AWARENESS AND IMPLEMENTATION OF SPORTS SCIENCE AND MEDICINE COMPONENT OF NATIONAL SPORTS POLICY: A MIRAGE OR REALITY?

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Abstract
Modern day sport is now a multi-billion dollar industry which is capable of providing huge return on investment to investors and creating economic prosperity for athletes and other stakeholders. Based on the significance of sports science and medicine on sports performance, several nations, organizations and establishments have formulated policies to guide sports development, Nigeria inclusive. However, the level of awareness and implementation has been established. Therefore, this study assessed awareness and implementation of 2009 National Sports Policy among coaches and team officials in National Youth Games (NYG). This study is a descriptive correlational survey; the population comprised all the 348 coaches and officials in of the 6th National Youth Games. A sample size of 264 respondents was randomly selected. The instrument for data collection was a semi-structured Questionnaire which was validated by experts in the related fields and found reliable at 0.73r. Four null hypotheses were formulated and tested with inferential statistic of Chi-square test of association. Significance level was set at 0.05 alpha. All the hypotheses were not retained because there was statistically significant relationship for all the variables; for hypothesis one ($HO_{1)}$; $X^2(6, N=264) = 74.83$, $p=.00$, for HO_2; $X^2(2, 264) =24.13$, $p =.00$ among others. It was concluded that; awareness and implementation of the sports science and medicine component of the policy was very poor among other conclusions. The study recommended among other that; experts in sports science and medicine such as exercise physiologists, sports nutritionists, sports psychologists, physical rehabilitation therapists and clinical sports medicine practitioners should be recruited and attached to sport teams.

Keywords: Medicine Component, Implementation, Policy, Youth

Introduction

Sports can be contextualized as a competitive physical activity guided by certain rules and regulations which provides amusement to the participants and spectators alike. The early definitions of sports centered on competitive physical exertion between individuals or teams which has a strong capacity to entertain its audience known as spectators. Given the social, psychological and health benefits of participation in sports, its economic value cannot be over emphasized. This implies

that, sports has grown beyond mere source of entertainment or avenue for exhibition of physical prowess but a means of livelihood to the millions of participants (athletes), spectators and other stakeholders worldwide. To further confirm the economic potency of sports, Australian sports industry economic analysis (2020) revealed that sports industry contributed $14.4bn to the gross domestic product (GDP) of the country. In the same vein, West of England Sport Trust(2012) indicated that sports sector contributed £876.7m to the GDP and that sports provided 14,365 employment opportunity which is more than 50% of job opportunities generated by water, gas electricity and waste management sectors combined. Brazil which hosted 2014 FIFA world Cup added 7.5billion Brazillian Real (BRL) accrued to Brazilian economy. Contrarily, sports contributed insignificant 0.005percent to national GDP in Nigeria (Yemi, 2020).

Despite the massive contribution of sports to developed economies like Europe, America and Asia, sports is still considered a small business in Nigeria but has a huge economic potential if well harnessed. Minister of Sports (Sunday Dare) stated in his address while speaking at the 26th Nigerian Economic Summit webinar themed "Re-categorization of Sports as a Business Sector of the Economy' that sport industry is labour-intensive and has the capacity to deliver N2 trillion revenue in infrastructure development in the next 5-10years. This implies that sports industry has a strong capacity to develop Nigeria economy if properly explored.

Apart from the enormous economic contribution of sports to national and global economy, it is also considered a strong instrument for national unity, social cohesion, gender equality, social capital development among others in many countries of the world, Nigeria inclusive (Oluwabukunmi,2019). Just like other countries, Nigeria has a policy road map for sports development known as "National Sports Policy of Nigeria". The policy was first drafted in 1989(Samuel & Solomon, 2013; Aibueku, 2002). Since the original draft, the policy has been reviewed several times to address the contemporary challenges in sports. It has thirteen(13) elements which includes; "*Administration and management, finance/sponsorship, training and development of technical personnel, facilities, athlete identification and development, sport in education, sport science and sport medicine, incentives, awards and sanctions, sport, culture and tourism, sport and the physically challenged, sport & information and national orientation, sport and*

international image, sport and environment and sport and security".

Policy implementation can simply be considered as a process of putting thoughts into action or translating theory into reality. This policy is widely considered rich and sufficient for sports development in Nigeria if well implemented (Samuel & Solomon, 2013). Due to the rising popularity of scientific approach to performance in sports, the national sports policy of 2009 has sports science and sports medicine component which includes the following as stated in the policy paper; sport science and sport medicine shall include; exercise physiology, biomechanics, sport nutrition, sport psychology, clinical sport medicine, sport physiotherapy and rehabilitation

To achieve the objective of this policy, the National Sports Commission shall; integrate a scientific approach into the training and preparation of athletes for participation in competitive sports, apply the principles of sport science and sport medicine in developing potentials of athletes for high performances in major competitive sports, put in place a continuous medical monitoring programme of athletes' health in and out of competitions especially with respect to injury prevention and rehabilitation, give consideration to environmental factors such as temperature and altitude in the selection of training and camping sites for national teams, encourage use of Sports Psychologists and Nutritionists to ensure optimal performance of athletes, conduct fitness assessments as means of determining and monitoring fitness levels of athletes, institute a national pre-participation medical screening programme for athletes with a view to identifying factors that may preclude participation, establish a well-equipped National Sport Medicine and Sports Science Centre to achieve the objectives of providing quality sport medicine care, seek to develop a National Anti-Doping policy that shall effectively confront the challenges of doping and drug use in sport in compliance with the objectives of the World Anti-Doping Agency (WADA) and the International Olympic Committee (IOC).

To ensure sports development and performance enhancement, it is expected that all the elements of sports science and sports medicine be implemented as stated in the policy and this represents the concept of "reality". However, if it is not implemented, it is considered a "mirage". Literally, mirage connotes an optical illusion of the existence of an image or object that is not real or existing. Samuel and Solomon (2013) conducted a study on extent of implementation of sports science and medicine component of the policy and

they reported poor implementation of the sports science and medicine sub component of the policy in the two states covered for the study. The previous study covered just two states out of 37 states including federal capital territory (FCT) with fourty-one (41) respondents. Due to the small sample size, external validity of the study is limited. Furthermore, the previous study by Samuel and Solomon (2013) was conducted in the year 2013 and the current study is being carried out in year 2021, this indicates eight years interval.

In addition, a larger sample was drawn from all the 36 states of the federation including FCT who participated in the year 2021 National Youth Games which held at University of Ilorin, Kwara State. All the limitations of the previous study have constituted a research gap, hence the need to re-examine the level of implementation of the sports science and sports medicine component of the policy.

Objectives of the Study

1. Find out the level of awareness of the National sports policy among coaches in Nigeria
2. Determine the extent of implementation of the sports science and sports medicine component of the policy
3. Establish relationship between educational qualification and awareness of the policy
4. Find out the relationship between coaching experience and implementation of the sports medicine component of the policy

Hypotheses

$H0_1$: There is no statistically significant relationship between educational qualification and Awareness of the national sport policy among coaches and team officials in National Youth Games

$H0_2$: There is no statistically significant relationship between coaching experience and Implementation of the sports medicine component of the policy among coaches and team officials in National Youth Games

$H0_3$: There is no statistically significant relationship based on gender and awareness of the policy among coaches and team officials in National Youth Games

$H0_4$: There is no statistically significant relationship based on gender and implementation of the sports medicine component of the policy among coaches and team officials in National Youth Games

Methodology

The design for this study was a descriptive correlational survey.

All the three hundred and fourty eight (348) team officials and coaches that participated in the 6th National Youth Games hosted by University of Ilorin in year 2021 constituted the population for this study. The total population of the coaches was one hundred and ninety three (193) and the team officials were one hundred and fifty five(155)and the total population was three hundred and fourty eight(348). The population was classified into two strata namely; coaches and team officials. Research advisor (2006) sample size determination was used to randomly select one hundred and thirty two (132) respondents in each of the stratum. A total of two hundred and sixty four (264) respondents were selected for this study as sample. A semi-structured questionnaire was developed by the researchers consisting two sections; demographic and a section eliciting responses on awareness and implementation of the sport science and sport medicine component of the national sports policy. Part of the contents of the sport science and medicine were used to develop the instrument. Five (5) items were structured to obtain data on awareness of the policy and seven (7) items were also constructed to elicit responses on the implementation of the policy, altogether, twelve (12) items were developed for both variables. Drafts of the questionnaire were validated by experts in sports administration and management and experts in exercise science for content and construct validity. Modifications were made based on the experts corrections before final administration of the instrument to the respondents. The instrument was tested for reliability using Chronbach alpha. It was found reliable at 0.73 and this indicates moderate reliability, hence, the suitability of the instrument to obtain the data. The data was described using frequency, mean and standard deviation. Chi-square test of association was used to test the null hypotheses for significance at 0.05 level and Cramer's V was used to determine the strength of association between the variables.

Results

Table 1: Demographic Distribution of the Respondents

Variable	Mean(x)	Frequency	Percentage
Age(yrs)			42.3
Gender			
Male		170	64.4
Female		94	35.6
Highest Educational Qualification			
Primary School Cert		48	18.4
NCE		24	9.1
B.Sc.		146	55.3
HND		46	17.4
Coaching Cadre			
Assistant Coach		23	17.4
Gade 1		48	36.4
Head Coach		48	18.6
Chief Coach		13	
Job Experience (yrs)			
0-3		46	17.4
4-7		48	18.2
8-11		72	27.3
12-15		74	28.0
16 and above		24	9.1
Total		**264**	**100**

The mean age was 42.30yrs and mode for was 44.0yrs. This indicates that majority of the respondents were in the middle age according to classification of World Health Organisation (2021). Based on gender, there were more male coaches and officials 170(64.4%) against female 94(36.6%). Analysis of Educational qualification revealed that; 146(55.3%) had a Bachelor Degree (B.Sc.), 46(17.4%) had Higher National Diploma, 24(9.1%) had National Certificate for Education (NCE) and 48(18.2%) had primary school certificate. Therefore, majority of the respondents were Bachelor Degree holder.

The distribution of the coaches by cadre also indicates that; 23(8.7%) were Assistant coaches, 48(18.2%) were grade 1 coaches, 49(18.6%) were Head coaches and just 12(4.5) were Chief Coaches. From the statistics, Grade 1 and Head coach formed the majority as indicated by the figures. Based on job experience, the distribution in table 1 also shows that 74(28.0%) of the respondents had spent 8-11 years and 72(27.3%) had spent 12-15 years on the job. This connotes that majority had spent between 8-15 years on the job as either a coach or a team official.

Table 2: Analysis of Responses Based on Awareness of the National Sports Policy

S/N	ITEMS	YES	PR	NO	NR	RT
1	Are you aware of the National Sports Policy?	193	(73.1%)	71	(26.9%)	264
2	Are you aware that the Policy was formulated to control, regulate and promote sports in Nigeria?	193	(73.1%)	71	(26.9%)	264
3	Do you know that the policy has a sports science and sports medicine component?	73	(27.7%)	191	(72.3%)	264
4	Do you have a copy of the Document?	120	(45.5%)	144	(54.5%)	264
5	Are you familiar with the sports science and medicine component of the policy?	12	(4.5%)	252	(95.5%)	264
	Total			**591 (44.8%)**	**729 (55.2%)**	**1320 100%**

KEY: PR= Positive Response, **NR**=Negative Response, **RT=** Row Total

Table 2 indicates the percentage of positive (44.8%) and negative responses (55.2%) on the awareness of National Sports Policy. The positive response was calculated by dividing the column total for YES responses (591) by row total (1320) and this gives 44.8%. Also, the negative response was calculated by dividing the column total for NO responses (729) by the row total (1320) and this equals 55.2%.

Table 3: Analysis of Responses based on Implementation of Sport Science and Sports Medicine Component of the Policy

S/N	Items	Yes	PR	NO	NR	RT
	Do you conduct fitness assessment to determine and monitor your athletes' fitness levels?	121	(45.8%)	143	(54.2%)	264
	Do you ensure medical screening for your athletes prior to training and competition to preclude participation?	85	(32.2%)	179	(67.8%)	264
	Does your team have a sports nutritionist that formulates diet for your athletes for optimal performance?	23	(8.7%)	241	(91.3%)	264
	Does your team have a trained camera man that takes images and record videos of athletes during training and competition for laboratory analysis?	24	(9.1%)	240	(90.9%)	264
	Are medical crew attached to your team to monitor athletes' health?	49	(18.6%)	215	(81.4%)	264
	Do you have fitness experts like exercise physiologist, physical therapist, fitness instructors that handle fitness and conditioning of your athletes?	169	(64.0%)	95	(36.0%)	264
	Is your team attached to a specialist hospital for treatment of athletes in case of injury or ill health?	36	(13.6%)	228	(86.4%)	264
				508 (27.4%)	**1341 (72.6%)**	**1848 100%**

Table 3 displays the percentage of positive (27.4%) and negative responses (72.6%) on the implementation of sport science and sports medicine component of National Sports Policy. The positive response was calculated by dividing the column total for YES responses (508) by row total (1848) and this gives 27.4%. Also, the negative response was calculated by dividing the column total for NO responses (1341) by the row total (1848) and this equals 72.6%. The interpretation of these figures is that; just 27.2% of the sport science and sport medicine component of the policy had been implemented while a huge percentage of 72.6% of the component had not been implemented. This simply denotes that the component is largely unimplemented based on the responses by the coaches and team officials.

Testing the Hypotheses

Table 4: Relationship between coaching Experience and Implementation of the Sports Science and Medicine Component

Hypotheses	**X^2-Value**	**df**	**P-Sig.**	**Cramer's V**	**Decision**
HO_1	74.83	6	.00	.37	Not retained
HO_2	24.13	2	.00	.30	Not retained
HO_3	179.55	16	.00	.41	Not retained
HO_4	51.77	4	.00	.44	Not retained

$p \leq 0.05$

For hypothesis one ($HO_{1)}$; $X^2(6, N=264) = 74.83$, P =.00, for HO_2; $X^2(2, 264) = 24.13$, P =.00, for HO_3; $X^2(16, 264) = 179.55$, P=.00 and for hypothesis four (HO_4); $X^2(4, 264) = 51.77$, P= .00.

The implication is of the figures is that there is statistically significant relationship between all the variables. Also, the Cramer's V results indicated a very strong association between all the variables.

Discussion of Findings

This study assessed implementation of sports science and medicine component of year 2009 National Sports Policy (NSP). Based on the analysis of the responses for awareness of the policy, it was found that 193(73.1%) of the respondents were aware of the policy and 71(26.9%) were not aware of the National Sports Policy. Despite the multitude of media outlets that can be deployed to disseminate information to audience or beneficiaries in the modern day, one would expect that all the coaches and team officials should be abreast of the policy. However, our finding is contrary to the expectation as substantial number

(26.9%) of coaches and team officials were not aware of the policy.

Part of the reasons the awareness level was not 100% among the population could be traceable to poor utilization of social media platforms and maybe the policy is not usually emphasized during in-service training which is conventionally known as refresher courses among other reasons. Just like every other policies globally, NSP was formulated to control, regulate and promote sports development in Nigeria. However, 71(26.9%) did not have the knowledge of the reasons for its formulation; this number is significant to be ignored. Due to the rising popularity and relevance of sports science to optimal performance, NSP also has a sports science and medicine component to cater for the aspect of fitness assessment, nutrition, and scientific approach to training, injury prevention and recovery. Surprisingly, 191(72.3%) of the respondents were not aware that the policy has a provision for sports science and medicine, also, 252(95.5%) of the respondents were not familiar with the contents of the sports science component.

This could be as result of the fact that Nigeria government is yet to attach more importance to sports as reflected in the contribution of sports sub sector to the national gross domestic product (GDP). Therefore, the usual primitive and unscientific method of recruitment, fitness assessment and monitoring, training and injury treatment still persists. Going by all the metrics of awareness of the component, it can be deduced that it is still very poor among the respondents. Similarly, descriptive analysis of the level of implementation of the sports science component of the policy revealed that; 145(54.2%) of the coaches and team officials did not conduct fitness assessment to monitor athlete's fitness level. Also, 179(67.8%) of the coaches did not ensure medical screening for the athletes prior to training and competition to preclude participation. Similarly, few of the teams 23(8.7%) had sports nutritionist to formulate diets for athletes to enhance performance, while, a large percentage 241(91.3%) did not have a sports nutritionist attached to the teams. Specially formulated diets and routine fitness assessment are essential for sports performance and are the prerequisite for athletic excellence, especially, at this formative age of the national youth athletes.

Motion analysis in the laboratory is a significant aspect of sports science where a recorded movement of athletes is analysed to diagnose and correct movement defects. However, 240(90.1%) respondents indicated that their teams had not trained camera man to take motion

pictures for analysis. Interpretatively, it means most of the teams had no trained camera man. This reason for this could largely be connected to the huge cost of cameras and relative scarcity of specially trained motion camera man. This study also found that most of the teams had no medical crew to monitor athletes' health as 215(81.4%) of the respondents indicated negatively. The analysis also revealed that 215(81.4%) of the respondents claimed that their teams had fitness experts like exercise physiologists, physical therapist or fitness instructors while 49(18.6%) of the respondents indicated otherwise. Lastly, 228((86.4%) indicated that their teams were not attached to any specialists hospital for treatment of athletes in case of injury or ill health.

Considering the importance of physical conditioning and the stress that vigorous physical activity such as playing sports places on the physiological system, it is expected that all the teams should have qualified fitness experts and the teams should be attached to at least a specialists hospital to provide qualitative medical care for the athletes, coaches and other members of the team in case of illness or injury. Some of the reasons for these observations may predicated on; paucity of fund, failure to take into cognizance the need for the experts and the appalling state of national health care system among others. Furthermore, it was hypothesized that there is no statistically significant relationship between educational qualifications and awareness of the sports science and medicine component of NSP. However, Pearson chi-square of independence indicated a statistically significant relationship; $X^2(6,264) = 74.83$, P =.00. This means that there was a positive relationship between educational qualification and level of awareness of the sports science component. Also, there was statistically significant relationship between coaching experience and implementation of the policy; $X^2(2, 264) = 24.13$, P =.00. This result also demonstrates that coaching experience which is how long a coach has stayed on the job has a positive bearing on the level of implementation of the sports science and medicine contents of the policy. The higher the educational qualifications of the coaches and team officials, the better the chance of implementation of the sports science component.

It was also hypothesized that there is no statistically significant relationship between gender and awareness. Based on the results of the analysis, the hypothesis was not retained because there was a statistically significant relationship between gender and level of awareness($X^2(16, 264) = 179.55$, P=.00).

This simply signifies that gender is one of the factors to be considered when it comes to awareness of the policy. The descriptive analysis of responses based on gender further revealed that male coaches and team officials had higher level of awareness than their female counterparts. In the same vein, a null hypothesis which stated that there is no statistically significant relationship between gender and implementation was not retained; $X^2(4, 264) = 51.77$, P= .00. This also indicates that gender is a significant factor to implementation of the sports science component of the policy. The analysis of the responses based on gender and implementation showed that male coaches and team officials had better tendency to implement the policy. Lastly, the Cramer's V which is the measure of association or magnitude of effect between two nominal variables indicated a medium association for all the variables as indicated in table 4 (0.37, 0.30, 0.41 and 0.44). This implies that; educational qualification, coaching experience and gender had medium effect on awareness and implementation of the sports science and sports medicine component of the National Sports Policy of Nigeria.

Conclusions

The study concluded that; the level of implementation of sports science and medicine component of the policy was very poor and awareness of the existence of the National Sports Policy among the coaches and team officials was low. The study also established a significant relationship between educational qualification and awareness of sports science and medicine component; coaching experience and implementation of the component, gender and awareness and educational qualification and implementation of the sports science component. It was also concluded that the magnitude of association of all the independent variables (educational qualifications, coaching experience and gender) was moderate as indicated by Cramer's V. Based on these findings, it can be deduced that awareness and implementation of the sports science and sports medicine component of the policy is a mirage and not a reality currently.

Recommendations

1. Experts in the areas of fitness such as exercise physiologists, physical conditioning, sports nutrition and athletic trainer should be recruited and attached to teams by sports administrators
2. Since educational qualification had a bearing on awareness and implementation, coaches should be

encouraged to advance their study for better job performance

3. More awareness should be created to ensure all the stakeholders in sports especially; coaches and team officials are abreast of the policy. This can be achieved by utilizing all the available social media (Facebook, Whatsapp, Telegram, Twitter, LinkedIn, SMS, Google mail and print media). Publicity can also be created by giving attention during refresher courses at all levels and make it mandatory for the coaches and officials to have a copy.
4. The awareness interventions should be targeted more at the female coaches and team officials

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