methodology has been established to evaluate the protein adequacy in a diet, whereby any restriction in one or multiple amino acids would result in less indicator amino acid (13C phenylalanine) which in actuality is being used to supplement total body protein synthesis and more focused to oxidative break down (Volterman, et al., 2017). A study has shown that a greater phenylalanine oxidation through recovery phase insinuates that post exercise protein needs is augmented when athletes execute training with low-CHO availability. It is consequently said that the augmented protein need is in relation to the need to substitute "exercise-induced" amino acid losses experienced via direct oxidation in muscle mitochondria and in amino acids freed from the muscle for hepatic gluconeogenesis (Wood, 2017).

Summary

Nutrition is gradually being known as a principal component when aiming to attain top sporting performance. This has led to the rapid development in the science and practice of sports nutrition. Athletes tend to have elevated demands for dietary protein intake compared to sedentary individuals. Many athletes make dietary modifications in attempt to; achieve a body composition, maximize performance and meet body weight requirements for competitive classes. During the past decade, 'periodization' has been a discussed in sports nutrition. The term 'periodized nutrition' refers to strategic manipulation of nutrient availability during training to promote specific adaptations. It has been a subject of recent debate as to what type of diet is best for an athletic population, and one of the recent approaches in the scientific community has been to examine the effects of RCDs. Aside from health outcomes, restricted carbohydrate diet (RCD) has recently found their way into the athletic arena and have warranted attention from investigators as a potential mechanism to improve performance.

Among the various strategies, undertaking training with reduced carbohydrate and increased protein availability has received much attention by researchers. This practice is popularly referred to as training low. Several studies have shown that commencing endurance-type exercise with low endogenous and exogenous carbohydrate availability enhances activation and gene transcription encoding key proteins underpinning adaptations associated with a phenotype of improved endurance capacity. Engaging in a restricted carbohydrate and increase protein diet remains one of the most common dietary modification to enhance performance. Reports have documented athletes' perception that increase protein diet are necessary to build muscle, and combining it with RCD is essential in achieving peak performance.

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COMPARATIVE ANALYSIS OF THE NUTRITIONAL STATUS OF ATHLETES AND NON-ATHLETES OF OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, NIGERIA

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Abstract

The study examined the nutritional status of athletes and non-athletes of Obafemi Awolowo University (OAU), Ile-Ife, Osun State. Descriptive survey research design was used for the study. The population comprised all the athletes and non-athletes of Obafemi Awolowo University. 100 students from different faculties of the University were selected using stratified random sampling technique, based on participation in sport. Fifty athletes from students' list in the Department of Kinesiology, Health Education and Recreation, OAU Ile-Ife using systematic random sampling technique while fifty non-athletes were sampled from among other students using accidental sampling technique. A self-structured and validated questionnaire titled "Nutritional Status of Athletes and Non-Athletes Questionnaire (NSANAQ)" was designed to measure the nutritional status of the athletes and non-athletes of Obafemi Awolowo University. The result revealed that, there was no significant difference in the nutritional pattern of athletes and non-athletes (Athletes=50%, Non-athletes=50%). The study further revealed that over 62% of the respondents agreed that their nutritional status was determined by economic condition; food habits and personal preferences, health factor, food related myths and cultural influence. The study concluded that the nutritional patterns of athletes and non-athletes were comparatively the same. Recommendations were made based on finding of the study.

Keywords: Athletes, Food Habits, Non-athletes, Nutritional Status.
Word Count: 199

Introduction

Background to the Study

Nutrition is the process of taking in of food and using it for growth. Nutrition is the study of nutrients in food, how the body uses them, and the relationship between diet, health, and disease. According to Newman (2020), nutrition focuses on how people use dietary choices to reduce the risk of disease, what happens if a person has too much or too little of a nutrient, and how allergies work, it is also the study of how food and drink affect human bodies with a special regard to the essential

nutrients necessary to support human health. It looks at the physiological and biochemical processes involved in nourishment and how substances in food provide energy or are converted into body tissues. These nutrients which are the source of energy for the bodies are classed as: carbohydrates, fats, fibre, minerals, proteins, vitamins, and water. Good nutrition means obtaining the right amount of nutrients from healthy foods in the right combinations. (Sharma, 2017).

The basic function of food is to keep humans alive and healthy, grow and reproduce. Food contains nutrients (components that contribute to, and in some cases uniquely provide biochemical and physiological functions in the body). Food may also include contaminants from unusual soil types or from industrial pollution like heavy metals, radioactive isotopes, and microbial contamination which have potential negative health effects. People have different nutritional needs, and these needs are constantly changing. In addition, factors such as a person's height and current weight, current health status, and activity level also affect nutritional needs and how much they are needed. Optimal nutrition is important for the development, growth and overall health of athletes and non-athletes. It helps ensure optimal cognitive and physical development, prevent sickness and illness and promote overall well-being (Nicklas & Johnson, 2004).

Generally, nutritional status is dependent on two factors, external factors such as food safety, cultural, social, economic factors and internal factors, which include age, sex, nutritional behaviour, physical activity and diseases of the person. Specifically, good feeding is determined by many factors, which can be broadly categorized into: biological determinants such as; hunger, appetite, and taste, economic determinants such as cost, income, availability, physical determinants such as accessibility, education, and cooking skills and time, social determinants such as culture, family, peers and meal patterns, and psychological determinants such as mood, stress and guilt attitudes, beliefs and knowledge about food. (Shepherd, 1999).

An athlete is a person who competes in one or more sports that involve physical strength, speed or endurance. An athlete is also a person who is trained or skilled in exercises, sports, or games requiring physical strength, agility, or stamina. Athletes can be categorized into professionals and amateurs. Most professional athletes have particularly well-developed physiques obtained by extensive physical training and strict exercise accompanied by a strictly dietary regimen. Several studies have assessed nutritional status and dieting behaviours of athletes. Diehl, Thiel, Zipfel, Mayer, Litaker and Shneider, (2012) found that self-reported nutritional intakes regarding frequency of food intakes and dietary habits indicated that athletes consumed nutrients in excess of their recommendations. In agreement, Daneshvar, Hariri, Ghiasvand, Askari, Darvishi, Iraj and Mashhadi (2013) reported that, among young male Isfahani wrestlers, the mean intakes for carbohydrates, proteins, fats and most micronutrients were higher than the recommended daily allowances. In support of this findings Ghloum and Hajji (2011) reported significantly higher intakes for most nutrients among Kuwaiti fencing players. In contrast, analysis of biochemical levels among athletes indicated that, athletes were likely to consume both macro- and micro-nutrients at levels below recommendations for essential minerals, carbohydrates, and overall energy intake (Beals, 2002). Athletes in events requiring strength and power such as the sprinters and throwers often believe that protein intake

is their most important nutritional concern, and that high protein diets and protein supplements are a required part of their preparation.

The perceived link between a high protein intake and gain of muscle protein is understandable but is not supported by scientific evidence. In contrast, Kato, Suzuki, Bannai, Moore (2012) found that many athletes in endurance events like distance runners and walkers pay little attention to dietary protein despite the importance of protein synthesis in the achievement of their desired training adaptations (e.g. repair of muscle damage and the synthesis of functional body proteins such as enzymes). In many events, the athlete's physique plays an important role in promoting optimal performance. For example, a high level of muscularity is required to achieve explosive power in sprints or strength for throwing events. According to Burke et al., (2006) when the athlete is required to move their own body mass over long distances (distance running and walking) or against gravity (jumps and hilly running courses), a favourable "power to weight" ratio is achieved by being light and lean, a condition which could result from diet monitoring among other factors.

Poor nutrition impairs health and wellbeing and reduce the ability to live an enjoyable and active life. Poor nutrition contributes to stress, tiredness and capacity to work, and over time, it can contribute to the risk of developing some illnesses and other health problems such as: being overweight or obese, tooth decay, high blood pressure, high cholesterol, heart disease and stroke, type-2 diabetes, osteoporosis, some cancers, depression, eating disorders, peptic ulcer and others. (Svedberg, 2000). In the location of this study, some dietary patterns appear quite common among students and especially the athletes. For example, snacking on energy-dense foods; meal skipping, particularly breakfast, or irregular meals; wide use of fast foods; and low consumption of fruits and vegetables can be observed. Since mere observations are not enough to provide empirical data in researches, this study therefore focuses on the comparative analysis of nutritional status of athletes and non-athletes of Obafemi Awolowo University, Ile-Ife, Nigeria.

Statement of the Problem

Good nutrition requires adequate and balanced diet that include protein, fats and oil, carbohydrates, vitamins and minerals. It has been established that the health risks associated with poor nutrition range from obesity, type 2 diabetes, high blood pressure, high cholesterol among others. In order to boost the athletes' performance, food is a major determinant. Unfortunately, researches concentrated on physical fitness of athletes through training for performance improvement, whereas, there are few research studies regarding the nutrition of athletes; hence, this study.

Research Questions

This study sought to answer the following questions:

1. What are the nutritional patterns of athletes and non-athletes of Obafemi Awolowo University Ile-Ife, Osun State, Nigeria?
2. Are the nutritional patterns of athletes and non-athletes in the study area different?

Methodology

The study adopted the descriptive research design. The population comprised all athletes and non-athletes of Obafemi Awolowo University Ile-Ife, Osun State, while a total of 100 students from different faculties of the University made up the

sample. Stratified random sampling technique was used to select 100 respondents. Stratification was based on participation in sport. Hence, there were two groups (athletes and non-athletes). Fifty athletes were selected from students list in the Department of Kinesiology, Health Education and Recreation, Obafemi Awolowo University Ile-Ife using systematic random sampling technique while fifty non-athletes were sampled from among other students using accidental sampling technique. A self-structured research instrument titled "Nutritional Status of Athletes and Non-Athletes Questionnaire (NSANAQ)" was used to collect data for the study. The questionnaire comprised (7) items divided into three sections. (A-C). Data was analysed with descriptive statistics of percentage and t-test for test of significance.

Research Question 1: What are the nutritional patterns of athletes and non-athletes of Obafemi Awolowo University, Osun State?

Table 1: Percentage Distribution of Responses on Nutritional Patterns of Athletes

ITEM	VERIABLES	RESPONSES (%)									
	How often do you eat/drink the following?	V. Often (5-7 days a week)		Often (2-4 days a week)		Rarely (<) 2days		Never		Total	
		N	%	N	%	N	%	N	%	N	%
a.	Eat 3-square meals a day.	24	48	22	44	03	6	01	2	50	100
b.	Take vitamin supplement e.g. vitamin A, B6, B12, C.	12	24	25	50	10	20	03	6	50	100
c.	Take minerals e.g. calcium, sodium etc.	15	30	26	52	07	14	02	4	50	100
d.	Drink carbonated beverages?	21	42	26	52	02	4	01	2	50	100
e.	Eat fruits e.g. apples, bananas or orange	17	34	32	64	01	2	00	0	50	100
f.	Eat vegetables e.g. cabbage, lettuce etc.	16	32	34	68	00	0	00	0	50	100
g.	Eat dairy products e.g. milk, yogurt, cheese etc.	15	30	33	66	01	2	01	2	50	100
h.	Eat protein foods e.g. beef, chicken, fish, egg etc.	29	58	21	42	00	0	00	0	50	100
i.	Eat carbohydrate foods e.g. bread etc.	29	58	18	36	02	4	01	2	50	100
j.	Eat fatty foods e.g. beef, pork, lamb etc.	05	10	39	78	06	2	00	0	50	100
k.	Take food supplement e.g. vitamin c, iron, etc.	13	26	32	64	03	6	02	4	50	100
l.	Eat snacks and other confectionaries e.g. cookies	19	38	27	54	02	4	02	4	50	100
	MEAN	**17.92**		**27.92**		**3.1**		**1.1**			

Table 1 showed the nutritional pattern of athletes used for the study. Data showed that approximately, an average of 18 athletes consumed the items listed from (a) to (l) very often, an average of 28 athletes consumed them often, an average of 3 athletes consumed them rarely while 1 athlete on the average didn't consume them at all.

Research Question 2: Are the nutritional patterns of athletes and non-athletes in the study area different?

Table 2: t-test Comparing the Nutritional Patterns of Athletes and Non-athletes

Category	N	Mean	S.D	tcal.	ttab.	df	P-value
Athletes	12	3.37	0.4	0.07	1.72	22	0.47
Non-athletes	12	3.36	0.2				

The mean score for the responses of athletes and non-athletes were 3.37±0.4 and 3.6±0.2 respectively. The t cal. of 8.54 ≤ t tab. of 1.72, df was 22 with a 0.05 level of significance, hence, there is no significant difference between the nutritional patterns of athletes and non-athletes in Obafemi Awolowo University, Ile-Ife

4.3 Discussion of Findings

This study revealed that, for both athletes and non-athletes, protein and carbohydrate foods were eaten always whereas snacks and other confectionaries, fruits; vegetables, dairy products, minerals; food supplement, vitamin supplement were seldomly eaten. Also, respondents ate 3-square meals daily. These were not consistent with those of Ngarava, and Zhou (2022) who reported that foods that athletes in their study ate the most were meat, fish, cereals, veggies, fruits, roots/tubers, and meat. They maintained that they drank less milk and beans than others. Connecting the nutritional patterns of athletes used for their study to their performance, they maintained that most athletes performed poorly in frequency of meals intake but did considerably well in intake of fluids.

The study also revealed that there was no significant difference in the nutritional patterns of athletes and that of non-athletes. This result also ran contrary to those of Razalee and Tan (2014) who concluded that though there was a significant difference in the BMI of athletes and non-athletes but none in the nutritional status of the two groups. This study further revealed that the nutritional status of respondents was largely due to economic condition and health factor was in line with reports of a study conducted by Rachael and Fiona (2014) that money and medical conditions influenced respondents' nutritional status. In a similar study conducted by Pelly and Thurecht (2019), factors which influenced the nutritional status of the respondents used for their study included emotion and food.

Conclusions

Based on the findings of the study, the study concluded that the nutritional patterns of athletes and non-athletes were comparatively the same.

Recommendations

Based on the findings of this study, the following recommendations were made;

i. Athletes should be properly sensitized on the impact of nutrition on athletic performance and overall wellbeing.
ii. Coaches and trainers should be properly educated in designing meal plans for athletes.

iii. Since adequate food is major in determining health and sports performance, Government at all levels and the school management should aid the nutrition of athletes through meals subsidy and allowances.

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ELITE PERCEPTION AND STEREOTYPICAL ATTITUDE TOWARDS STUDENTS WITH VISUAL IMPAIRMENT IN TWO SELECTED TERTIARY INSTITUTIONS IN OYO STATE

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Abstract
This study investigated elites perception and stereotypical attitude towards students with visual impairment in Federal College of Education (special) Oyo and University of Ibadan. The population of the study consist of fifty students with visual impairment selected from the two tertiary institutions. The study adopted the descriptive research design. The questionnaire used covers the variables in the study. The data collected were analysed using Statistical Package for Social Science (SPSS). The analysis of data collected was presented in tables and percentages. The findings indicated that, Students with visual impairment are seen as too dependent, viewed as those having no potentials, and as such, students with visual impairment are seen as mendicants. It was therefore concluded that, students with visual impairment should not be stereotyped against by the elites on campuses. Thus, it was recommended that, the elites and other members of the society at large, should develop positive attitude towards students with visual impairment irrespective of their circumstances. Students with visual impairment should not be stereotyped against on campuses, as this affects their psychological and emotional well-being, among others.

Keywords: Elites, Perception, Stereotypical Attitude And Students With Visual Impairment.
Word count: 183

Background to the Study

The term visual impairment covers deficiencies ranging from partial sightedness, low-vision to total blindness. Thus, students whose vision is impaired ability to see is affected, hindered, or completely lacking. This shortcoming has a serious implication for the learning, personal development, and progress towards self-

actualization of students with visual impairment. Kirk, Gallagher, and Anastasiow (2013) explain that, vision is a continuous source of information. Students without sight constantly rely on their remaining senses for information and other tasks that the vision performs. Hallahan and Kauffman (2014) affirm further that, students with visual impairment rely on other sensory modalities to acquire information, while students with visual impairment with little or no sight possibly require special modifications in four major areas, that is; Braille, use of residual vision, listening skills, and orientation and mobility training. The first three pertain directly to academic education, particularly reading and the last refers to skills needed for everyday living. It is important to have lecturers who have acquired higher qualification on special education in order to help students with visual impairment in their education pursuit. Without experts in education modifications, learning for students with visual impairment could be difficult.

Farrell (2016), posits that stereotypical attitudes is the act of exhibiting non-acceptable behaviour towards students with visual impairment. The author further gives three ways in which society, particularly, the elites exhibits stereotypical attitudes towards students with visual impairment to includes non-acceptance, which isolates students with visual impairment from social contacts with the sighted community, considering the students with visual impairment as helpless and incapable of performing the tasks required for day to day living, claiming that the sighted must assist students with visual impairment "without distinguishing those students with visual impairment who are independent or those areas in which help is not needed. In the work of Avhasei and Ratau (2013) on, The Attitude of Lecturers Towards Visually Impaired Students, the study indicated that, adverse attitudinal environment particularly from the educated elites, make it difficult for students with visual impairment to lead a normal school life. Students with visual impairment face very stringent responses that put them apart from the rest of the social environment.

Lowenfield (2010) states that, visual loss can be associated with three major limitations which influence the societal and educated elites acceptance of students with visual impairment to include: the control of the environment and self in relation to it, the ability to get about, and the range and variety of concepts formation. Rowland (2015) affirms the above submission and adds that, students with visual impairment are often subjects to stereotyping attitude. According to him, the theories which best described the educated elite belief about students with visual impairment are: blindness under the sexual innuendo, blindness as death and rebirth, blindness as the loss of consciousness, blindness as the reprogramming of the body system, blindness as personal characteristic, and blindness as learned social role. In line with this, and as research findings revealed, the stereotypical attitudes and perception of the educated elites, is a major barrier in the education of students with visual impairments in overall school activities (Sherrill, 2018). Sherrill further add that, teachers' negative attitude is the first and the most impeding factor that contributes to lack of involvement in school activities by students with visual impairments. If the environment in which learning occurs is not supportive to students with visual impairments, their learning will automatically be interrupted (Johnsen, 2019).

A study by Francesca (2019) on Perception of Teachers towards Inclusion of Children with Visual Impairment in the Regular UBE Classrooms: Evidence from South-South Nigeria, revealed that, the context in which the learning occurs, inflexible of curriculum, environmental inaccessibility, negative attitude which stems

from both teachers, parents, society at large and inappropriate assessment procedures are some of the factors that can impede effective school participation of students with visual impairments (Fraser and Maguvhe, 2018). Hence, this study investigated the elites perception and stereotypical attitude towards students with visual impairment in Federal College of Education (special) Oyo and University of Ibadan.

Statement of the problem

Various factors influence learning outcomes of students with visual impairment, perhaps the most important of these factors is the question of attitude of the educated elites, particularly teachers and lecturers, towards students with visual impairment. As attitude has to do with positive or negative feelings that an individual holds about a person, objects or ideas. Also, attitude is generally regarded as enduring, though modifiable by experience and persuasion, and is also learnt rather than innate. Academic performance of students with visual impairment, depend greatly on teachers attitude towards them, as there is the general belief that a positive attitude more often than not, leads to successful learning. Equally, stereotypes about students with visual impairment are both positive and negative. Sighted individuals describe students with visual impairment through attributes such as, visibly repulsive, helpless, pathetic, dependent and too independent resolute. However, in the educational settings, the attitude of teachers in general, goes a long way and stands as a contributing factor to students academic success, particularly students with visual impairment. How the elites, especially, the lecturers perceived and relate with students in the class, will either contribute positively or negatively to the academic pursuit, not just academics, but also, psychologically. In essence, the researchers embark on this study to investigate the perception and stereotypical attitude of the educated elites towards students with visual impairment in Federal College of Education (Special) Oyo and University of Ibadan.

Research Questions

The following questions were answered:

1. How does the educated elites perceives students with visual impairment?
2. How does stereotypical attitude of the educated elites affects students with visual impairment?
3. Why students with visual impairment are being stereotyped by the educated elite

Methodology

Research Design

A self-structured Questionnaire tagged ‘elites perception and stereotypical attitude towards students with visual impairment’ was used to collect data for the study.

Population

A sample size of fifty students with visual impairment were used for the study.

Sample and Sampling Technique

Purposive sampling technique was used to select the above mentioned tertiary institutions for the study, as these schools are at the fore-front of catering for the education of students with visual impairment in the state.

Research Instrument

The main research instrument for the study was structured questionnaire. The structured questionnaire contains two sections (section A and B), section (A) relates to the respondents' biodata while section (B) contain questionnaire items for respondents to provide answers to. A modified options of "Strongly agree" (SA), "Agree" (A), "strongly disagree" (SD) and "Disagree" (D) were employed for the respondents to tick accordingly. The questionnaire and domains were reviewed for suitability, applicability, relevance and accuracy by experts.

Data Analysis

The data collected was analysed using Statistical Package for Social Science (SPSS). The analysis of data collected was presented in tables and percentages.

Result and Discussions

Table 1: Demographic Analysis of the Respondents

Demographic Characteristics	Gender	Frequency	Perentage
Gender	Male	28	56%
	Female	22	44%
Level	100	12	24%
	200	10	20%
	300	16	32%
	400	12	24%
Religion	Christians	26	52%
	Muslims	20	40%
	Traditionalist	4	8%

Table 2: Likert Scale on Research Question 1: Ways in which elites perceives students with visual impairment

S/N	ITEMS	SA (f)(%)	A (f)(%)	SD (f)(%)	D (f)(%)	TOTAL
1.	Students with visual impairment are seen as too dependent	14(28%)	20(40%)	4(8%)	12(24%)	50
2.	Students with visual impairment are seen as those who have no potentials	28(56%)	10(20%)	10(20%)	2(4%)	50
3.	Students with visual impairment are seen as those to be pitied	10(20%)	20(40%)	5(10%)	15(30%)	50
4.	Students with visual impairment are seen as beggars	12(24%)	17(34%)	7(14%)	14(28%)	50
5.	Students with visual impairment are seen as minors	12(24%)	23(46%)	15(30%)	-	50

From the table above, item 1 indicates that 34(68%) of the respondents agree while 16(32%) of the respondents disagree. Therefore, majority of the respondents agree with the statement that, Students with visual impairment are seen as too dependent. Item 2 reveals that, 38(76%) of the respondents agree while 12(24%) of the respondents disagree. Therefore, majority of the respondents agree with the assertion. Item 3 shows that, 30(60%) of the respondents agree with the statement while 20(40%) of the respondents disagree. Item 4 reveals that, 29(58%) of the respondents agree while 21(42%) disagree with the statement. Item 5 shows that, 35(70%) of the respondents agree while 15(30%) of the respondents disagree with the statement.

Table 3: Likert Scale on Research question 2: How stereotypical attitude of the elites affects students with visual impairment

S/N	ITEMS	SA (f)(%)	A (f)(%)	SD (f)(%)	D (f)(%)	TOTAL
6.	Students with visual impairment are segregated	14(28%)	20(40%)	4(8%)	12(24%)	50
7.	Students with visual impairment feel less of themselves	28(56%)	10(20%)	10(20%)	2(4%)	50
8.	Students with visual impairment are affected emotionally and psychologically	10(20%)	20(40%)	5(10%)	15(30%)	50
9.	Students with visual impairment are stigmatized	12(24%)	17(34%)	7(14%)	14(28%)	50
10.	Students with visual impairment are treated with little attention	20(40%)	30(60%)	-	-	50

From table above, item 6 indicates that 34(68%) of the respondents agree while 16(32%) of the respondents disagree. Therefore, majority of the respondents agree with the statement that, Students with visual impairment are segregated against. Item 7 reveals that, 38(76%) of the respondents agree while 12(24%) of the respondents disagree. Therefore, majority of the respondents agree with the assertion. Item 8 shows that, 30(60%) of the respondents agree with the statement while 20(40%) of the respondents disagree. Item 9 reveals that, 29(58%) of the respondents agree while 21(42%) disagree with the statement. Item 10 shows that, 50(100%) of the respondents agree with the statement.

Table 4: Likert Scale on Research Question 4: Why students with visual impairment are being stereotyped by the elites

S/N	ITEMS	SA (f)(%)	A (f)(%)	SD (f)(%)	D (f)(%)	TOTAL
11.	Students with visual impairment are seen as being aggressive	14(28%)	20(40%)	4(8%)	12(24%)	50
12.	Students with visual impairment lacks home training and morals	10(20%)	2(4%)	10(20%)	28(56%)	50
13.	Students with visual impairment are affected emotionally and psychologically	10(20%)	20(40%)	5(10%)	15(30%)	50
14.	Students with visual impairment are seen as unproductive	15(30%)	20(40%)	7(14%)	8(16%)	50
15.	Students with visual impairment violates school rules	-	5(10%)	15(30%)	30(60%)	50

From table above, item 11 indicates that 34(68%) of the respondents agree while 16(32%) of the respondents disagree. Therefore, majority of the respondents agree with the statement that, Students with visual impairment are seen as being aggressive. Item 12 indicates that, 38(76%) of the respondents disagree while 12(24%) of the respondents agree. Therefore, majority of the respondents disagree with the statement. Item 13 shows that, 30(60%) of the respondents agree with the statement while 20(40%) of the respondents disagree. Item 14 reveals that, 35(70%) of the respondents agree while 15(30%) disagree with the statement. Item 15 shows that, 5(10%) of the respondents agree with the statement while 45(90%) disagree with the statement that, students with visual impairment violates school rules.

Discussion of Findings

The findings from the research question on how the elites perceives students with visual impairment, items 1-5 indicates that, Students with visual impairment are seen as too dependent. Also, students with visual impairment are viewed as those having no potential, and are to be pitied. Furthermore, Students with visual impairment are seen as mendicants. These finding supports a study by Francesca (2019) on an investigation of the perception of teachers towards inclusion of children

with visual impairment in the regular UBE Classrooms: Evidence from South-South Nigeria. The result shows that, knowledge, perception and attitude of teachers predetermine the inclusion of students with visual impairment in the regular classroom, which simply means that, attitude of the society particularly the elites, determines how students with visual impairment are viewed. Meanwhile, in the course of this study, one-on-one discussion with some of the participants revealed that, although, majority of students with visual impairment, are aggressive, due to the fact that, they often times, feel insecure in many ways.

The findings from the research question on how the elites perceives students with visual impairment, items 6-10 shows that, Students with visual impairment are segregated, and this make students with visual impairment have loss self-esteem. This equally, affect students with visual impairment emotionally and psychologically. Also, students with visual impairment are being stigmatized and given less attention by the elites in the schools environment. Again, the findings support the above study by Francesca (2019), as one of the findings revealed that, teachers positive perception about the implementation of inclusive education, promotes how well children with visual impairment are perceived and included in a regular classroom. Moreso, another study by Avhasi and Ratau, (2013) on 'The Attitude of Lecturers Towards Visually Impaired Students', findings point out that, teaching of students with visual impairment is beset with a number of hurdles which have particular implications for the learning of students with visual impairment in tertiary education.

The findings from the research question on why students with visual impairment are being stereotyped by elites, items 11-15 reveals that, Students with visual impairment are seen as being aggressive in nature, although, findings indicates that, students with visual impairment have good moral upbringing, and as such, they keep school rules and regulations, but, the elite sees students with visual impairment as not being academically productive. Above all, the findings indicates that, having knowledge about students with visual impairment is key to how they are perceived, as some elites perceived students with visual impairment negatively, simply because, they don't have adequate knowledge about the condition "visual impairment".

Conclusion

From the findings of the study, it is evident that, students with visual impairment are being stereotyped against by the elites on campuses. Findings from the study showed that, students with visual impairment have good moral upbringing and keep to school rules and regulations, but they are often atimes aggressive, this is because, students with visual impairment feels, generally feels insecure in most cases due to their nature of disability. Hence, how students with visual impairment are perceived are not acceptable, and this goes a long way in shaping both their academic and personal life experience.

Recommendations

Based on the findings, the researcher recommends the following:

i. The elites and other members of the society at large, should develop positive attitude towards students with visual impairment irrespective of their circumstances.
ii. Students with visual impairment should not be stereotyped against on campuses, as this affects their psychological and emotional well-being.

iii. Students with visual impairment should be received and cater for with mutual concern on campuses, as this will give them sense of belonging.
iv. Students with visual impairment should be seen as individuals with enormous potentials and be put in an enabling environment to learn and exhibit their innate ability.

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PSYCHOLOGICAL COPING STRATEGIES ON COMPETITIVE STRESS AMONG ATHLETES OF OYO STATE

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Abstract
The study aimed to analyse athletes in Oyo State, specifically from 15 sports, using a descriptive survey design. 200 respondents were selected from 15 different sports, with the majority aged 21-25 years (50.0%). Majority were males (59.5%) and females (41.0%). A revalidated questionnaire on psychological coping strategies on competitive stress was used for data collection, and descriptive statistics were used for demographic information and research questions. The result revealed that there was no significant difference in competitive stress based coping strategies (cal.-t=-1.761, df=198, p>0.05).
The study revealed that concentration, communication, and confidence had a significant and positive relationship with competitive stress among athletes in Oyo State. The study concluded that poor information on psychological coping strategies on competitive stress is the cause of poor performance in competition.

Keywords: Psychological coping strategies, competitive stress, problem-focus coping, emotion focus coping

Introduction

At the top levels of sports, athletes face both immediate and long-term stress, which must be managed effectively. Stress can cause a fight or flight reaction, with "flight" referring to anxiety or dread. In sports, players may make comfortable or safe moves instead of following a game plan, indicating fear. In sports, taking a chance is necessary to succeed, and athletes must override their innate urge to "fly". The "fight" function in sports involves the urge to take on a task, and athletes often perform better when they are excited about the possibility of a battle.

Furthermore, Lazarus and Folkman (1993), maintain that coping involves actions people take to deal with circumstances that are seen as threats. Three key aspects of this definition by Lazarus and Folkman stand out: these implies that coping involves some planning and effort; that it is a deliberate effort to lessen or manage stress; and it emphasizes that coping is process-oriented, which means that it evolves over time and in accordance with the environment in which it occurs (Lazarus, 1993).

Psychological is the way that people function in the society i.e. mental or emotional behaviour of people as opposed to physical in nature. Coping strategies on the other hand refers to ways of adjusting to environmental stress without altering one's goals or purposes; includes both conscious and unconscious strategies. Problem-focused coping is distinguished from emotion-focused coping, which is aimed at managing the emotions associated with the situation, rather than changing the situation itself (Carroll, 2013).

The way individuals behave in society is psychological, (mental or emotional conduct as opposed to bodily activity). Contrarily, coping mechanisms, which include both conscious and unconscious methods, relate to ways of responding to external stress without changing one's aims or intentions. Different from emotion-focused coping, which aims to control the feelings brought on by the situation rather than altering it, is problem-focused coping (Carroll, 2013).

Problem-Focused coping is a type of coping meant to change the cause of the stress or resolve the unpleasant circumstance or occurrence. Taking charge of the stress (issue solving or eliminating the cause of the stress), seeking knowledge or support in resolving the situation, and removing oneself from the stressful circumstance are coping mechanisms that might be regarded as problem-focused coping, among others. Emotion-focused coping, which aims to control the feelings triggered by the situation rather than change it, is distinct from problem-focused coping (Carroll, 2013).

An approach to stress management known as "emotion-focused coping" aims to lessen the adverse emotional reactions that result from exposure to stressors. Through a variety of coping mechanisms, the person may lessen or even get rid of negative feelings including fear, anxiety, aggressiveness, melancholy, and shame. Emotion-focused coping strategies may be helpful or harmful. Positive examples include discussing one's feelings in therapy or a diary, practicing mindfulness, or diverting oneself with other activities (AlleyDog, 2021).

Selye (1976) created the word "stressor" to describe sources of potential stress, i.e., conditions or occurrences (including internal and external environments) that might trigger a stress response. Physical stimuli like noise, heat, and pain, as well as psychological and psychosocial stimuli, are examples of stressors (e.g. death of a relative, occupational upheavals, and threats to self-esteem). Early theories of stresses promoted the concept that they negatively impact a person's health state, and this perspective is still largely shared today (Christopher, Pauline & Don, 1985).

According to Milsum, eustress is the best state for the homeostatic system to be in (Milsum, 1985). H. Selye, who is not renowned for using exact language, is the one who first presented the idea of eustress into the scientific community. Even Selye's academic writings itself complicate our comprehension of the eustress phenomena. He sometimes distinguished between distinct sorts of stress using the labels "eustress" and "distress," and other times, he named them as stress-inducing stimuli (Nelson & Simmons, 2003).

Distress is an unhealthy reaction to a stressor event an ineffective coping mechanism. What if the athlete found the competitive preparation to be too stressful?

It's possible that she ate slowly so she could practice for longer since it was hard for her to unwind and go asleep. She could have been so anxious about the competition that she struggled to complete her act. In this instance, the stressor's reaction had negative effects (Benson, & Herbert, 1985).

Some people believe that eustress and distress may happen at the same time. Nelson and Simmons, for instance, have proposed that eustress and distress are two distinct and independent components of the total stress response (Nelson & Simmons, 2003). They see eustress and distress as two distinct, sometimes concurrent responses to stress (Nelson & Simmons, 2003). Eustress (good feelings) and distress (bad emotions), according to Lundberg and Frankenhauser (1980), may both happen in response to environmental demands, either alone or together.

Concentration in sport psychology is the act of paying attention to sensory or mental stimuli while exerting mental effort. Therefore, it mostly refers to the selective attention component, where people may process certain sources of information selectively while disregarding others. Concentration study is primarily interested in two topics in sport psychology. The study of skill failure under stress, sometimes known as choking, comes first (Singer, 2002).

Burnout is a factor to address since excessive stress without a constructive coping mechanism may cause kids to become overburdened with their obligations in both their academic and athletic pursuits (Holmberg & Sheridan, 2013; Lu et al. 2012). People who experience burnout perform worse in both areas, and they are effectively left with no expertise to contribute to either aspect of their college career (Masten & Reed, 2002).

The topic of gender differences in coping in sport has drawn more attention, however research using cross-sectional and retrospective methods have only yielded ambiguous findings and drawn few generalizations. Men and women athletes may use various coping mechanisms to cope with stressful situations, according to coping evaluations (Hoar, Kowalski, Gaudreau, & Crocker, 2006; Nicholls & Polman, 2007). These gender disparities in coping may be explained by the meta-analytic conclusion that men and women evaluate events differently as well as the idea that coping is directly influenced by appraisal (Tamres, Janicki, & Helgeson, 2002).

Hypothesis

The following hypothesis will be tested in this study.

1. There will be no significant difference in competitive stress among athletes of Oyo State based coping strategies.

Method

The research used descriptive research design of correlational survey type to find out the relationship that exist between the variables. Two hundred (200) athletes of both male and female from various sporting activities (Badminton = 10, Basketball = 20, Boxing = 6, Cycling = 6, Football = 50, Gymnastics = 6, Hockey = 20, Judo = 10, Parapower Lifting = 6, Swimming = 8, Table Tennis = 6) in Oyo State was selected as sample for the study using multistage sampling procedure.

Procedures

Letter of introduction from the Head, Department of Human Kinetics, University of Ibadan for identification purpose was collected and presented to the Director of Sport Oyo State Sports Council, Adamasingba, Oyo State. The questionnaire was distributed to the selected athletes for the study and collected on the spot. Descriptive statistics of frequency counts, percentages and bar charts will be used for demographic information and research question with Pearson Product Moment Correlation (PPMC), Inferential statistics of regression was used to answer the hypothesis at 0.05 Alpha level.

Result

Hypothesis:

There will be no significant difference in competitive stress among athletes of Oyo State based coping strategies.

Table 1: Summary of t-test analysis on difference in competitive stress based coping strategies.

	Coping strategies	Mean	Std. Dev.	t-value	Df	Sig. (p value)	Remark
Competitive stress	Problem-focused	20.96	3.87	1.761	198	0.080	Not Significant
	Emotion-focused	21.96	4.16				

Table 1 revealed that there was no significant difference in competitive stress based coping strategies (cal.-t=-1.761, df=198, p>0.05). This means that, there was no significant difference in competitive stress among the respondents based on the problem-focused and emotion-focused psychological coping strategies used in the study. However, the table further revealed that emotion-focused psychological coping strategy had a greater mean of 21.96 while, problem-focused had a mean of 20.96. This means that emotion-focused psychological coping strategy was slightly better than problem-focused psychological coping strategy. The null hypothesis is hereby accepted.

Discussion of Findings

The study's findings on the interaction between problem-focused psychological coping techniques and competitive stress were consistent with Carroll's (2013) definition of problem-focused coping as a kind of coping that aims to change the cause of a stressful circumstance or occurrence. Problem-focused coping techniques may include, but are not limited to, managing stress (e.g., problem-solving or eliminating the cause of the stress), getting advice or help in dealing with the issue, and removing oneself from the unpleasant circumstance. The goal of problem-focused coping is to change the circumstance; in contrast, emotion-focused coping focuses on regulating the feelings brought on by the event.

The study's findings regarding the interaction between psychological coping strategies that are emotion-focused and competitive stress were consistent with AlleyDog's (2021) definition of emotion-focused coping as a type of stress management that aims to lessen the negative emotional reactions that result from exposure to stressors. Through a variety of coping mechanisms, the person may lessen or even get rid of negative feelings including fear, anxiety, aggressiveness, melancholy, and shame. Emotion-focused coping strategies may be helpful or harmful. Positive examples include discussing one's feelings in therapy or a diary, practicing mindfulness, or diverting oneself with other activities.

The study's conclusions about the relative effects of focus, communication, and self-assurance on competitive stress were consistent with those made by Nideffer (1976), who claimed that focus represents one aspect of the multidimensional construct of attention. The phrase has played a significant role in the study of skill failure under pressure and the area of skill development in the literature on sport psychology. According to Alkan (2009), mental routines that performers use before completing self-paced skills include focus tactics. The idea that the information a performer focuses on in the few seconds before to task execution is a crucial driver of performance is supported by proposed treatments for boosting performance, especially under pressure. Additionally, according to Akmakç (2001), effective communication skills include self-expression (encouragement, asking for help, giving instructions, expressing feelings, complaining, and convincing), responsiveness, and starting skills (communication starting, maintaining, termination, and listening) (response to compliments, apologies, complaints and responding to anger). The level of effective communication between the trainer and the athlete as well as the flow of the trainer's rewarding conduct towards the athlete affect the performance of a team.

According to Carroll (2013), problem-focused coping is a type of coping that aims to alter the source of the stressful situation or event or resolve the stressful situation or event, the study's findings on the perceived composite influence of problem-focused and emotion-focused psychological coping strategies on competitive stress were consistent with this assertion. Problem-focused coping techniques may include, but are not limited to, managing stress (e.g., problem-solving or eliminating the cause of the stress), getting advice or help in dealing with the issue, and removing oneself from the unpleasant circumstance. The goal of problem-focused coping is to change the circumstance; in contrast, emotion-focused coping focuses on regulating the feelings brought on by the event. In a similar vein, AlleyDog (2021) claims that emotion-focused coping is a kind of stress management that seeks to lessen the unpleasant emotional reactions that arise as a result of exposure to stressors.

Conclusion

Based on the findings of this study, it was concluded that the level of psychological coping strategies on competitive stress among athletes of Oyo State. Moreover, it was concluded that there would be no relative influence of concentration on competitive stress among athletes of Oyo State. Furthermore, there was a significant composite influence of emotion-focused psychological coping strategies on competitive stress among athletes of Oyo State.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Effectively, athletes should realize that there is something called competitive stress.
2. Athletes should be made to build their confidence especially when competitive stress arises.
3. Communication, our individual and social life is a phenomenon which covers every moment so it is important for athletes to learn how to communicate with their team mates and also coaching crew so that they will be able to deal with competitive stress.
4. Athletes should work on their ability to be able to concentrate always since concentration focuses on the sensory or mental events.

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SCHOOL-BASED PHYSICAL ACTIVITIES: INTERVENTION FOR ENHANCING STUDENTS' ACADEMIC PERFORMANCE IN LAGOS STATE

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Abstract
The study investigated the effect of school-based physical activities on the academic performance of Junior Secondary School Students in Lagos State. 60 (Male =40, Female = 20) randomly selected Junior Secondary School Students formed the sample size. The selected students were divided into three groups; a control group, a Moderate-intensity Physical Activities Group (MIPAG), and a High-Intensity Physical Activities Group (HIPAG) through balloting. While all the groups were exposed to 80 minutes/week of PHE concepts for a period of four weeks, the MIPAG was further exposed to 60 minutes/week of physical activities while the HIPAG received 120/week of physical activities. The pre-test was carried out to determine the baseline academic performance of the students and those with too high or low scores were not included in the study. The post-test was done twice weekly after every PHE class. Data were analysed using descriptive mean, standard deviation, and inferential statistics of Analysis of Covariance (ANCOVA) and correlation coefficient at 0.05 level of significance. The result reveals that there is a significant difference in the academic performance of students in the three groups. MIPAG recorded highest academic performance, followed by HIPAG and then the control group. Also there is a significant difference in the means of the three groups. There is also a significant positive relationship between engagement in physical activities and students' attitudes to PHE. It is concluded that school-based physical activities should be incorporated in Junior Secondary School Curriculum.

Keywords: School-based physical activities, Physical and Health Education, Academic Performance, Moderate intensity physical activities, High-intensity physical activities

Introduction

Education is the bedrock of a nation's development and prosperity, and ensuring students' academic success is a priority for governments, educators, researchers, and other task holders worldwide. In recent years, research has highlighted the potential benefits of integrating physical activities into the school curriculum to enhance students' overall well-being and academic performance. Lagos State, as one of Nigeria's most populous and vibrant regions, faces unique challenges in maintaining the academic excellence of its students.

Schools are not only centres of intellectual growth but also play a vital role in shaping students' physical and emotional well-being. In recent years, educators and policymakers have acknowledged the need to strike a balance between academic pursuits and physical activities to ensure the holistic development of students. Integrating physical activities into the school environment has emerged as a promising strategy to achieve this balance. Previous studies have shown that regular participation in physical activities can positively influence cognitive abilities, attention span, and memory retention, ultimately leading to improved academic performance. Engaging in physical exercises helps reduce stress, anxiety, and depression, fostering a conducive learning environment that encourages students to perform better academically.

School-based physical activities are within the school-organized physical activity programmes designed to improve students' cognitive, affective, and psychomotor domains of learning. These activities can be in the form of organizing games like interclass games, strength training, stretching and flexibility, and athletic events among others. Apart from promoting growth and development, school-based physical activity also has multiple benefits for physical, mental, and psychosocial health that undoubtedly contribute to learning. Specifically, school-based physical activity reduces the risk for hypokinetic diseases such as heart disease, diabetes mellitus, osteoporosis, high blood pressure, and obesity among others, it also improves fitness, aerobic capacity, muscle and bone strength, and flexibility, and reduces stress and anxiety. Physical activity is associated with cardiorespiratory fitness and with other coronary heart disease risk factors such as obesity; and exercise can improve lipoprotein profile and lower blood pressure, and is an important component of weight control (Okuneye & Dansu, 2007).

The World Health Organization (2017), recommended at least 60 minutes per day of vigorous or moderate-intensity physical activity to maintain health. However, studies suggested that school-age children do not meet up with this recommendation. The physical activity behaviour of people has been tremendously altered due to modernization or technological development in society. The way people spend their leisure nowadays, particularly television viewing, results in people being less active, therefore regular physical activities is recommended for secondary prevention of several diseases (Okuneye, Dansu & Idowu 2011; Okuneye 2002). School-based physical activity is the only sure opportunity for all school-aged children to access health-enhancing physical activity and the only school subject area that provides education to ensure that students develop the knowledge, skills, and motivation to engage in health-enhancing physical activity for life (Institute of Medicine 2013).

Studies over the years have shown there is a direct correlation between regular participation in physical activity and health in school-age children, suggesting that physical activity provides important benefits directly to the individual child. Physical

activity during a school day may also be associated with academic benefits and children's social and emotional well-being. Physical and Health Education, along with other opportunities for physical activity in the school environment, is important for optimal health and development in school-age children. Evidence suggests that increasing physical activity and physical fitness may improve academic performance and that time in the school day dedicated to recess, physical education class, and physical activity in the classroom may also facilitate academic performance. Single sessions of and long-term participation in physical activity improve cognitive performance and brain health (Abass & Angba 2020).

Also, Hillman (2013) found that kids had more accurate responses on standardized tests when they were tested after moderate exercise, as opposed to being tested after 20 minutes of sitting still. His results lend support to the idea that just a single aerobic workout before class helps boost kids' learning skills and attention spans. Sibley and Etnier (2013) found a positive relationship between physical activity and cognition in school-age youth (aged 4-18), suggesting that physical activity, as well as physical fitness, may be related to cognitive outcomes during development.

There is a general complaint about the falling performance of students in both internal and external examinations and educationists have advanced several strategies to tackle the problem. Physical activity is a critical aspect of a well-rounded education and plays an essential role in the overall development of students. In recent years, there has been a growing interest in understanding the relationship between school-based physical activities and students' academic performance. Despite the growing concern on the subject, there remains a dearth of specific studies focused on the effect of school-based physical activities on academic performance in Lagos State. As such, it is essential to examine the effect of school-based physical activities on the academic performance of students in Junior Secondary Schools in Lagos State.

Methods

The study is a quasi-experimental design involving pre-test and post-test with a control group. The population of the study concludes all public junior secondary school in Ojo Local Government Area of Lagos State. Three schools with 20 students each were randomly selected to form the sample size of the study. In all, a total of 60 students (40 males, 20 females) participated in the study. The schools' permission was sought and permission granted for the study to be conducted, the participants and their parents were also signed consent forms. Physical and Health Education teachers in the selected schools were trained in the specific tasks to be carried out. The Physical and Health Education Achievement Test (PHEAT) was used to evaluate the academic performance of the participants. The reliability of the PHEAT was determined using a split-half procedure and a reliability coefficient of 0.82 was recorded using Cronbach Alpha method. The content and construct validity of the instrument was ensured by experts in test and measurement and exercise physiology. The PHEAT consists of 20 multiple answers questions and each correctly answered question attracts one mark, the maximum obtainable mark for each participant is 20 marks.

The randomly selected students were divided into high-intensity physical activities, moderate-intensity physical activities and a control group through balloting and each group consist of 20 participants. Pre-test was done to determine the baseline performance of the students by subjecting all the groups to the Physical and Health

Education Achievement Test (PHEAT). Students that scored too high or too low were not included in the study. Thereafter, the groups were exposed to 40 minutes of classroom teaching of selected Physical and Health Education concepts twice a week and the whole study lasted four weeks. While this lasted, only the experimental groups which are the moderate-intensity and high-intensity groups had physical activities session, the group control was exempted from the physical activity session. For the moderate-intensity physical activities group, the physical activities session includes a 5-minute warm-up to loosen the muscles and prepare the body for the activities followed by 30 minutes of aerobic activities that raise the heart rate beyond rest heart rate in each of the physical activity sessions. The high-intensity physical activity group follows the same pattern but the number of repetitions of the activities increased. The difference between the moderate-intensity group (60 minutes/week) and the high-intensity group (120bminutes/week) is the duration of the activities performed. The posttest was administered to both the experimental and the control group twice a week after each classroom teaching. Data were analysed using descriptive frequency count, mean, standard deviation, and inferential statistics of Analysis of Covariance (ANCOVA) and correlation coefficient at 0.05 level of significance.

Results

Table 1: Summary of Demographic Characteristics of Respondents

Demographics		**Percentage**
Age (years)	Below 10	5
	10-12	56
	13-15	35
	Above 15	4
Gender	Male	66.7
	Female	33.3

Table 1 shows the summary of the pulled demographic characteristics of the respondents.

Table 2: Descriptive Analysis of Results

				95% confidence interval	
Group	**Mean**	**SD**	**Std Error**	**Lower bond**	**Upper bond**
Control	12.21	.83	0.25	11.69	12.72
Moderate	15.98	1.58	0.26	15.46	16.51
High	13.41	1.14	0.56	12.90	13.92

Table 2 shows the descriptive analysis of the academic performance of the control group, moderate-intensity physical activities group, and High-intensity physical activities group. From the table, students exposed to moderate-intensity physical

activities have the highest mean score of 15.98±1.58, followed by the high-intensity physical activities group with a mean score of 13.41±1.14 and the control group with a mean score of 12.21±0.83.

Table 3: Summary of Analysis of Covariance

Source	Sum of Squares	df	Mean Square	F	Sig.
Group	135.959	2	67.979	52.94	0.001
Error	71.919	56	1.284		

R Squared = .677 (Adjusted R Squared = .660)

From Table 3, a significant F(2,11)=10.397, p=0.003 was recorded between the academic performance of the control, moderate intensity, and high-intensity group. This implies that physical activities have a significant effect on the academic performance of students.

Discussion

The study examined the effect of physical education and physical activities on the academic performance of Junior secondary students in Lagos State. The findings of this study reveal that physical activities have a significant effect on the academic performance of students. Students who participated in the physical fitness exercise in addition to exposure to the physical and health education concepts performed better than their counterparts who were only taught the physical and health education concepts without such physical fitness exercise benefits has proven the potential of physical exercises at improving students' academic performance. Physical activities lead increase in heart rate and stroke volume, this in turn increases the cardia output thereby increasing blood supply to the brain. The increased blood supply to the brain helps to maintain the proper functioning of the brain thereby improving concentration, sharp memory, and mental alertness. This result lends credence to the assumptions that exercises are associated with faster cell growth in the human hippocampus which is essentially the brain part for learning efficiency and sharp memory (Godman, 2014). Also, Pontifex et al., (2012) asserted that a single bout of moderate-intensity physical activity has increased neural and behavioural concomitants associated with the allocation of attention to a specific cognitive task. Similarly, Ellemberg and St-Louis- Desêhenes, (2010), stated that children who participated in 30 minutes of aerobic physical activity cognitively outperformed children who watched television for the same amount of time. Okoi and Anake (2019), also reported that participation in morning physical exercise has a significant positive relationship with academic performance. The positive r-value implies that the more participation in morning physical exercise the higher academic performance of students tends to be. Moreso, Moronkola (2000) as cited in Alebiosu and Adeyemi (2018), stated that a well-designed physical education curriculum has shown to improve the health, efficiency and physical appearance of school pupils thereby improving their mental capacity and academic output. Hamza and Babangida (2015) found significant differences between Nigeria College of Education (NCE) students who engaged in regular physical exercise and those who did not in their performance in the NCE mathematics results. Contrarily, Sallis et al (2000) found that physical activities does not improve academic performance. They reported no significant difference in academic

performance of students exposed to physical activities and their counterpart that were not exposed to physical activities.

Also, result reveals that the level of intensity of physical activities also has an effect on the academic performance of the student. Students exposed to moderate-intensity activities performed better than students exposed to high-intensity physical activities. The reason for the low performance of the high intensity group compared to their counterpart could be as a result of fatigue due to the rigorous activities. Fatigue has been documented to reduce concentration and mental alertness. Zientarski (2016) found in his research the intensity and duration of physical activity were linked to the improvement of cognitive thinking. This result contradicts the report of Moawd., Elsayed., Abdelbasset, Nambi and Verma (2020), which reported no significant difference in the academic performance of female students exposed to moderate intensity exercise and those exposed to high intensity exercise.

Finally, result revels that students' attitude toward leaning physical and health education has positive relationship with engagement in physical activities among the participants. Knowledge translates to practice; the knowledge of physical and health education improves their participation in physical activities. This result corroborates Okoi and Anake (2019), which reported that students‟ attitudes toward physical and health education has significant positive relationship with participation in physical activities. This indicate that the higher the students‟ attitudes towards physical education, the higher their engagement in physical activities.

Conclusion and Recommendations

It is therefore concluded that school-based physical activities will help improve the academic performance of Junior Secondary School Students in Lagos State, also participation in moderate-intensity physical activities better improve the academic performance of students compared to high-intensity physical activities. It is recommended that school-based physical activities should be encouraged and these activities should be of moderate intensity so that the students will have reserve energy for other school activities. The incorporation of physical activities within the school environment holds significant potential to enhance students' academic performance and overall well-being. As Lagos State seeks to further elevate its educational standards and provide a nurturing environment for its students, investigating the effect of school-based physical activities becomes paramount.

Also, the Lagos State Ministry of Education and Lagos State Teaching Service Commission should review the current Secondary School curriculum to include time for school-based physical activities and declare Wednesdays between 12 pm to 2 pm for sports and physical activities in all the schools in Lagos State. This will give the students the opportunity to participate in school-based physical activities that will improve their cognitive, physical, mental, and social health. Moreso, Physical and Health Education should be detached from Basic Science and Technology and should be designated as a stand-alone subject. This will increase the time and other resources allocated for teaching Physical and Health Education in Lagos State.

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SOCIOCULTURAL FACTOR AS A DETERMINANT FOR FEMALE PARTICIPATION IN SPORTS IN TERTIARY INSTITUTION IN OYO TOWN.

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Abstract
Sport is a component of physical education that entails physical effort and skill in which a person or team competes against another or others for amusement. Socio-cultural elements are distinct social and cultural constraints, practices, beliefs, and traditions within a group or culture that may support or discourage physical exercise. Female involvement in sports is heavily influenced by established gender norms since it has always been issues. The impression that physical exercise is unfeminine is one of the main obstacles to female sports participation. This study thus investigates

sociocultural factors as determinant for female participation in sport among females in tertiary institutions in Oyo town, Oyo state.

Introduction

Sport is a component of physical education that entails physical effort and skill in which a person or team competes against another or others for amusement. Sports may also be described as a systematic and institutionalized activity involving strong physical effort with elements of competition and proficiency on a spectrum between leisure and labour (Momoh and Olalusi, 2018). Sports have the power to generate a physical, scholastic, social, and positive part of life in all landmasses. It also functions as a channel of communication between countries and individuals across time due to their degree of engagement in sports. It was discovered that participation in sports helps to bridge social gaps, settle conflicts, and educate individuals, so that people participate in it for leisure (Aibueku and Eraga, 2018). Sport and other sport-related activities are important because they lead to competence in the physical realm of sport and may also extend to real-life situations.

However, good engagement in sports may be very helpful to an individual's physical, mental, and social well-being (Adam, Joanna, Paddy, 2020). Apart from the fact that participation in athletics benefits the overall development of female pupils, it also improves community cooperation among schools (Ogidan, Onifade and Ologele, 2013). Participating in sports helps to bridge cultural divides and bring people together. Female students who participate in sports, recreation, and proactive chores do better and feel better than those who do not. Despite the fact that there are no laws stating that ladies should not engage in sports, there are societal beliefs that prevent women from doing so. These cultural attitudes are strong enough to deter females from venturing into areas traditionally reserved for men (Adesoye, 2012). After discussing the notion of sport, it is necessary to address the socio-cultural aspects that influence female involvement in sports activities.

Socio-cultural elements are distinct social and cultural constraints, practices, beliefs, and traditions within a group or culture that may support or discourage physical exercise. Cultural beliefs, parents, religion, peer group influence, gender, and other socio-cultural variables have been reported to impact female involvement in sports activities. Human behaviour is inextricably linked to culture. In other words, an individual's cultural extractions are a critical predictor of how he or she behaves and acts in life (Sani, 2017). Females are of a certain cultural extraction, which plays an important role in their everyday lives. Cultural ideas do not predisposition females in the community to publicly engage in sports activities; for example, Nigerian culture promotes young ladies to be mothers in the house. As a result, the cultural expectations placed on women in Nigeria prevent them from engaging in competitive sports (Sani, 2018). Females' unfavourable attitudes regarding sports engagement stem from perceived or actual limitations imposed by societal ideas (Adekanmbi, 2018).

Religion, as a socio-cultural component, has an impact on female engagement in sports. There are religious components that impact female sports involvement, such as Islam. For example, girls often follow their beliefs by refraining from participating in mixed gender sports because they feel it might lead to immorality, as well as other

activities that frequently show their bodies due to clothing regulation, such as swimming and athletics (Lina and Astrid, 2017). According to Sharia law, which takes priority over the behaviour of many Muslim females in Nigeria, Muslim females are often prohibited from wearing short skirts, trunk tops, shirts, and pants in public places. Many Muslim girls have been barred from participating in sports because of religious restrictions on mixed-gender sports and dress code regulations.

Peer group impact must be included as one of the socio-cultural elements influencing female engagement in sports. A peer group is a social group as well as a major group of individuals who have similar interests, age, background, or social standing. This group's members are likely to influence one another's beliefs and behaviour. For example, a girl with the cultural notion that sports are just for men might influence her companions by forbidding them from partaking in any athletic activity. As a result, a lack of peer support among females might occasionally discourage female involvement in sports. Physical activity peer support Context includes both instrumental assistance (such as sharing tools or resources or participating in physical exercise together) and emotional and motivational support (such as encouraging or praising physical activity) (Fitzgerald and Ahearne, 2012).

Physical activity has positive effects on health and social areas, as has been stressed repeatedly over the last ten years (Batista, Romanzini, Barbosa, Blasquez, Romanizi, and Ronque. 2019, Malm, Jakobsson, Isaksson 2019). By forbidding their female children from doing sports, parents (as one of the socio-cultural variables) sometimes prevent their female children from benefiting from this physical exercise. One of the socio-cultural elements that discourages female engagement in athletics is the perception that parents, in addition to bearing the next generation's children, can direct them in the proper direction and should be listened to. As a result, they exert influence over the child's decision and discourage the female child from participating in sporting activities. Mothers can actually discourage and forbid their daughters who want to participate in sport or study physical and health education from doing so because they believe it is too vigorous, harmful, too physical, and can cause them to lose their feminity.

Female involvement in sports is heavily influenced by established gender norms since it has always been issues. The impression that physical exercise is unfeminine is one of the main obstacles to female sports participation. Both as athletes and as representatives of sport governance, women encounter gender equality challenges. Because most Nigerian civilizations see women as weaker sex, they are often prohibited from participating in sports. Females often occupy a cultural pedestal of beauty, thus they should be preserved, according to Boucher. It is said that gender disparity in sporting organizations has been institutionalized. Outside of the United States, women are less likely to assume leadership roles in sports, including volunteer and professional level groups. Women hold 33% of the general manager posts in the women's National Basketball Association. In addition, the IOC had only just reached its own self-imposed goal of having at least 20% female board members (Smit and Wrynn, 2013). Males have provided a variety of justifications for subordinating women, and many of them have relied on the questionable premise that women are inherently weak. The idea that women have been socialized to be what they are often has its roots in the discriminatory social patterns of Nigeria's many cultures. The idea that women are formed of milk and honey has persisted throughout history, and as a

result, a feminine conception of women was created that tends to discourage women from engaging in too much physical activity.

Objectives of the study

This study sets out to determine the different sociological and psychosocial factors that influence college women sport participation in Coastal Karnataka. This study will provide knowledge that will aid the understanding of the phenomenon of the determinants of sports and physical activity participation, among college women aged. Some of the important objectives for the study are:

i. To understand Social factors which affect female participation in sports?
ii. To analyse the influence of psychological factors which affect female participation in sports in Tertiary Institutions in Oyo town, Oyo state.

Methodology

The descriptive survey research design was adopted for the study. 198 respondents are selected from 1 college and 3 Universities in Oyo town, Oyo State. 40 from Atiba University, 44 from Ajayi Crowther University , 65 from Federal College of Education (Special), Oyo and 53 from Emmanuel Alayande University of Education. Questionnaire is used to collect the data. Cross tab analysis and Percentage analysis is used to analysis the data.

Limitations

1. The study is confined to Tertiary Institutions in Oyo town, Oyo state only.
2. The questionnaire in itself has its own limitations. As such any bias opinion that might be given by the subject in the form of responses that affect the result of the study might be considered as limitation of the study.
3. Different ways of living, nature of activity, daily routine & habits of different locality which were not under the control of research scholar were considered as a limitation of the study.

Delimitations of the study

The quality information of the study is purely based on willingness and co-operation of the physical education directors of various colleges and their women athletes to disclose facts. The traditional conservative attitude of physical directors and college women athletes not to provide appropriate and adequate information to the investigator may acts as limiting factors of the research findings. Some of the limiting factors are:

i. The findings based on the data supplied by the respondent.
ii. The study is limited to Tertiary Institutions in Oyo town only.
iii. The study is limited to 1 College and 3 Universities.
iv. The study further delimited only to the following socio-psychological variables. Motivation, Interest, Self Confidence, Inferiority. Worry, Socio demographic variables.

Statistical Analysis and Discussion

The analysis of the data was done with the T-test inferential statistics at 0.05 level of significance.

H_0: Cultural belief will not significantly determine female participation in Tertiary Institutions in Oyo town, Oyo state

The table blow shows that t (198) = 267, p = .790 at $\alpha = .05$ level of significance. Hence, Cultural belief will not significantly determine female participation in sports in Atiba local government area, Oyo state. Therefore the effect size is negligible (g = 0.037787).

	Levene's Test for Equality of Variances		t-test for Equality of Means							Test for Effect Size
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		Hedges' g
								Lower	Upper	
Equal variances assumed	.027	.870	-.267	198	.790	-.16000	.59882	-1.34088	1.02088	
Equal variances not assumed			-.267	197.309	.790	-.16000	.59882	-1.34091	1.02091	

H_0: Sociological determinants (peers influence and parental influence) will not significantly determine female participation in sports in Tertiary Institutions in Oyo town, Oyo state

	Levene's Test for Equality of Variances		t-test for Equality of Means							Test for Effect Size
	F	Sig.	Hedges' g	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		Hedges' g
								Lower	Upper	
Equal variances assumed	1.023	.313	1.992	198	.048	1.86000	.93363	.01886	3.70114	
Equal variances not assumed			1.992	197.598	.048	1.86000	.93363	.01884	3.70116	0.281743.

The table above shows that t (198) = 1.992, p = .048 at $\alpha = .05$ level of significance. Therefore, Sociological determinants (peers influence and parental influence) will not significantly determine female participation in sports in Tertiary Institutions in Oyo town, Oyo state. Although there is there a statistical significance in the mean difference but the effect size was found small (g = 0.281743).

Discussion

By participating in sports Adeyose 2012 identified girls will be isolated and friends will start commenting on their appearance. It is the general opinion that the participants in sports bring the changes in the behaviour as well as physically. That thinking keeps them away from the group. This is strongly supported by the opinions of the respondents. Nearly 42% of the respondents are having this opinion.

There is inverse correlation found between possessing the qualities of good sports person and awkwardness to participate in sports. Generally those who possess the qualities of good sports person will not have awkwardness feeling to take part in sports. This opinion is strongly supported by this survey where in 70% of the respondents showed inverse opinion to these two variables.

Generally girls who get parental support to participate in sports will be more confident about their future as a successful sports person, as it will be easy for them to balance the academic as well as sports activities. This view is positively supported by the respondent as nearly 64% of the respondents are with the same opinion.

Presence of Physical Education Teacher in the Educational Institution very much influence student's confidence to take part in sports. They instil the confidence among the students which mostly boost the student's confidence. We generally find the positive correlation between these two variables which is strongly supported by our survey report.

Every college must have a Physical Education Teacher or Coach to getter better and secured exposure for the girls. Very week enrolment for sports we find where there is no Physical Education Teacher or Coach. This survey positively response to these two variables. Nearly 80% of the respondents are positively agreeing with this.

Conclusion and Suggestions

In this survey, it was observed that low income, lack of parental support, Lack of confidence, Peer influence, worry, biological problems, Body image, and facilities from the educational institutions and absence of physical education teachers may influence college girls' sports participation in Tertiary Institutions in Oyo town. It is observed that rural girls are strong and they have most of the physical fitness components because of the lifestyle and food habits.

Unfortunately as rural girls are not given adequate facilities and exposure for sports in schooldays itself, when they grow older they hesitate to take part in physical education activities. If we observe in the field of sports majority of the athletes hailed from rural areas. Presently State and Central Governments have many plans to uplift sports in Nigeria. It is hoped that these plans will execute properly so that our girls will get more and more opportunities to come up in their future as regards sport participation.

Recommendations

Government, Educational Institutions and parents must take the following steps

i. Appointing Physical Education Teachers / Coaches in the School/colleges
ii. Providing adequate sports facilities so that girls will get motivated to take part in sports
iii. Providing sports hostel facilities for rural girls.

iv. Creating awareness among girls and their parents about the benefits of sports participation.
v. Organizing more and more sports competitions for girls, so that they get more exposure and interest.

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SPORTS AND MENTAL HEALTH PROMOTION FOR SECONDARY SCHOOL STUDENTS IN THE NIGER DELTA AREA, NIGERIA

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Abstract
Mental health is fundamental to individual and national well-being. Mental health issues in Nigeria are alarming. Reports by the Mental Health Leadership and advocacy programme and the World Bank showed that the prevalence of mental health in Nigeria is in the range of 20%; and that relative to a population of about 174 million; 64 million Nigerians are deemed to suffer from one form of mental illness or the other, respectively. This paper advocates an academic re-engineering in schools, especially in the Niger Delta region, as it relates to mental health for the purpose of promoting sports and sporting activities in schools, for the improvement of their mental state comprehending what they (the students) read. Families, religious/non-governmental organizations and government should collaborate to promote mental health; this can be effected; through the teaching of and participating in sports through Physical and Health Education.

Key Words: mental health, health, sports, school-place, health education

Health

The World Health Organisation (2007) defined health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. In line with the World Health Organization Oke (2013) stated overall health is achieved through a combination of physical, mental and social well-being, which, together is commonly referred to as the Health Triangle. As imbued in this brief definition about health it is well understood that mental health is a critical concept for health if one is to be of good or sound health (Mental Health Foundation, 2017).

Mental Health

Mental Health Foundation (2017) reiterated: every human action and reaction is a by-product of what is going on in the brain. If the health of the brain largely determines the health of every man or woman (The Royal College of Psychiatrists, 2013), advocating and promoting good mental health means advocating and promoting a people's health. Advocating for National Health as in the case of Nigeria through promotion of good mental health among people is one of the most needed solutions to the steaming depression and other forms of mental disorder, sweeping throughout the country (Sturgeon, 2007). According to Mullen (2010), mental health is a state of mind in which an individual can effectively utilize his or her capacities. By displaying psychological resilience in making personal and social adjustments, one would to fit into the dynamic environment within which he or she co-exists with

other persons (Oyewunmi et al, 2016). It also represents one's ability to adapt to internal and external environmental stressors they retorted.

The United Nations Children's Fund and the World Health Organization (2009) reported that successful adaptation to a range of demands is manifested in thoughts, emotions and behaviours that are in congruence with age, local and cultural norms or expectations. Nevertheless, Mental Health Foundation (2017) described mental disorder as an illness due to social, political, physical/chemical, psychological, genetic, physical/chemical, and/or other biological disturbances and manifesting through psychological and or behavioural phenomenon together with impairment in functioning (socially, occupationally or otherwise).

Mental health, just like physical health, is not confined to certain geo-polities or social strata. It is an issue that has the potential to affect anyone, male or female, young or old, rich or poor (Steel et al,
2014). There are about five major categories of mental illness as outlined by the Mental Health Foundation (2017). These include:

Anxiety Disorders

Anxiety disorders are the nose common mental illnesses. The three main types are: phobias (extreme fear or dead from a particular object or situation), panic disorders (sudden, intense feelings of terror for no apparent reason and are often accompanied by heart threatening symptoms), and obsessive-compulsive disorders (anxious impulses to repeat word or phrases or engage in repetitive, ritualistic behaviour, such as constant hand washing).

Mood disorders

Mood disorders include depression and bipolar disorder; symptoms may include mood swings such as extreme sadness or elation, sleep and eating disturbances, and changes in activity and energy levels. Suicide may be a risk with these disorders.

Schizophrenia

Schizophrenia is a serious brain disorder which affects how a person thinks, feels and acts. Schizophrenia is believed to be caused by chemical imbalances in the brain that cause a variety of symptoms including hallucinations, delusions, withdrawal, incoherent speech, and impaired reasoning.

Dementias

This group of brain disorders includes diseases such as Alzheimer's, which leads to loss of mental functions, loss of memory and a decline of intellectual and physical skills.

Eating Disorders

Anorexia nervosa and bulimia are serious and potentially life-threatening disease. Symptoms include a preoccupation with food and an irrigational fear of being fat. Specifically, anorexia is self-starvation, while bulimia is cycles of bingeing (consuming large quantities of food) and purging - self-indulging vomiting or abusing laxatives - (Mental Health Foundation, 2017).

Sports and Mental Health

To have a healthy nation, there is the need to have healthy people with healthy brains. This is where sports come in for the promotion of the mental health of the citizenry, especially secondary school students in the Niger Delta region. The Collins English Dictionary (2000) defined sports as an individual or group activity pursued for exercise or pleasure; often involving the testing of physical capabilities and taking the form of competitive game (Inengite, 2013). In the light of this definition, Outhart, Taylor, Barker & Procter (2000), Okunrotifa (2006) and Akan-an (2006) concluded that sports generally involves some form of physical activity. Experts say excess weight can cause a two to six-fold increase in one's risk of developing high blood pressure. Oneke (2007a) estimated that 20 to 30 percent of all cases of hypertension are caused by being overweight. He stressed that one proven anti-aging remedy is exercise. Thus, taking one's self from a sedentary state to a physically trained state can in effect reduce one's biological age by 10-20 years (Oneke, 2007b). One thing that can help one do all these is regular physical activity (Kemper, 2005).

With exercise or sports, individuals; including children in secondary schools, would have their anatomy heightened and well ventilated. For instance, with sports and exercise, dead cells in the brain would be replaced by fresh ones through oxygen, thus improving the mental state of the students; as they would properly comprehend what they read (Inengite, 2013). According to Bucher & Krotee (2002) and Akaan-an (2006) the above stated benefits of sports hinge on the following social functions:

a. ***Emotional release*** – sports serves to release emotions and relieve stress, acts as a safety valve and provides a catharsis to release aggressive tendencies.
b. ***Affirmation of identity*** – sports offers opportunity to be recognised and to express one's individual qualities (Akaan-an, 2006).
c. ***Socialization*** – sports serves as a means of socializing those individuals who identify with it.
d. ***Social control*** – sports provides a means of control over and containment of people.
e. ***Change agent*** – sports results in social change and new behaviour patterns and is a factor that may contribute to changes in the course of history (e.g. interaction of classes, upward socio economic mobility based on ability, ping-pong diplomacy, gender equity, the demise of apartheid).
f. ***Collective conscience*** – sports creates a communal spirit that brings people together in search of common goals, such as building community.
g. ***Success*** – sports provides a feeling of success both for the participant and for the spectator when a player or team with whom one identifies achieves (Bucher & Krotee (2002).

Being physically, and mentally active is perhaps the most important choice individuals can make to promote wellness (Akaan-an, 2006; Inengite, 2013). The human body is designed to work best when it is active. It readily adapts to nearly any level of activity and exertion. All these are geared towards attaining fitness. Fitness thus, is defined as a set of physical attributes that allow the body to respond or adapt to the demand and stress of physical and mental efforts (Oke, 2010). For the body to adapt fully to this, the person involved would have to be fit (Okunrotifa, 2006). Physical fitness is a state of being that consists of at least five (5) elements of health-

related and six (6) elements of skill performance related components. The health-related component, according to Corbin, Lindsey, Welk & Corbin (2001) include the following elements:

1) Muscular strength-which is the ability of the muscles to exert an external force or to lift a heavy weight. Strong muscles are important for the smooth and easy performance of everyday activities such as lifting objects, transferring loads and materials, climbing stairs, manipulation of objects as well as for emergency situation (ACSM, 2010). A fit person can do work or play that involves exerting force, such as lifting or controlling one's own body weight. Adequate muscular strength is related to optimal functional performance capacity (Oke, 2012). Muscle tissue is an important element of overall body composition and good muscle strength keeps the skeleton in proper alignment, prevents back and leg pain and provides the necessary support for good posture (Corbin, Lindsey, Welk & Corbin, 2001).
2) Muscular endurance- which is the ability of the muscles to repeatedly exert themselves or the ability to sustain a given level of muscle tension, i.e, to hold a muscle contraction for a long period of time or contract a muscle over and over again (Fahey, Insel & Roth, 2000). A fit person can repeat movements for a long period without undue fatigue. Muscular endurance can be increased through gains in muscular strength and other factors (Gormley & Hussey, 2005). Muscular endurance is an important requirement in coping with physical demands of everyday life and enhances performance in sports and work (Fahey et al, 2000). Adequate muscular strength and endurance are elements of health-related fitness component that can improve or maintain musculotendinous integrity, which is related to a lower risk of injury, including low-back pain, and the ability to carry out the activities of daily living (ACSM, 2010).
3) Cardiovascular fitness - This is the ability of the heart, blood vessels, blood, and respiratory system to supply fuel and oxygen to the muscles and the ability of the muscles to utilize fuel to allow sustained exercise. Cardiovascular endurance also describes the ability to perform prolonged, large-muscle, dynamic exercise at moderate-to-high levels of intensity (Fahey, Insel & Roth, 2000). A fit person can persist in physical activity for relatively long period without undue stress (Okunrotifa, 2006). Cardio-respiratory fitness is considered health- related for many reasons one of which is because of the fact that high levels of cardio respiratory fitness are associated with high levels of habitual physical activity. These in turn are associated with many health benefits (ACSM, 2010). Good physical fitness suggests the presence of normal cardio respiratory function, efficient oxygen transport and uptake, enhanced muscular and skeletal functioning, and psychological fitness (Walker, 2007). Physical fitness may therefore be a good surrogate measure of a number of important body functions, and therefore a good predictor of health outcome (Erikssen, Liestøl, Bjørnholt, Thaulow, Sandvjk & Erikssen, 1998).
4) Body composition- Is the relative percentage of muscle, fat, bone, and other tissues that comprise the body (Gounley & Hussey, 2005). A fit person according to them, has a relatively low percentage of body fat (body fatness), adjusted for age and gender. Being overweight or obese refers to an excess accumulation of body fat. However, when overweight is a result of muscular

hypertrophy; gained through active engagement in physical activities, the condition positively aids the person's functional capability (Fahey, Insel & Roth, 2000). This is in contrast to overweight resulting from adiposity (fat accumulation). Body mass index (BMI) is used as a clinical tool in determining if an individual's weight for height is healthy or if it is under or overweight. Excessive accumulation of body fat is associated with health problems (ACSM, 2010). According to Oneke (2007a) obese persons are believed to have reduced ability or increased difficulty to perform activities of daily living especially those requiring vigorous movements. they have been found to possess functional physical performance capacity that is significantly different from that of people with chronic disease like type 2 diabetes mellitus (Oke & Agwubike, 2012; Opueze, 2021). Possession of adequate body fat is also expected to be a consideration in involvement in the duty of a paramedic (Oneke, 2007b).

5) Flexibility- Refers to the range of motion available in a joint. It is affected by muscle length, joint structure, and other factors. A fit person can move the body joints through a full range of motion in work and in play (Okunrotifa, 2006). Flexibility is a very important spoke in the wheel of fitness and as essential as other component elements especially in injury prevention during vigorous activities (Oke, 2013). According to him, tight, stiff muscles interfere with proper muscle action and limits normal range of movement. In some cases, lack of flexibility can be a major contributing factor to muscle and joint pain (Walker, 2007). Flexibility training is one of the most important parts of training programmes for enhanced sports and functional performance specifically for injury prevention (Corbin et al, 2001).

The skill/performance related component of physical fitness according to WHO (2004) and Inengite (2013) and Oke (2013) includes the following elements:

1) ***Agility*** - The ability to rapidly and accurately change the direction of movement of the entire body in space. That the job performance of a paramedic requires possession of agility cannot be said to be a topic of debate. Rescuing requires a great sense of agility and balance especially from an accident or disaster zone. If a man trying to rescue an injured person falls, he doubles the need for rescue and of course jeopardizes the primary purpose.
2) ***Balance*** - This refers to the maintenance of equilibrium while stationary (static balance) or while moving (dynamic balance). Balance is also described as the ability to keep the body stable, when still or moving, by keeping the centre of gravity over the base of support, for example, when performing a handstand or a cartwheel. Both static and dynamic balances are of importance in the job of a school staff (Oke, 2013).
3) ***Coordination*** - Refers to the ability to use the senses with the body parts to perform motor tasks smoothly and accurately. Coordination also describes the ability to use two or more parts of the body gracefully at the same time. Even simple acts, such as walking, require a degree of coordination (Inengite, 2013).
4) ***Power*** - It refers to the ability to transfer energy into force at a fast rate. Power is the ability to combine strength with speed, to perform a strong contraction very quickly. Power is very closely linked to explosive strength (WHO, 2004).

5) ***Reaction time*** **-** Refers to the time elapsed between the stimulation and the beginning of reaction to that stimulation. This is an important feature in the job performance of a school staff.

6) ***Speed*** **-** This refers to the ability to perform a movement in a short period of time. Speed is undoubtedly an important element of skill-related component of physical fitness needed in the activity of staff and pupils in schools (Inengite, 2013).

School Place Mental Health Promotion

Oyewunmi et al (2016) reiterated: mental health is an intricate but pressing workplace issue with multiple consequences. Over the years, organizations have lacked the comprehension and acknowledgement of the impact of mental health problems on organizational life (Schutt, 1999). However, in the light of the changing environment in which school organizations operate and compete, it is imperative to support employees by addressing, not just physical, but mental health. Schools must begin to rationalize the idea of mental health promotion (Sturgeon, 2017) as an investment against absenteeism, depression, burnout/stress, poor performance, workplace incidents, poor decision-making, loss of motivation, conflicts, and poor relationships with colleagues and clients/customers (Kemper, 2005; Mental Health Foundation, 2017). Employers must realize that the emotional and mental constitution is crucial to human performance (Steel et al, 2004). The business and management processes (strategy, goal-setting, resourcing etc.) geared towards organizational performance will be futile; unless behavioural and psychological factors pertaining to employees are evaluated (Lehtinen et al, 2005).

Since competitive advantage is elusive without the physical and mental health of individuals, organizations must be fully committed to creating a cultural climate that promotes civility, equity, transparency, work-life balance and health promotion. According to Van der Klink et al (2001) the workplace is an ideal environment to erase ignorant stereotypes, shallow misconceptions and raise the profile of mental health. A starting point on the way forward is the introduction of mental health promotion, initiatives and policies (Sturgeon, 2007). The World Health Organization (2001) stated: at least, one (1) in four (4) people will develop one or more mental illness or behavioural disorder in their lifetime, and that one (1) in four (4) families has a member suffering from a mental illness or behavioural disorder. This makes it necessary to create interventions that would foster positive mental health (World Health Organization, 2004). The promotion of mental health is a significant part of health promotion (Sturgeon, 2007).

Mental health promotion includes activities that provide persons with information on the adoption and maintenance of lifestyles that enhance good health (Mullen, 2010). It involves strategies that promote the mental health of those who are not at risk (Sturgeon, 2007), those who are at risk and those affected by or recovering from mental health challenges (Lehtinen et al., 2005; World Health Organization.

2004). Van der Klink et al (2001) reported that mental health ‘promotion has positively impacted mental and physical health in the workplace (schools), particularly as it relates to increasing coping mechanisms, reducing work stress and improving social skills they reiterated.

The promotion of mental health in the workplace, especially in schools, must begin with the commitment and proactiveness of top management (Bucher & Krotee, 2002) and consultation with staff to assess health needs and design policies and interventions! Programmes that would complement these needs (Inengite, 2013). He asserted that the organization must formulate a strong policy that expresses commitment to the promotion of mental well-being. According to Akaan-an (2006) and Okunrotifa (2006) this should be followed by a mental health plan that correlates with the needs assessment as defined by the policy. The plan must specify objectives, appropriate interventions, identify and empower motivated advocates and practitioners, set a time frame, provide a budget and funding options (Inengite, 2013).

In terms of interventions, the school workplace would benefit immensely from education and awareness on the pervasiveness of mental health problems, common misconceptions and lifestyle choices that would foster positive mental health. The United Nations Children Fund & WHO (2009) education and awareness interventions must be based on pertinent themes such as active living/fitness, healthy eating, alcohol and smoking cessation, managing workload and interpersonal relations, adapting to changes, managing realities constructively, building emotional stability, developing resilience and seeking counselling. In recruiting new employees, many human resource managers are likely to be interested in the brightest candidates without necessarily considering their mental health profiles (Sturgeon, 2007). Pre-employment medical assessments do not usually include a mental health assessment and employee training programmes do not cover the area of mental health. Thus, human resource personnel must be equipped with the knowledge of mental health, so as to provide support counselling and an inclusive environment for employees (Mental Health Foundation, 2017; Mullen, 2010; Steel et al, 2004; Sturgeon, 2007)).

Mental Health Foundation (2017) advocated: the promotion of mental health must not be limited to workplaces and schools alone. Indeed, all stakeholders must be actively involved in mental health literacy. In essence, families must be dedicated to razing and nurturing well-rounded personalities; religious/non-governmental organizations must help in flagging anti-stigma campaigns and erasing misconceptions surrounding mental illnesses; the government must be committed to the sustainability of the public health sector. These all could be implemented via emphasizing sports through the teaching of sports and Health Education in schools, as well as participating in sports, in the Niger Delta region of Nigeria

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INFLUENCE OF DIETARY PRACTICES ON FITNESS CHARACTERISTICS OF KWARA STATE ATHLETES

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Abstract

The role of nutrition in sports performance is increasingly being recognised as key component of optimal sporting performance. However, instead of the performance of the athletes to be enhanced despite self-acclaimed dietary practices; their performances are not convincing. Hence, the need for this study. This study therefore sought to determine the influence of dietary practices on fitness characteristics of Kwara State athletes. Ex-post facto research design was adopted for the study. Sample comprised of 88 athletes drawn from Kwara State using multi-stage sampling procedure was selected for the study through multi-stage sampling procedure. A validated adapted Nutrition-related KAP model questionnaire with 0.76r was used as instrument for data collection. Other standardised instruments were calibrated before used for data collection. Chi-square and t-Test were used to analyse the data collected. The study found that there was no significant difference in the nutritional knowledge of male and female athletes in Kwara State ($t=-0.77$, $p>0.05$); and there is no significant influence of nutritional knowledge on dietary practices of Kwara State athletes (χ^2 (9) = 4.78, $p > 0.853$). Based on the findings of the study, it was concluded among others that; male and female athletes have similar level of nutritional knowledge. Adequate and up-to-date nutritional information should be provided to both coaches and athletes by the appropriate institutions in charge of sports.

Introduction

Over time, sports have evolved from a pastime to a profession and a means of subsistence. Constant physical training which necessitate muscular effort is part of the benefits gained through sports success. Because of these muscular demands, the body must adapt in order to maintain cardiovascular homeostasis, thermoregulatory control, and muscle mass (Sanusi & Oladunni, 2013). Due to the excretion of several litres of sweat each day, which contains salt, water, as well as a variety of other components

like iron and water soluble vitamins, if proper safeguards are not in place, depletion of muscle glycogen stores might put athletes at danger of low blood sugar.

The importance of nutrition as a crucial factor in achieving peak athletic performance is increasingly becoming more widely acknowledged. According to Burke, Meyer, and Pearce (2013), the practice of sports nutrition is expanding quickly among coaches, trainers, and players. The effectiveness of working muscles during exercise is greatly enhanced consider "scientifically planned nutritional strategy that includes fluids, glucose, protein, salt, and caffeine. Although training has the ability to improve performance, it has been proven that drinking a carbohydrate electrolyte drink or taking relatively small amounts of caffeine during prolonged exercise improves elite athletes' performance (Beck, Thomson, Swift & von Hurst, 2015).

If used properly, there are a variety of nutritional strategies that could improve athletic performance. A combination of several of such strategies will be more advantageous to athletes than using each one separately (Beck et al., 2015). Optimising consumption of macronutrients, micronutrients, and fluids is one dietary strategy that can improve performance. Personalised nutritional practices are becoming more and more valued by athletes on a regular basis. Based on the sport, individual goals, and practical considerations (food preferences), different dietary methods are used by different athletes (Jeukendrup, 2014). Athletes engage in a variety of sports, such as strength and power (weightlifting), team sports (football), and endurance sports (marathon running), among others, and each sport has various demands on the athletes.

Prior to endurance activity lasting longer than 90 minutes, carbohydrate loading could increase an athlete's muscle glycogen stores. This could in turn be advantageous to athletes by delaying the onset of tiredness by at least 20% and enhancing performance by at least 2%–3% (Aljaloud & Ibrahim, 2013). Athletes are advised to ingest 10-12 grams of carbohydrates per kilogram of body mass each day in the 36–48 hours prior to exercise engaging in sustained or intermittent exercise lasting more than 90 minutes (Burke, Hawley, Wong & Jeukendrup, 2011). Fat as a fuel source differs from carbohydrates especially for ultra-endurance activities. When dietary carbohydrate intake is decreased to a level that encourages ketosis, it may create a situation that maximizes fat oxidation (Volek, Noakes & Phinney, 2015). However, by contributing to a decrease in pyruvate dehydrogenase activity and glycogenolysis, this technique may reduce the effectiveness of high-intensity exercise.

In the views of Van Loon (2014) protein consumption prior to and during endurance and resistance exercise has been shown to enhance rates of muscle protein synthesis (MPS). Protein seems to contribute between 5 and 10% to the total energy used during physical activity as it seems to constitute the base of muscle tissue and of the immune system and are the major component of muscle enzymes and play a large role in sport performance (Olivos, Cuevas, Alvarez & Jorquera, 2013). In the athlete population, protein intake is increased to repair muscle damage caused by exercise, to enhance metabolic adaptations to training, and avoid possible muscle catabolism. The current recommendations for the athlete population range between 1.2 and 2.0 g/kg of body weight per day, depending on the type of sports performed (Thomas, Erdman & Burke, 2016). Higher amounts may however be reached at exceptional times such as when managing an injury, during high-intensity training, high-intensity training, or

weight loss plans with caloric restriction and such increase could be for maintenance of muscle mass.

Dietary intake together with sufficient fluid intake is paramount in ensuring athletic performance at its peak (Maughan & Burke, 2011). Fluid consumption during exercise could maintain hydration and thermoregulation, thereby benefiting performance. Hillman, Turner and Peart (2013) expressed that emerging evidences point to increased risk of oxidative stress on increased risk of oxidative stress with dehydration. Athletes seem to be well hydrated when fluid is consumed prior to exercise. A carefully planned fluid overloading prior to an event may increase fluid retention and improve heat tolerance. When not carefully handled, fluid overloading could impact athletic performance negatively with regards to fullness of the bladder and the need to pass urine. The body's demand for hydration is closely linked to sweat loss which could vary from 0.5–2.0 litres per hour, type of exercise, duration of exercise, ambient temperature and athletes' individual characteristics (Sawka et al., 2007). Exercising under high temperature could increase fluid and sodium losses substantially, thus, athletes must replace lost minerals to avoid hyponatremia.

Sawka et al., (2007) expressed that fluid loss greater than 2% of body mass can impair performance. It is therefore, important for athletes to get hydrated throughout an event to maintain body mass. Well-trained athletes who imbibe the culture of constant fluid intake have been found to lose as much as 3.1% of body mass with no impairment of performance in ultra-endurance events (Hoffman & Stuempfle, 2014). Performance supplements in form of fluid have been formulated to enhance performance and they include caffeine, beetroot juice, creatine and bicarbonate (Australian Institute of Sport, 2015). In recent years, research has focused on the role of supplements and performance. According to Hoon, Johnson, Chapman and Burke (2013), nitrate is most commonly provided as sodium nitrate or beetroot juice. Dietary nitrates could change form and get reduced to nitrites (in the mouth) and then later to nitric oxide (in the stomach). During exercise, nitric oxide potentially influences skeletal muscle function through regulation of blood flow and glucose homeostasis, as well as mitochondrial respiration (Jones, 2014). During endurance exercise, nitrate supplementation has been shown to increase exercise efficiency, reduce fatigue, and attenuate oxidative stress.

Reports (Daneshvar et al., 2013) on self-practice of nutritional intakes (frequency of food intake, dietary habits and performance enhancing fluid intake) indicate that athletes tend to consume nutrients in excess of their recommendations. Moreover, eating disorders are common among athletes as a result of eating disorders which have been ascertained to be occurred at about 58% among athlete population in Europe (Bachner-Melman, Zohar, Ebstein, Elizur & Constantini, 2006). The key to success for any athlete would be to adapt energy intake that equals energy expenditure, which could enhance the functions of an organism as well as altering body composition parameters (Thomaset al., 2016).

The energy demands of athletes differ widely, depending on the type of sport, duration, intensity, competitive level, and individual variability of each athlete. The more demanding the competitive levels of the athlete are, the greater the increase in the intensity of both training and competition occurs, which will result in a significant reduction energy reserves that must be replaced by an adequate diet (Martínez,

Urdampilleta & Mielgo, 2013). The researcher observed that many athletes adopt arbitrary dietary practice in the belief that it holds the key to improved performance which could be as a result of misinterpretation of published data, misleading media reports and advertisement. However, instead of the performance of the athlete to be enhanced; their performance limited and their health status compromised. This might be the reason for poor performances of Kwara State athletes at the last concluded Edo 2020 National Sports Festival as they ended up on 15th position on the medals Table (Punch, 2020).

Study conducted by Sanusi and Oladunni (2013) described the dietary pattern of male athletes in Ibadan, Southwestern, Nigeria, 77.29% of them drink water during sport, 49% others do not eat before sporting activity, while 23.67%, 18.84% and 6.70% of the athletes eat 3 hours before, 2 hours before and 1 hour before performance of sporting activity respectively. Also, a study conducted by Dominic and Onifade (2005) showed that there was adequate dietary knowledge among athletes of University of Ilorin though emphasis was laid on adequate intake of carbohydrate before exercise to ensure optimal reserve of muscle and liver glycogen. It is on this note that the researcher sets out to examine if adjustments were made in compliance with the recommendations on dietary practices that could influence sports performance of Kwara State athletes.

Objectives of the Study

The objectives of the study were to:

a. examine the nutritional knowledge of Kwara State athletes.
b. determine the dietary practices of Kwara State athletes.
c. examine the fitness characteristics variables (body composition, flexibility and muscular strength) of Kwara State athletes.
d. determine the contribution of nutritional practices to fitness characteristics of Kwara State athletes.

Methodology

Ex post facto research design was adopted for the study. The population for the study included 285 registered athletes in Kwara State (Kwara State Ministry of Youth and Sports, 2021). A sample of 86 participants was selected for this study through multi-stage sampling procedure. Random sampling technique was used to select 12 (52%) sports from the total of 23 sports. Proportionate and convenient sampling techniques were used to select 50% of the participants from each of the 12 selected sports. An adapted *Nutrition*-related KAP model *questionnaire* was used as instrument for data collection. Other instruments such as meter rule, none-elastic tape rule, height scale and body fat/hydration monitor scale were used to measure body composition parameters in-line with the recommendations of International Society for the Advancement of Kinanthropometry (ISAK, 2006). The questionnaire was validated while other instruments were calibrated. A reliability coefficient ($r = 0.76$, $p<0.05$) was obtained through pilot test, which signified that the instrument was reliable. A signed copy of informed consent was also obtained from each participant. Descriptive statistics of frequency counts and percentage was used to describe the demographic characteristics, while t-Test and linear regression was used to analyse the formulated hypotheses. The level of significance for testing the hypotheses was set at $p \leq 0.05$.

Results:

Table one: Descriptive Analysis Showing Demographic Characteristics of Kwara State Athletes

Variables		Frequency	Percentage
Gender	Male	48	54.5
	Female	40	45.5
	Total	**88**	**100**
Age-range	13 - 15 years	5	5.7
	16 - 18 years	36	40.9
	19 years and above	47	53.4
	Total	**88**	**100**
Sport Played	Basketball	13	14.8
	Boxing	4	4.5
	Athletics	14	15.9
	Table tennis	4	4.5
	Squash	3	3.4
	Karate	2	2.3
	Weight lifting	2	2.3
	Draft	6	6.8
	Cycling	12	13.6
	Tennis	9	10.2
	Football	13	14.8
	Badminton	6	6.8
	Total	**88**	**100**

Table 1 shows a descriptive analysis of the demographic characteristics of Kwara State athletes who participated in this study (n = 88). Majority of the participants were male 48 (54.5%); majority of the participants 47 (53.4%) were within the age range of 19 years and above; and Athletics presented highest number of participants 14 (15.9%).

Research Question one: Do Kwara State athletes possess adequate nutritional knowledge?

Table two: Descriptive Analysis Showing Nutritional Knowledge of Kwara State Athletes

Rating	Frequency	Percent
Very good	7	8.0
Good	10	11.4
Fair	38	43.2
Poor	33	37.5
Total	**88**	**100.0**

Table 2 shows a descriptive analysis of the nutritional knowledge of Kwara State athletes (n = 88). The assessment revealed that the majority of the athletes 38 (43.20%) had fair nutritional knowledge.

Research Question two: What are the dietary practices of Kwara State athletes?

Table three: Descriptive Analysis Showing Dietary Practice of Kwara State Athletes

Rating	Frequency	Percent
Very Good	1	1.1
Good	22	25.0
Fair	36	40.9
Poor	29	33.0
Total	88	100.0

Table 3 shows a descriptive analysis of dietary practice of Kwara State athletes (n = 88). The assessment revealed that majority of the athletes 36 (40.9%) had fair dietary practice.

Research Question three: What is the fitness characteristics (body composition, flexibility and muscular strength) of Kwara State athletes?

Table four: Descriptive Analysis Showing Fitness Performance of Kwara State Athletes

Variables	Category	Frequency	Percent
Body Mass Index (BMI)	Underweight	15	17.0
	Normal	55	62.5
	Overweight	15	17.0
	Obese Class 1	1	1.1
	Obese Class 2	2	2.3
	Total	**88**	**100.0**
Waist Circumference (WC)	Low risk	81	92.0
	Increased Risk	7	8.0
	Total	**88**	**100.0**
Sit and Reach Flexibility	Excellent	70	79.5
	Good	18	20.5
	Total	**88**	**100.0**

Table 4 shows a descriptive analysis of the fitness characteristics of Kwara State athletes (n = 88). Majority of the athletes 55 (62.5%) were categorised having 'normal BMI'; 81 (92.0%) of the athletes were ranked at 'Low risk' waist circumference; and 70 (79.5%) of the athletes were rated having 'Excellent' flexibility.

Hypotheses Testing

H_{o1}: There is no significant difference in the nutritional knowledge between male and female athletes in Kwara State.

Table five: Independent Sample t-test Analysis of Difference between Nutritional Knowledge of Male and Female Athletes in Kwara State

Nutritional Knowledge	N	Mean ± SD	Mean Difference (MD)	T	f	Sig.
Male	48	12.13 ± 4.01				
			-0.57	-0.77	86	0.444
Female	40	12.70 ± 2.99				

$p \leq 0.05$

Data summarised in Table 5 revealed that female athletes (n=40) had a slightly higher mean score (12.70 ± 2.99) than the male athletes (n = 48) mean score (12.13 ± 4.01). The difference was however, not significant t=-0.77, p>0.05. This implies that both male and female athletes in Kwara State have similar level of nutritional knowledge. Based on this finding, the null hypothesis was upheld.

H_{o2}: There is no significant influence of nutritional knowledge on dietary practices of Kwara State athletes.

Table six: Chi-square Analysis of Influence of Nutritional Knowledge on the Dietary Practices of Kwara State Athletes

	Value	df	Sig.
Pearson Chi-Square (χ^2)	4.78	9	0.853
Likelihood Ratio	5.38	9	0.800
Linear-by-Linear Association	0.01	1	0.939
Total	88		

$p \leq 0.05$

Result summarised in Table 6 revealed that there was no significant influence of nutritional on the athletes' dietary practice $\chi^2(9) = 4.78$, $p > 0.853$. Based on this finding, the null hypothesis was upheld. This implies that the athletes' dietary practices are not dependent on their knowledge of nutrition.

H_{o3}: There is no significant influence of dietary practices on selected fitness characteristics of athletes in Kwara State.

Table seven: Chi-square Analysis of Influence of Dietary Practices on Fitness Characteristics of Kwara State Athletes

	(χ^2)	df	Sig.
WC	0.67	3	0.880
BMI	18.54	12	0.100
Flexibility	3.19	3	0.363
VO2max	10.74	12	0.552
Total Valid Cases	88		

$p \leq 0.05$

Table 7 presents the summary of Chi-square determining the influence of dietary practices on the fitness characteristics of Kwara State athletes (n=88). The result

revealed that dietary practices had no significant influence on all fitness characteristics: Waist Circumference [$\chi^2(3) = 0.67$, $p > 0.880$], VO_2max [$\chi^2(12) = 10.74$, $p > 0.552$], BMI [$\chi^2(12) = 18.54$, $p > 0.100$] and flexibility [$\chi^2(3) = 3.19$, $p > 0.363$] of Kwara State athletes. Based on this finding, the null hypothesis was upheld. This implies that the athletes' fitness performance is not dependent on dietary practices.

Discussion of findings

This study determined the influence of dietary practices on fitness characteristics of Kwara State athletes. The study found that there was no significant difference between the nutritional knowledge of male and female athletes in Kwara State. This finding is contrary to assertion of Heaney, O'Connor and Michael (2011) that sex is one of the main factors influencing knowledge of nutrition. Higher levels of nutrition knowledge have been reported in those with higher education or socio-economic status and greater levels of nutrition knowledge have been typically found in middle-aged as opposed to younger or older persons (WHO, 2011). Numerous factors including taste, convenience, food cost or security and cultural or religious beliefs influence dietary intake.

Findings from this study also established that there was no significant influence of nutritional on the athletes' dietary practice in Kwara State. Eating behaviour seems to correlate with the level of nutritional knowledge, and findings from this study showed that nutritional knowledge is a dominant factor influencing eating behaviour and nutritional status of athletes (Sedek & Yih, 2014). It is possible that athletes consumed extra calorie based on the required energy that support excellent performance. However, this does not only impact physical performance but also nutritional status and health.

Knowledge of good nutrition is pivotal for athletes' overall heath and optimum performance in sports (Mase, Miyawaki, Ohara & Nakamura, 2015). Consequently, an excellent nutritional knowledge will contribute to healthy diet intake, particularly calorie regulation, nutritional element diversity, increase in fruit and vegetable consumption, as well as healthy diet arrangement according to the sports branches. Athletes' eating behaviour is an indicator of nutritional knowledge and athlete nutritional needs. Nutritional element is vital for young athletes for physical performance during the sports, and also optimal growth and development (Prather, Hunt, McKeon, Simpson, Meyer, Yemm & Brophy, 2016).

Findings from this study also indicated that dietary practices did not significantly influence the fitness characteristics of athletes in Kwara State. Poor knowledge of nutrition could hinder adequate nutritional intake and in turn precipitate imbalance of micronutrients and macronutrients, as well as fluid intake. There would be an imbalance between macro and micronutrients intake, as well as liquid consumption. Many young athletes are found to have a lack of nutrition knowledge, low eating behaviour, low confidence in their physical appearance and poor performance (Merawati, Sugiharto, Andiana, Susanto & Taufiq, 2019). Nutritional knowledge is related to fat mass reduction and better performance of an athlete. On average, athletes have got low knowledge of nutrition; the educational background and income level affect the level of their nutritional knowledge (Saribay & Kirbas,

2019). Good nutrition knowledge especially in athletes could have a positive impact on the quality of food intake and performance.

Numerous factors that may influence physical fitness include the nutritional status and physical activity. The nutritional status consists of height, weight, and physical activity, such as daily activities. Components of physical fitness are determinants of the degree of the condition of everyone. Once athletes' eating routines and movement activities is affected, body energy expenditure will be equally affected (Spronk, Heaney, Prvan & O'Connor, 2015). Obesity occurs because of the imbalance between the energy consumption and energy expended. Nutritional problems are caused by an imbalance between nutritional intake or adequacy needs (Nascimento, Silva, Ribeiro, Nunes, Almeida & Netto, 2016).

Conclusions

Based on the findings of this study, the following conclusions were drawn: male and female athletes have similar level of nutritional knowledge; athletes' dietary practices are not dependent on their nutritional knowledge; and athletes' fitness characteristics are not dependent on dietary practices.

Recommendations

Based on the conclusions, the following were recommended: adequate and up-to-date nutritional information should be provided to both coaches and athletes by the appropriate institutions in charge of sports; athletes should adhere strictly to and embrace new development particular in the area of nutrition in sports as it greatly influences performance; and athletes and coaches should give attention to other factors that affect performance other than dietary practices such as personal and environmental factors.

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FEMALE GENITAL MUTILATION AND EMOTIONAL HEALTH OF THE GIRL-CHILD IN IFE CENTRAL LOCAL GOVERNMENT AREA OF NIGERIA

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Abstract

Female Genital Mutilation (FGM) is one of the Harmful Traditional Practices still perpetuated in Africa and especially in Nigeria. The aim of the study is to ascertain the perceived effect of FGM on the emotional health of the Girl-Child in Southwestern, Nigeria. Descriptive research design was adopted for the study and a 10-item self-structured questionnaire was used to collected data from 200 respondents, selected from Ile-Ife, Osun State, South West, Nigeria. Results indicated that most of the respondents (68 %) agreed that Female Genital Mutilation (FGM) had negative impact on the emotional health of the girl-child, also, most of the respondents (60%) believe that there are better ways to promote the well-being of the Girl-Child without resorting to Female Genital Mutilation. conclusively, 93% agreed that advocates of the eradication of Female Genital Mutilation (FGM) should give priority to the emotional health of the affected Girl-Child, the study concluded that Female Genital Mutilation significantly affects the emotional health of the Girl-Child and recommends that all stakeholders should work together to stop this Harmful Traditional Practice (HTP)and that affected individual should be provided with psychological support to cope with the aftermath of FGM.

Key Words: Advocacy, emotional health, Girl-Child, Female Genital Mutilation; Stress,
Psychological support,

Introduction

Female Genital Mutilation (FGM) is the removal of some or all parts of the external female sex organ. The United Nations Population Fund (UNPF) (2022) described FGM otherwise known as female genital cutting and female circumcision, as all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for cultural or non-medical reasons.

Female Genital Mutilation (FGM) FGM includes all procedures that intentionally alter or cause injury to the female genital organs for non-medical reasons (WHO, 2014).

FGM is usually arranged to coincide with a traditional festivity, and it becomes a kind of a rite of passage into womanhood, or age grade. In Nigeria, crude instruments are mostly used for the operation. A knife, a piece of glass or razor blade and other sharp objects that are unsterilized are often used. According to Persson, et al, (2007) after excision, sand, mud, ash, herb or animal dung is employed to arrest bleeding. In some

cultures, it is performed in large group of girls while in others it is a private family issue that is performed in the privacy of the home. The procedure usually takes up to 20- 30 minutes but the healing process can be lengthy especially in type 3 mutilation where the legs are tied together for 2-6 weeks (Little, 2003). The age at which FGM is performed differ from one community to the other in most parts of Nigeria, but most especially 7-8 days after birth, before the age of four, at puberty, just before marriage or when a woman is pregnant for the first time (National Association of Nigeria Nurses and Midwives 1992. Odutan, & Onadeko, (1979). Various reasons have been given for performing FGM. In some communities' people believe that the clitoris will grow larger like a third leg if not cut or that the clitoris will kill the baby or man when they touch or look at it (WHO, 2008, & Persson, et al, 2007). Female Genital Mutilation is not only a practice experienced by African communities anymore. It has spread to other parts of the world and has become a global issue through the increased rates of immigration and search for better living standards. FGM was a practice performed on the girls and women due to cultural beliefs that female genital mutilation (FGM) is used to signify a rite of passage from childhood to adulthood. To simplify that one is ready for marriage and other responsibilities that married women have, all of which have physical, psychological and social consequences, which occurred before and after the mutilation procedure. Daniyar et al (2018) posited that FGM practice have a lot of major medical and psychosocial consequences. Which may include severe haemorrhage, shock, trauma, pains sepsis, death, as well as long term issue such as chronic pelvic pains, infertility, painful intercourse, reduced sexual desires, marital dis harmony, emotional trauma, coital bleeding, increased need for an episiotomy, obstetric haemorrhage and fistula. Keel (2014) identified affective (mood) or anxiety disorder as emotional outcomes of FGM. Post traumatic stress disorder (PTSD) such as depression and memory loss have been identified as some of the psychological impact on FGM.

FGM has been reported to be practiced in many Nigerian cultures especially in South Southern, Southeast and parts of Yoruba land (Onuh., Igberase, & Urneora, 2006; Iregbulem 1980). In most cases, it is performed by an elderly woman or a traditional birth attendant while in some countries by health professionals under the name caption of female genital circumcision (WHO, 2008). According to the National Bureau of Statistic (2016) there are more than 250 ethnic groups in Nigeria with the largest groups being Hausa (North) Igbo (South East) and Yoruba (South West). However, the South West comprising Ekiti, Lagos, Osun, Ogun, Ondo and Oyo have the highest prevalence of FGM in Nigeria. FGM is a traditional practice in Yoruba communities like most African communities. It was used as a criterion for passage from womanhood, and marriage. FGM was believed was a tool for supressing female sexuality and that, it reduces promiscuity, and enhances chastity. The practice's widespread popularity is based on various religious and socio-cultural factors. The urge to comply with societal conventions, gender identity, marital acceptability, social acceptance, virginity preservation, deep cultural tendencies are only a few reasons for the perpetuation of FGM (Daniyan, et. al. 2017).

In Nigeria women's right are impinged upon through traditional/cultural practices that have been handed down from generation to generation. Most practices which are considered harmful and hazardous to health in our societies are carried out under the auspices of traditional/cultural belief and such is Female Genital Mutilation amongst many.

The effect of Female Genital Mutilation cannot be overemphasised. Amnesty International (1997) identified three (3) focal effects of FGM, namely physical, psychological and sexuality effects. Physicality effects can lead to death, damage to other organs within area of clitoris and labia can occur. Chronic infections, intermittent bleeding, abscesses and small benign tumours of the nerves among others.

World Health organization (WHO 2008) documented some of the implications of female genital mutilation on the health of women and girls. This included death that occurred because of over bleeding. Extreme pain that is caused by the cutting. Traumatic stress caused by what one has to undergo and severe infection that occurred because of the tools used. Other effects included urine retention, injury to neighbouring organs severe bleeding, painful sexual intercourse, and complications in labour and painful periods. In a study on female genital mutilation comprising 28,000 participants, who were the victims of female genital mutilation, it was indicated that other problems such as high risks of caesarean sections and post-partum hemorrhage were reported to be higher among women who were mutilated with type I, II, and III. When comparing to those who were not mutilated (WHO 2008). However, studies conducted by Rahman and Toubia (2000) from Sudan and Somalia indicated negative effects on self-esteem and self-identity among women and girls who are mutilated. FGM also caused psychological problems for the mutilated, many psychological problems as a result of circumcision may include but not limited to been traumatized, having nightmares, anxiety, depression, neuroses and psychosis. Shock and trauma of the operation may contribute to the behaviour dysfunction.
Piroozi, et al (2020) in their study concluded that women who suffer from Female Genital Mutilation/Cutting are more vulnerable to mental health disorders such as depression. Ranina, et al (2023) posited that Post-Traumatic Stress Disorder (PTSD), depression, anxiety and somatisation showed a significantly higher prevalence in women who have experienced FGM/C versus non-mutilated women. Their study showed a high association of FGM/C (and its degree of severity) with psychological disorders such as PTSD, depression, anxiety and somatisation

Statement of the Problem

FGM is widely practiced in Nigeria been the country with the highest number of cases of FGM worldwide and the practice carries with it severe physical and psychological health complications (WHO, 2008; Kizilhan, 2011) and is a human rights abuse against girls and women, which meets the UN definition for torture (United Nations General Assembly, 1984)

In Nigeria, there are still some situations in which children at birth and childhood age are being circumcised in isolation as a result of their cultural and religious beliefs, norms and myths and other similar reasons. FGM is thought to still be widespread in the Southwestern part of Nigeria because critical stakeholders such as grandmothers, mothers, traditional birth attendants, Faith-Based Organisations and members of a community are upholding the practice. There is also the 'medicalization' of the practiced introduced by trained health professionals and community health workers. FGM often mess up the emotions of women because emotional health issues tend to occur more often when people have to deal with traumatic or negative life events. Recounting their experiences could also be a source of stress and embarrassment, which can in turn produced negative emotions.

Despite the fact that the health risks associated with FGM are countless, this harmful practice has continued unabated and the burden is high in Nigeria. It is thus very crucial to create awareness of the health risks to prevent the physical and psychological sexual trauma that follows the practice of FGM. From recent findings, most of the study carried out in many parts of Nigeria focused on awareness, knowledge, attitude and practice of FGM there are no known studies on the emotional health implication of FGM on the Girl-Child in the study area.

Objective

The main objective is to;

ascertain the perceptions of female on the perceived effect of Female Genital Mutilation on the emotional health of the Girl-Child in Ile-Ife, Nigeria

Methods

The descriptive survey research design was adopted for the study. Population comprised of female residing in Ile-Ife and its environs in Osun State Nigeria. Sample size consisted of 400 respondents selected using the convenient sampling technique. A self-structured research instrument tagged 'Female Genital Mutilation and Emotional Health Questionnaire' (FGMEHQ) was used to elicit information on the perception of respondents on the emotional health implication of Female Genital Mutilation (FGM) on the Girl-Child in the Southwestern part of Nigeria. The instrument consisted of two sections. Section A deal with the demographic characteristics of respondents aged between 18 years old and above while section B is a 10-item questionnaire. A pre-test post-test of 14 days interval was conducted to ascertain if the designed instrument can measure what it was intended to measure. A 0.74 co-efficient alpha was returned thereby authenticating the reliability of the instrument. Data were administered and collected on the spot. Data collected were coded and analysed using descriptive statistics of frequency counts and percentage. Oral consent was obtained from each respondent before administering the instrument for assessment in conformity with the declaration of Helsinki.

Results

Table 1: Demographic Characteristics of Respondents

Demographic Characteristics	Variable	Frequency	Percentage
Status	Married	230	57.5%
	Single	170	42.5%
Total		**400**	**100%**
Level	Employed	60	15%
	Self-employed	220	55%
	Unemployed	120	30%
Total		**400**	**100%**
Religion	Christians	264	66%
	Muslims	130	32.5%

	Traditionalist	6	1.5%
Total		**400**	**100%**
Age	Under 30	240	60%
	Above 30	160	40%
Total		**400**	**100%**

Table I revealed the demographic characteristics of the respondents, in which the demographic characteristics of the respondents are shown. The sample was an all-female group, with Christian population (66%) and Muslim (32.5%) and traditionalist (1.5%) Many were married (57.5%) and employed (15%), self-employed (55%) and unemployed (30%) their mean age being 25.5 years old.

TABLE 2: PERCENTILE

DISTRIBUTION OF RESPONDENTS' PERCEPTION ON FGM AND EMOTIONAL HEALTH

Variable	Strongly Agree (%)	Disagree (%)	Not sure (%)
I believe that FGM has a negative impact on the emotional health of the Girl-Child.	286(71.5)	110(27.5)	4(4)
I think that FGM is a cultural practice that should be discontinued	283(70.75)	82(20.5)	35(8.75)
I believe that there are better ways to promote the well-being of the Girl-Child without resorting to FGM	320(80)	60(15)	20(5)
I think educating parents about the negative effects of FGM is an effective way to reduce the practice	290(72.5)	70(17.5)	40(10)
I believe that girls who have undergone FGM should have access to psychological support to help them cope with the emotional impact of the procedure	340(85)	40(10)	20(5)
I believe that FGM has a long- term effects on the emotional health of the Girl-Child.	318(79.5)	56(14)	26(6.5)
I think that the emotional well-being of the girl-child should be given priority in the fight against FGM	297(74.25)	84(21)	19(4.75)
I think that eradicating FGM requires a multi-prolonged approach that includes education, advocacy, and law enforcement.	306(76.5)	74(18.5)	20(5)
I think that the media has a role to play in raising awareness about the negative impact of FGM on the emotional health of the Girl-Child	320(80)	60(15)	20(5)

In my opinion, the Girl-Child's right to be free from FGM should be protected by law.	275(68.75)	85(21.25)	40(10)

Source: Author's Field Work

The table showed that most of the respondents (71.5%) agreed that Female Genital Mutilation (FGM) had negative impact of the emotional health of the girl-child, also, most of the respondents (80%) believe that there are better ways to promote the well-being of the Girl-Child without resorting to Female Genital Mutilation. Majority of the respondents (85%) agreed that girls who have undergone FGM should have access to psychological support to help them cope with the emotional impact of the procedure. 74.25% agreed that advocates of the eradication of Female Genital Mutilation (FGM) should give priority to the emotional health of the affected Girl-Child, also, conclusively, most of the respondents (80%) believed that the media has a role to play in raising awareness about the negative impact of FGM on the emotional health of the Girl-Child.

The test items that concern advocacy, most of the respondents (70.75%) believe that Female Genital Mutilation (FGM) is a cultural practice that should be discontinued while (20.5%) believed that it should continue, and (8.75%) were indecisive, almost all the respondents (72.5%) agreed that educating parents about the negative effects of FGM is an effective way to reduce the practice. Most of the respondents (76.5%) believed that eradicating FGM requires a multi-prolonged approach that includes education, advocacy, and law enforcement while some of the respondents (68.25%) agreed that the Girl-Child's right to be free from Female Genital Mutilation (FGM) should be protected by law.

Discussion

The finding of the present study revealed that Female Genital Mutilation significantly affects the emotional health female (Girl-Child) as respondents indicated that FGM had negative impact of the emotional health of the girl-child and believe that there are better ways to promote the well-being of the Girl-Child without resorting to Female Genital Mutilation. This finding is consistent with finding of Piroozi, et al (2020) in their study on FGM, they concluded that women who suffer from Female Genital Mutilation/Cutting are more vulnerable to mental health disorders such as depression. Ranina, et al (2023) also posited that Post-Traumatic Stress Disorder (PTSD), depression, anxiety and somatisation showed a significantly higher prevalence in women who have experienced FGM/C versus non-mutilated women. Their study showed a high association of FGM/C (and its degree of severity) with psychological disorders such as PTSD, depression, anxiety and somatisation. Finding also indicated that girls who have undergone FGM should have access to psychological support to help them cope with the emotional impact of the procedure and that advocates of the eradication of Female Genital Mutilation (FGM) should give priority to the emotional health of the affected Girl-Child. This becomes very imperative as these situations were substantiated by Berggren et al., 2006. The authors posited that victims of FGM reported interpersonal challenges such as feeling different and exposed while interacting with others who are unfamiliar with female genital cutting. Women report working through pain (Perovic et al., 2020), stigmatization during care (Chalmers & Omer-Hashi 2000, 2002; Jacobson et al., 2018), and sensing that their health care preferences are not valued in the same way as

women without female genital cutting (Jacobson et al., 2018). Danielle, et al. (2022) revealed that participants engaged in anti-female genital mutilation discourse and also did "emotional health work" to avoid anticipated trauma in the health care context based on the stigmatization they felt in Canadian society. The current study also believe that advocates of the eradication of Female Genital Mutilation (FGM) should give priority to the emotional health of the affected Girl-Child, and that the media has a role to play in raising awareness about the negative impact of FGM on the emotional health of the Girl-Child. This is consistent with the findings of Rahman and Toubia (2000) who conducted a study in Sudan and Somalia and reported negative effects on self-esteem and self-identity among women and girls who are mutilated and that FGM causes psychological problems for the mutilated, many psychological problems as a result of circumcision may include but not limited to been traumatized, having nightmares, anxiety, depression, neuroses and psychosis. Shock and trauma of the operation may contribute to the behaviour dysfunction,

Conclusion and Recommendations

Based on the findings of the study it was concluded that Female Genital Mutilation (FGM) have negative effects on not just the physical domain but adversely on the subjective domain of any female who have been mutilated.

From the conclusions the following recommendations were derived

- strong advocacy and conscientization should be done in all social institutions about the lack of medical benefits of FGM
- Female Genital Mutilation (FGM) is a cultural practice that should be discontinued
- parents should be educated about the negative effects of FGM is an effective way to reduce the practice.
- girls who have undergone FGM should have access to psychological support to help them cope with the emotional impact of the procedure
- Girl-Child's right to be free from Female Genital Mutilation (FGM) should be protected by law.

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THE SYNERGY OF EXERCISE AND NUTRITION IN THE PREVENTION AND TREATMENT OF SARCOPENIA

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Abstract

This paper reviewed the synergy of exercise and nutrition in the prevention and treatment of sarcopenia. Sarcopenia is characterized by progressive and generalized loss of skeletal muscle mass and strength and it is strictly correlated with physical disability, poor quality of life and death. Muscle mass starts to decline around the age of 40, and the loss of muscle tissue may progress more rapidly when a person reaches their 60s and 70s. Ageing well has been declared a global health priority by the World Health Organization, by 2050, the proportion of the world's population aged 60 years is projected to be 22%. Extensive literature review was performed on the synergy of exercise and nutrition in the prevention and treatment of sarcopenia, and findings revealed that; living a sedentary lifestyle and poor diet are the main causes of sarcopenia. However, Exercise, and in particular resistance training; which helps to build lean muscles mass, and adequate nutrition intake through balanced diet, plays vital roles in preventing sarcopenia. It was concluded that proper diet and physical activities helps in the prevention of Sarcopenia, even if muscle loss has occurred, proper diet and resistance exercises can help people with sarcopenia attain a positive outlook and make improvements to the condition.

Key words: Exercise; Nutrition; Prevention; Sarcopenia

Introduction

Skeletal muscle mass and function are lost in sarcopenia, a condition. Even though it is largely a disease of the elderly, several diseases other than aging may contribute to its development. Sarcopenia is a syndrome that is strongly linked to physical disability, a poor quality of life, and death. It is defined by a broad, gradual loss of skeletal muscle mass and strength (Valter, Andrea, Massimiliano, and Marco,

2014). Muscle mass begins to drop at the age of 40, according to the International Osteoporosis Foundation (IOF). When a person is in their 60s and 70s, the loss of muscle tissue could advance more quickly. A person may lose 3 to 8% of muscle mass per decade, while the precise rate of reduction varies. Both a drop in the quantity of muscle fibres as well as a reduction in their size accompany the loss of muscle mass. The muscles atrophy or shrink as a result of the combination of fewer and smaller muscle fibres (IOF, 2017).

According to statistics, there are 19,740,527 sarcopenic people in Europe as of 2016, and that number will rise to 32,338,990 by 2045 (a 63.8% increase). Sarcopenia will affect more senior people overall, going from 20.2% in 2016 to 22.3% in 2045. Women currently make up 66.4% of cases that are common (IOF, 2017). In the USA, 5% of persons 60 years of age and older have inadequate physical strength. 82% had normal muscle strength, whereas 13% had intermediate muscle strength. Reduced (weak and intermediate) muscle strength was more common as people aged, whereas normal strength was less common. With the exception of people aged 80 and beyond, when women were more likely than men to have weak muscle strength, muscle strength status did not differ by sex. Reduced muscle strength was more common in non-Hispanic Asian and Hispanic people than non-Hispanic white people (Anne and Chia-Yih, 2015).

The World Health Organization has proclaimed healthy aging a worldwide health priority. The percentage of people in the globe who are 60 or older is predicted to be 22% by 2050, which is double the percentage that was seen at the beginning of the new millennium (WHO, 2014). The disease sacropenia, which primarily affects the elderly, is characterized by a loss of strength, weakness, endurance, poor balance, and difficulty mounting stairs. In order to prevent the early onset of sarcopenia and expedite the treatment process, this research conducted a literature review on the topic.

Sarcopenia and Risk Factors

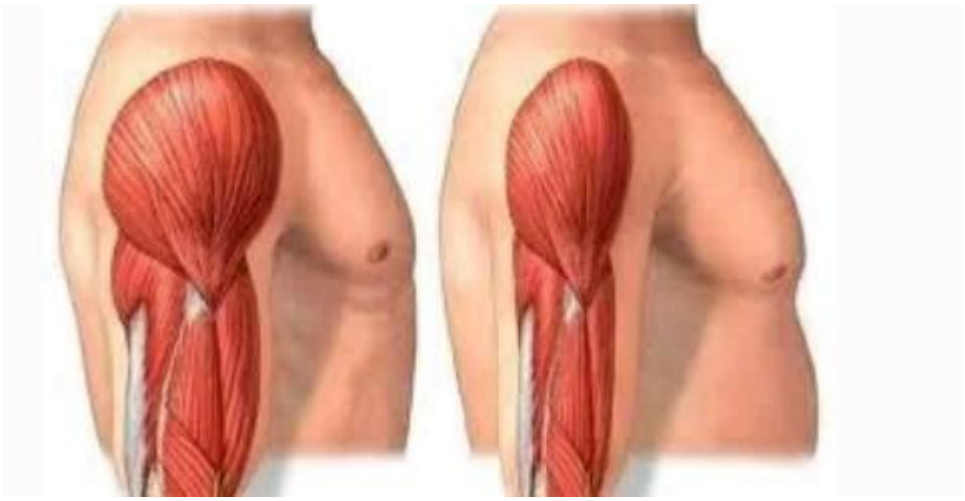
A condition known as sarcopenia is linked to aging. Loss of muscle mass and strength are hallmark symptoms of the illness, which impacts balance, walking, and the capacity to do everyday tasks in general. There is currently no universal agreement on the disease's definition for diagnostic purposes due to its complexity. Sarcopenia is defined by the European Working Group on Sarcopenia in Older People (EWGSOP) as having reduced muscular mass, low muscle strength, or low gait speed (IOF, 2017). Additionally, the EWGSOP released guidelines in 2010 that include specific indicators for sarcopenia.

Pre-sarcopenia, sarcopenia, and severe sarcopenia are three conceptual stagings suggested by EWGSOP. Low muscle mass that has no effect on physical performance or muscle strength is known as the "pre sarcopenia" stage. Only methods that reliably quantify muscle mass in relation to standard populations can pinpoint this stage.

Low muscle mass and strength or poor physical performance are characteristics of the "sarcopenia" stage. When all three of the definition's criteria—low muscle mass, low muscle strength, and low physical performance—are met, the condition is said to be in its most severe state (Cruz-Jentoft, Baeyens, Bauer, Boirie,

Cederholm, Landi et al, 2010).Setting proper recovery goals and choosing therapies may be made easier by being aware of the different stages of sarcopenia.

Fig 1: Loss of muscle mass, strength and function



Normal muscle mass on left, muscle wasting on right. Picture Source: International Osteoporosis Foundation. (2017). https://www.iofbonehealth.org/news/sarcopenia-which-affects-20-european-seniors-may-increase-63-2045

Sarcopenia grows from 14% in people over 65 but under 70 years old to 53% in people over 80 years old (Valter, Andrea, Massimiliano, and Marco Paolon, 2014). A syndrome known as sarcopenia is defined by a broad, progressive loss of skeletal muscle mass and strength, as well as a risk of unfavorable consequences like physical impairment, poor quality of life, and mortality (Delmonico, Harris, Lee, Visser, Nevitt, Kritchevsky, et al, 2007: Goodpaster, Park, Harris, Kritchevsky, Nevitt, Schwartz, et al, 2006). Sarcopenia is mostly brought on by age, however additional factors also contribute to the loss of muscle mass (MaryAnn, 2017).They consist of:

vi. **Living a sedentary lifestyle:** Sarcopenia may be more likely to develop in those who have sedentary lifestyles and spend a lot of time at desk jobs. Additionally, persons who regularly engage in little to no physical activity are more likely to age with sarcopenia.

vii. **Poor nutrition:** While poor nutrition can harm anyone at any age and can contribute to the development of sarcopenia, it may also have an impact on how quickly muscle mass falls in older persons. The tendency for older persons to consume less can result in malnutrition. Up to 41% of women and 38% of men over 50 may consume less protein than the daily recommended amount, according to IOF (2018).

Prevention of Sarcopenia

There are not enough words to express how important leading an active lifestyle is for preventing sarcopenia and a host of other disorders when it comes to sarcopenia. Numerous studies demonstrate the benefits of strength training and aerobic exercise in preserving muscle mass and delaying the onset of sarcopenia as people age. Additionally, research has shown that nutrition is crucial (IOF, 2018). The use of exercise and nutrition to prevent sarcopenia is covered in detail below.

Exercise Interventions in the prevention of Sarcopenia

Exercise is quite good at preventing sarcopenia, especially resistance training (or strength training) (IOF, 2018). According to Landi, Marzetti, Martone, Bernabei and Onder (2014), consistent prevention of frailty and improvement of sarcopenia and physical function in older persons can only be achieved by regular exercise. Exercise improves aerobic conditioning and/or strength, which increases aerobic capacity, muscle strength, and endurance. Exercise and physical activity have at least the same positive impact on elderly patients as they do on younger ones. Resistance exercise has an impact on hormones, protein synthesis, and the neuromuscular system, all of which, when out of balance, contribute to sarcopenia.

Resistance training is a potent intervention to combat muscle loss, physiological vulnerability, and their crippling effects on physical functioning, mobility, independence, managing chronic diseases, psychological well-being, quality of life, and healthy life expectancy (Fragala, Cadore, Dorgo, Izquierdo, Kraemer, Peterson, et al, 2019). In addition to the foregoing, resistance training (RT) appears effective in preventing all aspects of sarcopenia and obesity in women, leading to notable gains in muscular mass, strength, and functional capacity as well as a reduction in body fat mass, especially when combined with hypocaloric diets that contain at least 0.8 g/kg of protein in body weight (Petroni, Caletti, Dalle Grave, Bazzocchi, Aparisi, et al, 2019). In addition, Resistance training is the best way to increase muscle strength and mass, and resistance training can significantly improve muscle strength, particularly in institutionalized patients, by 110% (Aguirre and Villareal, 2015). Furthermore, a planned resistance training is an effective counter measure to prevent or reduce the adverse effects of the sarcopenia improving the quality of life. The physical activity should be personalized and adapted to subject's age and/or disability (Marini, Sarchielli, Brogi, Lazzeri, Salerno, Sgambati, et al, 2008). Also, in advanced age, physical activity is effective at mitigating sarcopenia, restoring robustness, and preventing/delaying the development of disability (Marzetti, Calvani, Tosato, Cesari, Di Bari, Cherubini, et al, 2017). Since sarcopenia affects all skeletal muscles in the body, Beckwée, Delaere, Aelbrecht, Baert, Beaudart, Bruyere, et al, (2019), recommended from their systematic review findings that training the large muscle groups in a total body approach is beneficial. Although low-intensity resistance training (≤50% 1RM) is sufficient to induce strength gains, they recommend a high-intensity resistance training program (i.e. 80% 1RM) to obtain maximal strength gains. Multimodal exercises and blood flow restriction resistance training may be considered as well. Additionally, Ivko, Prashchayeu, Ilnitski, Mamedov, and Burtsev (2019) stated that a program of geriatric prevention of illnesses related with the risk of dynapenia and sarcopenia might be recommended that includes both aerobic and anaerobic exercise. Individuals must execute at least one to two RT exercises on the trunk, upper and lower extremities, and both for at least three months in order to successfully build muscular growth and strength. Gait training is necessary to enhance walking abilities (Okura, 2014). According to Phu, Boersma, and Duque (2015), physical exercise has shown to be useful in enhancing muscle mass and function as well as in reducing disability and frailty in older people, whether it is combined with or without protein supplementation. A regular exercise regimen that incorporates resistance and endurance exercise training would have a significant favourable impact on sarcopenic muscle through improved muscular mass, strength, and function in addition to the health benefits of exercise on metabolic and cardiovascular disorders.

Nutrition Interventions in the prevention of Sarcopenia

Given that sufficient nutrition intake has a significant role in avoiding sarcopenia, proper nutrition must be in place for exercise training to be effective in the prevention of sarcopenia.

Sarcopenic people appear to consume significantly lower levels of various micronutrients and macronutrients compared to non-sarcopenic participants, according to Beaudart, Locquet, Touvier, Reginster, and Bruyère (2019). These findings imply that sarcopenia and poor musculoskeletal health may be linked to an unbalanced diet. However, studies have indicated that in order to maintain adequate levels that support muscle building, older persons may require more protein per kilogram than their younger counterparts (IOF, 2018).

Additionally, older adults who consume dairy products may lower their risk of frailty, particularly if they consume large amounts of low-fat milk and yogurt. They may also lower their risk of sarcopenia by increasing their skeletal muscle mass by including nutrient-rich dairy proteins like ricotta cheese in their regular diets (Cuesta-Triana, Verdejo-Bravo, Fernández-Pérez, and Martn-Sánchez, 2019). Amino acids are among the nutrients that people consume that directly stimulate the creation of muscle proteins. Particularly, the necessary amino acid leucine serves as a stimulatory signal. Essential amino acids with a leucine content increase the effectiveness of stimulating muscle protein synthesis in elderly people by overcoming anabolic resistance. Ingesting essential amino acids over a prolonged period of time, along with exercise, can effectively combat sarcopenia by boosting skeletal muscle mass, strength, and walking speed in senior people (Kobayashi, 2018).

An adequate intake of proteins, vitamin D, and other nutrients is required in the prevention and treatment of frailty and Sacropenia, according to recent literature on the subject (Cruz-Jentoft and Woo, 2019). Furthermore, dairy products contain proteins with a high biological value, as well as vital fatty acids, certain antioxidants, vitamins and minerals, particularly calcium and vitamins B2 and B12. Despite the fact that its fat is primarily saturated (at 65%), it does not appear to have a negative impact on cardiovascular risk and may even have a slight preventive benefit.

More than 75% of people consume less calcium than is advised, and since dairy products account for more than 50% of the calcium in the average diet, increasing dairy product consumption may be advisable. The birth weight, length, and bone mineral content of the kid are all positively correlated with moderate milk intake during pregnancy. Consuming dairy products reduces the incidence of type 2 diabetes, metabolic syndrome, gallbladder and colorectal cancer, coronary heart disease, and myocardial infarction in adults. Importantly, consumption of dairy products is linked to a lower risk of vertebral fractures and sarcopenia in older adults (Ortega, Jiménez, Perea, Cuadrado, Aparicio, and López, 2019). Additionally, an isocaloric control protects appendicular muscle mass in obese older individuals with a hypocaloric diet and resistance training program, which may lower the incidence of sarcopenia. This is in contrast to a supplement high in whey protein, leucine, and vitamin D. (Verreijen, Verlaan, Engberink, Swinkels, de Vogel-van den Bosch and Weijs, 2015).

Furthermore, sarcopenic older people who received a 13-week intervention of a vitamin D and leucine-enriched whey protein oral nutritional supplement showed gains in muscle mass and lower-extremity function. This study provides proof-of-concept suggesting that certain nutritional supplements by themselves may be beneficial for senior patients, particularly for those who are unable to exercise (Bauer,

Verlaan, Bautmans, Brandt, Donini, Maggio, et al, 2015). In addition to increasing strength and fat-free mass in sarcopenic elderly, Rondanelli, Klersy, Terracol, Talluri, Maugeri, Guido et al. (2016) found that supplementing with whey protein, essential amino acids, and vitamin D when combined with age-appropriate exercise improves other factors that contribute to wellbeing. As evidenced by research on the Association of Diet Quality with Low Muscle Mass-Function in Korean Elderly, which found that better diet quality is associated with higher muscle mass in elderly Korean men, a balanced diet is generally necessary for the prevention of sarccopenia and the maintenance of general health (Jung, Park, Kim and Kwon, 2019).

Conclusions

After evaluation, it was determined that while aging is unavoidable, acquiring sarcopenia is not. Fortunately, there are actions people may do to lessen the likelihood that they will lose a large amount of muscle mass. Sarcopenia can be avoided with a healthy diet and regular exercise. Even if muscle loss has already taken place, a healthy diet and resistance training can assist sarcopenic individuals maintain a good outlook and improve their condition.

Recommendations

After the review, the following recommendations were made;

i. There is the need for the consumption of balanced diet at all times, and most importantly, the consumption of high quality protein to prevent, slow or the treatment of sarcopenic muscles loss.

ii. Aerobic, resistance, and combined exercise training regimens have been proven to show the most beneficial effects on the improvements of lean body mass. Hence, these exercises are recommended in the prevention of sarcopenia, and for the improvement of the overall health. Importantly, any physical exercise with the purpose of preventing sarcopenia should be tailored to the subject's age and/or impairment.

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CARDIORESPIRATORY FUNCTIONS AND JUMP PERFORMANCE OF BADMINTON PLAYERS IN OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, OSUN-STATE, NIGERIA

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Abstract

The study investigated the cardiorespiratory functions and jump performance of badminton players in Obafemi Awolowo University. It also examined possible sex-related differences in cardiorespiratory functions and jump performance characteristics of players. These were with a view to providing information on the patterns of cardiorespiratory functions and jump characteristics typical of collegiate badminton players.

The study adopted a descriptive survey research design. The population for the study were the badminton players of Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria. The sample comprised of ten male and five female badminton players selected from the Obafemi Awolowo University Badminton Team using the intact class sampling procedure. Eight instruments were used for data collection, a digital sphygmomanometer was used for recording blood pressure, height, weight and BMI was measured using an electronic BMI scale (SECA 769), a digital stopwatch (Philip Fitness-Pro 328) was used for timing performances, a non-extensible fibre-tape was used to measure jump height, and data were recorded in a data sheet. All measurements were carried using standard protocols prescribed by the American College of Sports Medicine (ACSM 2023). The data collected were analysed using descriptive statistics of frequency, mean and standard deviation, t-Test statistics was used to compare data of male and female badminton players and Pearson's moment correlation was used to correlate cardiorespiratory functions and jump performance.

The results showed that male and female athletes in the study were within ages 19.00±2.45yrs and 19.00±0.55yrs respectively. They measured 168.20±6.14cm and 157.42±6.82cm in height and they weighed 67.10±5.67kg and 57.04±3.12kg respectively. Their BMI were 23.70±1.70kg/m^2 and 23.00±1.58kg/m^2 respectively. Male and female badminton players had heart rates of 73.23±9.57bpm and 74.86±7.76bpm respectively. Their systolic blood pressure values were 122.03±3.20mmHg and 119.13±3.64mmHg for male and female respectively, while their diastolic blood pressures were 79.03±3.07mmHg and 71.13±4.59mmHg for diastolic blood pressure. Male and female badminton players have VO_2Max of 25.39±2.52ml.kg-1.min-1 and 20.49±1.6152ml.kg-1.min-1 respectively. Male and female badminton players jumped 11.40±1.84cm and 10.60±1.14cm respectively. They were not significantly different in systolic blood pressure (t=-0.06, P>0.05) but were significantly different in diastolic blood pressure (t=0.96, P<0.05). The results also showed that both sexes were significantly different in VO_2 Max (t=0.79, P<0.05). No relationship was found in the cardiorespiratory functions and jump performance of badminton players.

The study concluded that were gender differences in diastolic blood pressure, resting heart rate and VO2 max among University badminton players

Key Words: *Heart rate, Blood pressure, Variability, BMI, Athletics, Ball game, Rackets*

Introduction

Attempts to explain changes in the cardiovascular dynamics, which includes but not limited to heart rate, blood pressure, cardiac output and stroke volume during exercise have been the focus of many researches in the field of exercise science over the years. Heart rate and blood pressure variability during low to intensive physical activity is an important index of physical fitness, health and general wellbeing of individuals. The human cardiovascular system is highly adaptive and is capable of responding to multiple physical demands. According to Hughson and Tschakovsky (1999) the cardiovascular system manifests adaptation through a series of integrated responses occasioned by the need to meet the increasing metabolic demands of the exercising muscles. These cardiovascular adjustments, which may even precede the onset of the actual exercise experience helps the body in coping with the heightened demands of the working muscles. Early in the 21st century, Aubert et al. (2003) had described the heart rate as one important cardiovascular parameter for gauging the intensity of exercise. It thus constitutes a key variable when considering the dose-response relationship in an exercise programme and prescription. Like other parameters of the cardiovascular system, the heart rate is mostly controlled by autonomic regulation through the activity of the sympathetic and parasympathetic pathways of the autonomic nervous system (Aubert et al. 2003). The heart rate maintains a linear relationship with the intensity of exercise and is affected by changes in the baroreflex phenomenon, sympathetic and parasympathetic mechanisms (vagal tone) and general autonomic functions. It thus varies with increases in the intensity and duration of exercise. Increasing evidence suggests that heart rate and blood pressure variability during low-intensity acute aerobic running can be used to assess an athlete's health, performance, and overall readiness for competition. Moreover, evidences abound in the literature of a strong correlation between blood pressure and cardiovascular mortality, with higher blood pressures being associated with a higher incidence of cardiovascular disease. Physical activity performed at regular intervals have been found to reduce risk of developing cardiovascular diseases, such as coronary heart disease and stroke, by improving cardiorespiratory fitness, reducing blood pressure, and reducing cholesterol levels (Yeh, 2011; Lima-Silva et al. 2016, Patel et al., 2018, and Esteves et al. 2018).

The values of regular exercise in maintaining a healthy weight, reducing stress and improving the overall quality of life and wellness has also been documented (Patel et al., 2018). Mild to moderate aerobic exercise has been found to effectively mitigate existing cardiovascular conditions such as hypertension, heart failure, and peripheral artery disease (Yeh, 2011).Exercise which is a subset of physical activity is the medium by which the efficiency of the cardiovascular system is enhanced and evaluated. The benefits of exercise in the prevention of cardiovascular disease have been exhaustively described in the works of many researchers (American College of Sports Medicine (ACSM) 2009, Kenney, Wilmore and Costil 2012, Heyward and Gibson 2014, Wei et al. 2017, LaMonte et al. 2019, and O'Gorman et al. 2020) A systematic review of the physical activity-cardiovascular disease prevention literature by LaMonte et al. (2019) concluded that even short bouts of physical activity can reduce the risk of cardiovascular disease. LaMonte and colleagues noted that physical activity is associated with improved vascular function and reduced circulating biomarkers of cardiovascular disease. In a similar review, Xing, Yang, Wang, Feng,

Dong, & Zhang, (2020) found both aerobic and resistance exercise potent in reducing the risk of CVD especially when combined with other lifestyle interventions. The authors concluded that while aerobic exercise, such as running, can cut-down the risk of CVD by up to 37%, resistance training, such as weight lifting, can mitigate the risk by up to 11%. Despite the numerous benefits of exercise and physical activity to health in general and the cardiovascular system in particular, increasing rates of urbanization and its associated behavioural changes have led to a higher prevalence of a sedentary lifestyle globally. This negative trend has provoked several learned and scientific discourse leading to notable position stands and recommendations such as the Surgeon General's Report on Physical Activity and Health, the position stands of the American College of Sports Medicine and the American Heart Association. It is an age long consensus that exercise is beneficial to human health and general wellbeing. One question that has spurred debates and inquiries is how much of exercise is required to yield the desired benefits and at what point or level of intensity does adverse reactions set in? Scholars; (Mutikainen et al. 2009; Hottenrott, Ludyga and Schulze 2012; Akinbiola, Adeniran and Ogunlade 2019; Akinbiola, Adeniran and Yekini 2020) have continued in their attempts to unravel whether cardiovascular dynamics are better modified with low intensity exercise or exercise performed at higher intensities. According to the American College of Sports Medicine (ACSM 2009), the dose-response question is also very vital in recommending physical activity. It explains the relation between increasing doses of physical activity and changes in a particular parameter.

An in-depth knowledge of the dose-response relationship in exercise prescription is very important, particularly when dealing with a population with special needs or those with increased risk of developing cardiovascular myopathies or other chronic diseases. For instance, since physical activity had been found to be beneficial to every person irrespective of age, sex, status and health conditions, one could easily recommended a mild dose of low to moderate intensity exercise to a child, the aged, the hypertensive and sedentary individuals, thus mitigating the risk of cardiovascular events.

Statement of the Problem

Studies have indicated a strong correlation between cardiovascular health and performance of physical activity and exercise tolerance has remained the foremost indicator of cardiovascular fitness even in the clinical setting. There are evidences in the literature supporting the remodelling of the athlete's heart in terms of structure and function, a phenomenon often used to juxtapose the athlete's superiority over his non athlete counterpart in relation to cardiovascular fitness. This superiority often manifests in form of lowered heart rate and reduced blood pressure at rest and quick return to baseline values following the cessation of an exercise. It may seem implicit that physical activity or exercise would benefit the cardiovascular system, however, findings from some studies; such as the ones implying that a reduction of the heart rate and blood pressure variability could be related to autonomic dysfunction, chronic-degenerative diseases, and increased mortality risk; and those suggesting that small increases in HR variability could decrease mortality risk among individuals with congestive heart failure, have pointed to the need for more research on the intensity and type of exercise that best suits different categories of people. This study therefore examined the cardiorespiratory functions and jump performance profile of badminton players in Obafemi Awolowo University, Ile-Ife, Nigeria.

Purpose of the Study

The study investigated the cardiorespiratory functions and jump performance of badminton players of Obafemi Awolowo University, Ile-Ife, Nigeria. It specifically sought to;

i. determine the cardiorespiratory functions (resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and VO_2max) of badminton players in the study area;
ii. determine jump performance characteristics (vertical jump) of badminton players in the study area;
iii. investigate possible gender-related differences in cardiorespiratory functions and jump performance characteristics of badminton players in the study area; and
iv. examine possible relationships between cardiorespiratory functions and jump performance characteristics of badminton players.

Research Questions

The study will proffer answers to the following questions,

1. What are the cardiorespiratory functions (resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and VO_2max) of badminton players in Obafemi Awolowo University (OAU), Ile-Ife, Nigeria?
2. What constitutes the jump performance characteristics (vertical jump) of badminton players in the study area?
3. Are there gender-related differences in cardiorespiratory functions and jump performance characteristics of badminton players in the study area?
4. Are there relationships between cardiorespiratory functions and jump performance characteristics of badminton players in Obafemi Awolowo University, Ile-Ife, Nigeria?

Methodology

The sample comprised of 15 badminton players drawn from the badminton team of the Obafemi Awolowo University, Ile-Ife using intact sampling technique. Players were in camp for the 26th edition of the Nigeria University Games (NUGA), which held at the University of Lagos in 2022. The study was cleared by the Obafemi Awolowo University's Teaching Hospital's Research Ethics Committee (OAUTHREC). Participants had been screened for cardiovascular disease risk factors through a medical history and screening questionnaire and they were duly informed of the research procedures before they gave written consent. Height and weight were measured and BMI was estimated with an electronic BMI scale (SECA 220). Resting heart rate and blood pressure were recorded with a digital sphygmomanometer (OMRON M6 Comfort) while participants sat on a straight backed chair in a relaxed position, Jump performance (vertical jump) was recorded in conformity with the protocol of the American College of Sports Medicine, ACSM reviewed by Bayles (2023) and test data were recorded in a data sheet. Data was analysed with the IBM SPSS® software. Descriptive statistics of means and standard deviations was used to describe data and a t-Test statistics was used to compare data of male and female badminton players, Pearson correlation was computed to correlate cardiorespiratory variables and jump performance of players.

Results

The results showed that male and female athletes in the study were within ages 19.00±2.45yrs and 19.00±0.55yrs respectively. They measured 168.20±6.14cm and

157.42±6.82cm in height and they weighed 67.10±5.67kg and 57.04±3.12kg respectively. The means of male and female's BMI as summarised in Table 1 were 23.70±1.70kg/m^2 and 23.00±1.58kg/m^2 respectively.

Table 1: Demographic Characteristics of Study Participants

	Sex	N	X	SD
Age in Years	Male	10	19.00	2.45
	Female	5	19.00	0.55
Height in cm	Male	10	168.20	6.14
	Female	5	157.42	6.82
Weight in kg	Male	10	67.10	5.67
	Female	5	57.04	3.12
Body Mass Index	Male	10	23.70	1.70
	Female	5	23.00	1.58

This study sought to determine the cardiorespiratory functions (resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and VO_2max) of badminton players in Obafemi Awolowo University, Ile-Ife, Nigeria. Results summarised in Table 2 describes the cardiorespiratory parameters of male and female players in the study.

Table 2: Cardiorespiratory functions and Jump performance of Badminton players

	Sex	N	X	SD
Systolic B.P. (mmHg)	Male	10	122.03	3.20
	Female	5	119.13	3.64
Diastolic B.P. (mmHg)	Male	10	79.03	3.07
	Female	5	71.13	4.59
Resting H.R. (BPM)	Male	10	73.23	9.57
	Female	5	74.86	7.76
VO_2 Max(ml.kg-1.min-1)	Male	10	25.39	2.52
	Female	5	20.49	1.61
Vertical Jump Height(cm)	Male	10	11.40	1.84
	Female	5	10.60	1.14

Male and female badminton players had mean heart rates of 73.23±9.57bpm and 74.86±7.76bpm respectively. Their systolic blood pressure values were 122.03±3.20mmHg and 119.13±3.64mmHg for male and female respectively, while their diastolic blood pressures were 79.03±3.07mmHg and 71.13±4.59mmHg for diastolic blood pressure. Male and female badminton players have VO_2Max of 25.39±2.52ml.kg-^{1}.min-^{1} and 20.49±1.6152ml.kg-^{1}.min-^{1} respectively. With respect to their jump performances, male and female badminton players jumped 11.40±1.84cm and 10.60 ±1.14cm respectively.

To determine possible gender-related differences in cardiorespiratory functions and jump performance of badminton players, an independent samples t-Test statistics was computed. The results of t-Test is summarised in Table 3.

Table 3: Gender comparison of the cardiorespiratory functions and Jump performance of Badminton players

	Mean Difference	Sig.	t	df	Sig. (2-tailed)
Systolic B.P.(mmHg)	2.90	0.09	-0.06	13	0.95
Diastolic B.P.(mmHg)	7.90	0.50	0.96	13	0.35*
Resting H.R.(BPM)	-1.63	0.68	-0.33	13	0.75
VO_2 Max(ml.kg-1.min-1)	4.90	0.52	0.79	13	0.45*
Vertical Jump Height(cm)	0.80	0.29	0.88	13	0.39*

Data summarised in Table 3 showed that male and female badminton players were not significantly different in systolic blood pressure (t=-0.06, P>0.05) but were significantly different in diastolic blood pressure (t=0.96, P<0.05). The results also showed that while male and female badminton players were not significantly different in resting heart rates (t=-0.33, P>0.05), they were significantly different in VO_2 Max (t=0.79, P<0.05). When the two genders were compared in terms of jump performances, significant difference was found in their vertical jump heights (t=0.88, P<0.05). The relationships between cardiorespiratory functions and jump performance characteristics of badminton players in the study were examined using Pearson's Product Moments Correlation (PPMC), the result of the analysis is presented in Table 4.

Table 4: Correlation matrix showing relationship between cardiorespiratory functions and Jump performance

Variables	Sex	Age	Height(cm)	Weight(kg)	S.B.P.	D.B.P	RHR	VO_2 Max	V.J
Sex	—								
Age(yrs.)	-0.07	—							
Height(cm)	-0.65*	-0.12	—						
Weight(kg)	-0.71*	-0.14	0.76*	—					
S.B.P	-0.40	0.04	0.16	0.37	—				
D.B.P	-0.74*	0.26	0.14	0.32	0.62*	—			
R.H.R.	0.09	-0.01	-0.16	0.08	0.42	0.03	—		
VO_2 Max	-0.74*	0.46	0.36	0.43	0.39	0.72*	0.18	—	
V.J.	-0.24	0.02	0.00	-0.01	-0.38	0.19	-0.69	0.07	—

S.B.P = Systolic Blood Pressure, D.B.P = Diastolic Blood Pressure, R.H.R = Resting Heart Rate, V.J. = Vertical Jump Height

The results summarised in the correlation matrix Table 4 showed that there were no correlations between any of the cardiorespiratory functions and jump performance of badminton athletes in the study (systolic blood pressure r = -0.38, P>0.05; diastolic blood pressure r = 0.19, P>0.05; resting heart rate r = -0.69, P>0.05 and VO_2 max r = 0.07, P>0.05) respectively.

Discussion

Physiological traits contribute substantially to optimum performance in sports and blood pressure and heart rate are two important indicators of cardiovascular health. This study also reported gender difference in diastolic blood pressures. Parket

al. (2017) had reported that female athletes presented significantly lower systolic and diastolic blood pressures when compared with their male counterparts. In a related study, Petek, Drezner and Harmon (2022) found that male athletes had significantly higher systolic and diastolic blood pressures than the female athletes. Nystoriak and Bhatnagar (2018) had reported that female athletes exhibited lower diastolic blood pressure responses compared to males during submaximal exercise bouts. The authors attributed this difference to variations in vascular and cardiac adaptations between genders. More recently Törpel, Peter and Schega (2020) investigated blood pressure responses to resistance exercise in male and female athletes and reported that female athletes demonstrated lower diastolic blood pressure levels compared to their male counterparts during both rest and exercise conditions. With regards to resting heart rate, the gender-related difference reported by this study is in tandem with the submissions of Thayer, Sollers, Friedman and Koenig (2016) from their meta-analysis on gender differences in resting heart rate among healthy individuals. They reported that females generally exhibited slightly higher resting heart rates compared to males across different age groups. These differences were attributed to variations in autonomic nervous system activity and hormonal influences. Other authors such as Reimers, Guido and Carl-Detlev (2018) were unanimous in their position that female athletes tended to have slightly higher resting heart rates compared to male athletes. These gender-related disparities in resting heart rate were linked to physiological differences in cardiac function and autonomic control. VO2 max, or maximal oxygen uptake, is a key physiological parameter that reflects an individual's aerobic capacity and ability to utilize oxygen during exercise. It's widely regarded as one of the most important indicators of cardiovascular fitness and endurance performance. This study found a significant gender-related difference in this physiological parameter among collegiate badminton players. Sharma and Kailashiya (2016) had investigated gender differences in VO_2 max among trained athletes and they observed that male athletes typically exhibited higher VO_2 max values compared to female athletes, even after adjusting for differences in body composition. These disparities were attributed to differences in cardiovascular and respiratory physiology, such as larger heart size and higher haemoglobin levels in males. More recently also, Santisteban, Lovering, Halliwill and Minson (2022) concluded from a meta-analytic study that male athletes generally demonstrated higher VO_2 max values compared to female athletes across different age groups and fitness levels and they also attributed the differences to variations in aerobic capacity and muscle mass between genders.

Conclusion

The study concluded that were gender differences in diastolic blood pressure, resting heart rate and VO_2 max among University badminton players and that these disparities are influenced by various physiological factors, including differences in cardiovascular function, hormonal profiles, and body composition.

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