

Level of Knowledge of Physiotherapy among High School Sports Coaches in Harare, Zimbabwe

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Abstract- The aim of this study was to determine the level of knowledge of physiotherapy among sports coaches in government –administered high schools and determine the factors associated with the level of knowledge in Harare, Zimbabwe. Sports are a fundamental part of human existence across all ages with well documented positive health-related benefits. As such, high school sports form an integral component of the school curriculum in Zimbabwe with adolescents participating in local inter-schools or national competitions under the auspices of school coaches who in most cases are just but school teachers with respective passion for the sport. A recent observation of the inter-scholastic and national sporting events in Harare involving adolescents showed that sports-related injuries are common and the predominant number of these injuries could be avoided or severity reduced if the schools had medical personnel such as physiotherapists incorporated into their teams as resident sports physiotherapists. Physiotherapy has been shown to be important in sports circles with regards to injury prevention, performance enhancement, identification, and immediate management of acute athletic injuries and the long term rehabilitation of injuries in the literature. This prompted an investigation into the level of knowledge of the sports coaches with regards to physiotherapy. A cross-sectional study was conducted targeting sports coaches in the all high schools within the seven educational districts of Harare Province. One school was randomly selected from each educational district and all the sports coaches meeting the inclusion criteria were eligible. One hundred and twenty questionnaires were administered and 102 (85%) were returned completely filled in. The questionnaire used for the study was adopted and slightly modified for the local context from one used in a previous study in South Africa. The questionnaire was evaluated for content validity by experts and tested for reliability in a test re-test preliminary study. The data was analysed descriptively using Statistica version 11 with alpha set for significance at <0.05. The Chi-square test was used to determine the factors associated with the level of knowledge. The median age of the participants was 37 years [Interquartile range= 30-44 years]. Overall, the majority (66.7%) of the sports coaches had adequate knowledge about physiotherapy in terms of the scope of practice, therapeutic benefits, place of work, conditions seen, areas of concern for sports physiotherapists, equipment used and the role of physiotherapists in injury prevention in high school sports. Three-quarters of the sport coaches with adequate knowledge on physiotherapy indicated that their source of information about physiotherapy was mainly the media. The level of knowledge of physiotherapy among the sport coaches was associated with number of years in coaching ($p=0.03$). Although these results show that sports coaches are knowledgeable

about physiotherapy future studies with large sample sizes using mixed methods are needed to evaluate the uptake of physiotherapy services in high schools.

Index Terms- Knowledge, physiotherapy, sports coaches, high schools, Zimbabwe

I. INTRODUCTION

One of the primary goals of the Ministry of Primary and Secondary Education in Zimbabwe is to enable full participation of school-children in sport. To that effect, sport has been made an integral component of the schools curricula across the country. This is laudable given the link between physical inactivity with obesity and cardiovascular disturbances in the young population^{1, 2}. The objective is to encourage school-children to be physically active under the auspices of sports coaches who are usually local school teachers with just but passion in the respective sport. Although the sports coaches are usually forgotten and their views less explored in the literature with regard to sports related injuries during adolescence, the sports coaches play a number of critical roles in high school sports including coaching, screening, physical training, conditioning and advising athletes among other functions. Unfortunately, they usually lack the necessary foundational knowledge and the pre-requisite qualifications for some of these peripheral roles³.

Over the recent years, high school sports for the youth have become organised and competitive in nature worldwide^{4, 5}. In Zimbabwe, a number of critical sporting events organised at national level characterise the high school sporting calendar every year. The most common annual sporting events include the Diariboard Schools Rugby Festival for rugby, National Association of Secondary School Heads Tournament for soccer, and the Zimbabwe National Youth Games for all sports. Together with the usual inter-scholastic sporting competitions for various sports, these events are a testament to the popularity of high school sports in Zimbabwe and the support by educational structures for inclusion of sport in the school curricula. Sports are important for the physical, psychological and emotional health and development of adolescents⁶. However, the downside of increased participation in sport has always been the high risk of injuries². This is a major concern especially if there are no resident or part time medical personnel such as physiotherapists working consistently with the school teams and everything seems to rest with the sport coaches. This implies that the school coaches need to have extensive knowledge not only in coaching

and training of athletes but should also have a deeper understanding on injury prevention measures and be aware of the role of the various medical personnel who can assist high school athletes in the various respects.

Sports have been implicated as a leading cause of musculoskeletal injuries among adolescents in high schools^{2,7,8}. Although absolute rates vary with sport, context and methodological procedures, the overall injury incidence in youth sport has been reported within a range of 1-10 injuries per 1 000 hours⁴. In Zimbabwe, there is dearth of epidemiological data on youth injuries. There are no studies that have been published documenting the extent of this problem. This is a significant shortcoming militating against effective preventative strategies in schools for sports injuries. However, a recent observation of the last editions of the Diariboard Schools Rugby Festival and the Zimbabwe National Youth Games showed that sports-related injuries are common among high school adolescents. Most of the injuries observed were musculoskeletal in nature and were not severe and could have been avoided or the severity reduced through proper education, specific training of essential skills in respective sports, and acquisition of the pre-requisite physical, motor and physiological attributes by athletes. This could be done by the local school sports coaches with the assistance from medical professionals such as physiotherapists. Surprisingly, none of the participating schools or teams in the tournaments had a resident sports physiotherapists with them. Medical support for these national tournaments was outsourced specifically for the tournaments. This situation is similar for the local inter-schools competitions organised at local school level. This observation prompted the researchers to question whether the role of physiotherapists is known in high school sports by sports coaches, directors or coordinators particularly those involved in contact sports and athletics. The primary concerns for lacking adequate physiotherapy knowledge among sports coaches include but not limited to improper rehabilitation of injured and increased recurrence of injuries⁹. The situation in Zimbabwe is similar to other low-income countries. In a study conducted in Rwanda among 360 high school male soccer players aged between 11 and 26 years, showed that the majority of the injuries were not severe and could have been avoided if medical support was available during the entire period of the soccer tournament⁹. There is a general lack of awareness of physiotherapy and its role in the community among people who should have some knowledge by virtue of their position or job^{10,11}. A cross-sectional study conducted in India involving 112 Anganwadi workers popularly known for their pivotal role as village workers in the rural areas reported that nearly 50% of these workers were not aware of the role of physiotherapy in the health sector. This lack of information is surprising given the nature of their job which requires them to identify people within the community with health-related concerns and refer them appropriately. Physiotherapy was not substantially taught in their training with only three percent of the workers indicating that it formed part of their training. Dissayanaka and Bannehekka (2014) conducted a cross-sectional study involving 776 Advanced level high school science students in Sri Lanka to determine the awareness of physiotherapy as a profession among these prospective university students. Surprisingly, the majority of the students (63%) were not aware of physiotherapy as a career, its treatment methods and

its application in disease conditions other than sports injuries¹¹. Sheppard (1994) conducted a national telephonic survey which randomly selected 510 members of the general public in Australia and found that there was little awareness of the full range of services provided by physiotherapists to children and women. Specific studies evaluating the awareness of physiotherapy among sports coaches in high schools are limited in the literature. Studies have investigated the awareness of medical personnel and high school students of physiotherapy^{12,13}. Over the years, research has demonstrated the benefits of physiotherapy with regards to health, injury prevention and treatment in sports^{14,15}. Although there are diverse areas of specialisation, physiotherapists play an instrumental role in injury prevention, performance enhancement, optimising movement efficiency, maximising health, recognition and management of acute athletic injuries, treatment and rehabilitation of injuries, education and research in public and private health institutions, educational settings, sports clubs and work place settings^{10,16-18}. In Zimbabwe, sports physiotherapists work with schools in high school sports at the request of the sports coaches. Therefore, the aim of this study was to determine the level of knowledge of sports coaches in Harare, Zimbabwe working with adolescents in government-administered high schools. Secondly, the study aimed to determine the association between level of knowledge with pre-selected factors such as age, gender, qualifications, years of experience coaching, having a sports physiotherapist at the school, having a sports training certificate and having benefited personally from physiotherapy.

II. METHODS

Study design

The study used a descriptive cross sectional study design to describe and quantify the level of knowledge at one point in time targeting high school sports coaches in government-administered schools within the seven educational districts of Harare Province, Zimbabwe.

Population and sampling

The study targeted all sports coaches from the seven educational Districts in Harare Province, Zimbabwe. The sports coaches were identified as teachers working directly or indirectly with high school adolescents in sport related activities after school in the capacity of a coach, director or coordinator. A cluster sampling method was used to select the schools and the participants. There are 55 government-administered high schools in Harare Province with an equal proportion across the seven educational districts. Initially, a list of all the schools in each district was obtained from the Harare Province Educational office. One school was then randomly selected from each educational district resulting in seven high schools being included in the study. Secondly, all the sports coaches from the selected schools were then eligible to participate in the study provided they met the inclusion criteria for the study. They had to indicate the willingness to participate. Both male and female sports coaches were eligible. Additionally, sport coaches were selected on the basis of having been a coach, director, trainer or coordinator for at least one year in any sporting discipline offered at the school whilst being a full-time school teacher. However,

eligible sports coaches absent on the day of data collection were excluded. From a total of seven schools selected, a convenient sample of 101 sport coaches was recruited.

Instrument

The data was collected using a self-administered English questionnaire with four sections. The questionnaire was adopted and modified for use from a similar study investigating the Premier Soccer League team managers' knowledge on the role of physiotherapy in South Africa¹⁹. Section A collected demographic data of participants including the number of years in coaching and the sport coached. Section B extracted information on the knowledge of physiotherapy through 41 multiple choice questions each with a correct answer expected. The questions ranged from places where physiotherapists can be found, the likely gender of physiotherapists, conditions likely to be seen by physiotherapists, possible roles of physiotherapists in sports, equipment used by physiotherapists, prevention and treatment aspects of physiotherapy which coaches should be familiar because of the nature of their job.

Instrument development

The questionnaire was subjected to content validation according to a criterion illustrated by Yagmale (2003). Three registered physiotherapists with 8.4±2.3 years of experience as sports physiotherapists were recruited to assess whether the instrument adequately covered all the content it is supposed to measure. The experts rated the questionnaire separately, rating each question on a four point scale based on four factors: relevance, clarity, simplicity and ambiguity^{20,21}. For example, the four options available for relevance were 1=not relevant, 2= item need some revision, 3= relevant but need some minor revision, 4= very relevant. This scoring was similar for the other three factors. Experts had the liberty to refine, recommend additions or omissions of the items in the questionnaire. Percentage agreement for the items were compared for the three experts. Of all the questions, 30 (73.2%) were rated four by all the three experts and were left unchanged. However, questions with controversial ratings were either refined based on the suggestions proposed by content experts. The number of questions did not change after the validation. After the validation of the study questionnaire, a test-retest reliability study was conducted at one randomly selected high school omitted in the main study. A convenient sample of 20 high school coaches from two nearby private schools were recruited in the initial test but only 12 questionnaires were completed in the re-test. The participants did know they will be retested after seven days. An analysis of the 12 questionnaires showed substantial to perfect kappa coefficients of 0.72 to 1 for the knowledge questions in the questionnaire based on the Landis and Koch (1977)²² criteria for interpreting the Kappa statistic. An important lesson learnt from the reliability study was to make the necessary prior arrangements with the school authorities for data collection to be conducted smoothly. It was important to notify the school headmasters who would then notify the sports coaches in advance of an impending visit by the researchers. However, no recommendations for change of questions were suggested by the sports coaches.

Procedure

After permission was granted by the Ministry of Primary and Secondary Education (Ref: C/426/3), the researchers got authorisation from the Harare Provincial Education Director (Ref: G/42/1) to conduct the study in schools within Harare Province. Ethical clearance was sought from Joint Research Ethics Committee (JREC/257/13) and the Medical Research Council of Zimbabwe (MRCZ/B/598). In addition, the researchers sought permission from selected schools through the headmasters and the sport coaches signed an informed consent form. Data collection for the main study was conducted for two months from January to March 2014. The seven schools were visited consecutively in the mornings with the questionnaires collected on the day on administration. The researchers targeted tea break sessions when all the school teachers report to the staff room. For sport coaches unavailable during this time had to be visited to their offices separately after school hours. Every questionnaire had an information sheet detailing the rationale of the study to participants. Furthermore, a verbal explanation had to be given to consolidate the information and clarify on issues of concern to sport coaches especially to the meaning of some terms used to describe conditions in the questionnaire which may be interpreted differently such as heart pain, stomach pain and broken bones. Anonymity of the schools and the sports coaches recruited in the study was maintained throughout the data collection.

Data Analysis

Raw data was entered on Excel spreadsheet after coding and then imported onto Statistica version 11 for statistical analysis. Questionnaires with missing data (at least one variable missing) were omitted from the analysis. Data normality was checked using Shapiro Wilk test. Parametric and non-parametric tests were used for normally distributed and skewed data respectively. Frequencies were used and expressed as percentages for age, gender, years of coaching and sport coached. For the level of knowledge, every correct answer was scored as 1 and incorrect answers were scored as 0 to calculate the total score on knowledge for each participant. For statistical purposes, the level of knowledge was dichotomised into two categories: inadequate knowledge (0-20 scores) and adequate knowledge (21-41 scores). Chi-square was used to assess for the association between the level of knowledge and the pre-selected factors. Fishers exact replaced the chi-square test when the expected frequency was less than 5 in any one cell. The level of significance was set at $p < .05$

III. RESULTS

One hundred and twenty questionnaires were administered to the eligible sports coaches. Of the 120 sports coaches approached, 102(85%) completely filled in the questionnaires and were subsequently analysed. Figure 1 illustrates the flow chart of participants in the study. Table 1 shows the baseline characteristics of the participants. Of that total sample, 66(64.7%) were males. The age distribution of the participants was not normally distributed as indicated by Shapiro Wilk test [$W=0.97$, $p=0.15$]. The median age of the sports coaches was 37 years [Interquartile range, IQR=30-44 years]. However, there was no statistically significant difference on the age ranks

between male and female sports coaches according to the Mann Whitney U test [$U= 284, p= 0.81$]. The majority of the sport coaches indicated having a diploma as their highest level of qualification. In terms of coaching experience, the majority (68.6%) of the sports coaches had 1-10 years of experience in high school sports. On average, the coaches had 8.94 years

($SD=3.4$) without a significant difference between the male and female sport coaches [$t (N=102) =0.18, p=0.86$]. Approximately, 30% of the sport coaches were involved in coaching soccer at the time of the study. All the sports coaches (100%) were of black ethnicity.

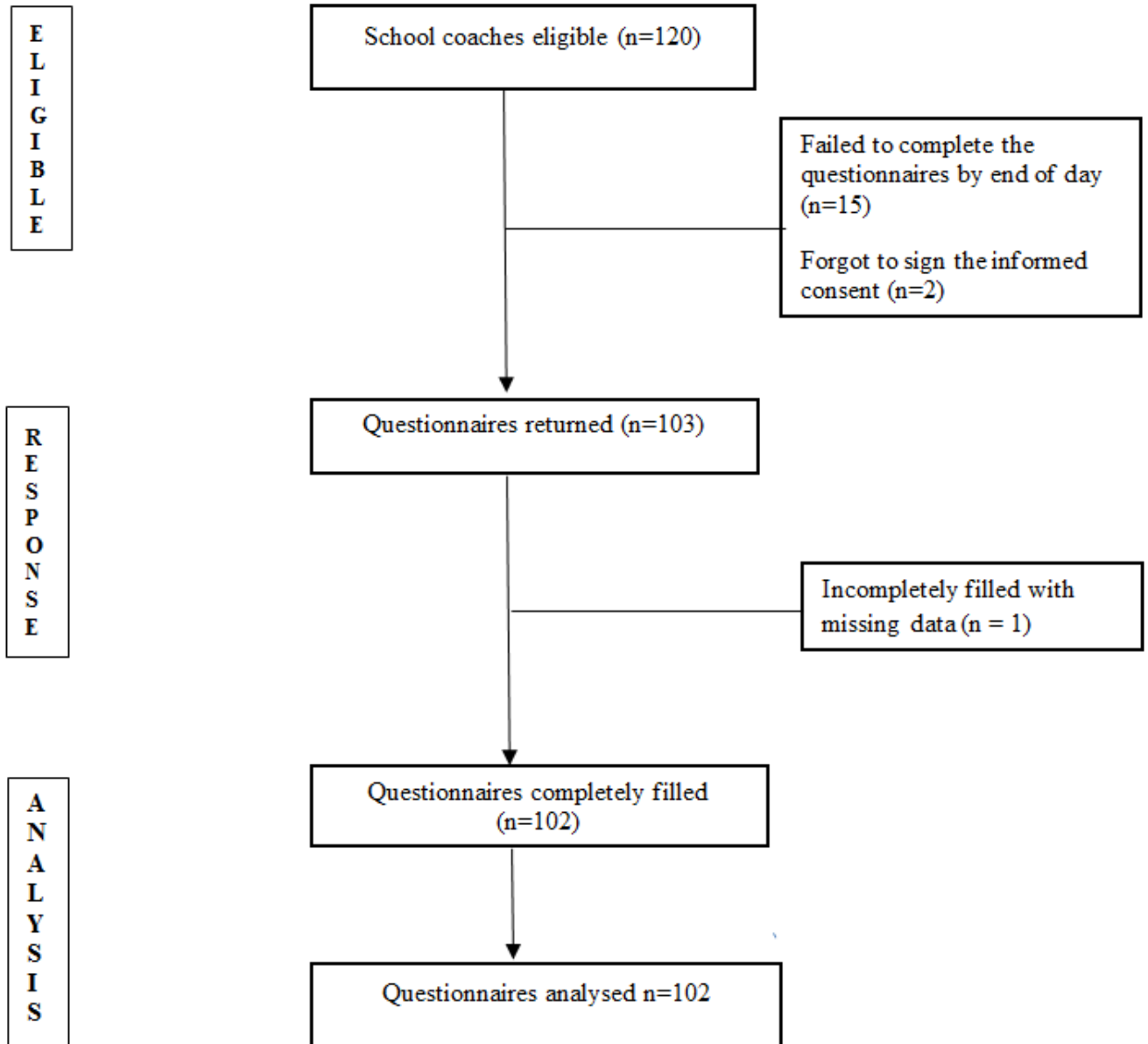


Figure 1: Flow chart of questionnaire distribution

Table 1: Demographic and coaching-related data of participants (n=102)

Characteristic	Response	Frequency n (%)	Cumulative %
Gender	Male	66 (64.7)	64.7
	Female	36 (35.3)	100
Age (years)	21-30	28 (27.5)	27.5
	31-40	36 (35.3)	62.8
	41-50	34 (33.3)	96.1
	51+	4 (3.92)	100
Ethnic group	Black	102 (100)	100
	White	0 (0)	
	Coloured	0 (0)	
	Other	0 (0)	
Level of education	Diploma	88 (86.3)	86.3
	Bachelors	10 (9.8)	96.1
	Masters	4 (3.92)	100
Number of years coaching	1-10	70 (68.6)	68.6
	11-20	20 (19.6)	88.2
	20+	12 (11.7)	100
Sports coached	Athletics	10 (9.8)	9.8
	Basketball	8 (7.8)	17.6
	Cricket	10 (9.8)	27.4
	Handball	4 (3.9)	31.3
	Netball	10 (9.8)	41.1
	Rugby	10 (9.8)	50.9
	Soccer	30 (29.4)	80.4
	Hockey	2 (1.97)	82.3
	Volleyball	18 (17.6)	100

Knowledge about physiotherapy

Table 2 below illustrates responses of the participants on the knowledge items of the questionnaire. The majority of the respondents knew what physiotherapy was about in terms of maximising health (78.4%), optimising movement efficiency (88.2%), identification and management of acute injuries (62.7%), treatment and rehabilitation of injuries (92.2%). Overall, 85.3% indicated that physiotherapy had therapeutic benefits. The majority of the sport coaches knew where physiotherapists were commonly found with 94.1% indicating government hospitals, 90.2% sports clubs and 72.5% hinting on private hospitals or clinics. Rightly so, 96.1% of the total coaches knew that physiotherapists were not found in the funeral parlours. Additionally, the majority of the sports coaches (82.3%) knew that physiotherapy was a bisexual profession with both females and males capable of being physiotherapists. In terms of the conditions commonly referred to physiotherapists, 95.1% indicated muscle pain, 86.2% indicated back pain, 88.2% indicated ligament injuries, and 80.4% indicated joint pain. The majority sport coaches showed awareness in that physiotherapists do not manage stomach pains (92.2%) and cardiac pains (86.3%).

On the possible role of physiotherapists in schools, the majority of the sport coaches indicated that the physiotherapists should assist with first aid treatments (72.5%), sports injury prevention (62.7%) and treatment of sports-related injuries (74.5%). Only a few thought physiotherapists could perform surgeries to injured athletes (37.3%). With regards to the knowledge of equipment commonly used by physiotherapists, the sport coaches knew that physiotherapists use ice (88.2%), exercise machines (90.2%), and prescribe walking aids (82.4%). However, a 31.4% knew that physiotherapists do use electrotherapy equipment. In addition, the sports coaches knew techniques used by physiotherapists such as massage (90.2%), exercises (94.1%) and patient education (80.4%) and what they were unable to do such as prescribing drugs (62.7%) and performing operations (90.2%).

Table 2: Participants responses on knowledge of physiotherapy (n=102)

Question	Responses	Right answer	Wrong answer
Physiotherapy is about	a. Maximising health	80 (78.4)	22 (21.6)
	b. Optimising movement efficiency	90 (88.2)	12 (11.8)
	c. Identification and management of acute injuries	64 (62.7)	38 (37.3)
	d. Treatment and rehabilitation of injuries	94 (92.2)	8 (7.8)
Does physiotherapy have therapeutic benefits?	Yes/No	87 (85.3)	15 (14.7)
Where do physiotherapists work?	a. Government Hospital	96 (94.1)	6 (5.9)
	b. Sporting activities	92 (90.2)	10 (9.8)
	c. Funeral parlour	98 (96.1)	4 (3.9)
	d. Private hospitals/clinics	74 (72.5)	28 (27.5)
Physiotherapists are typically of which gender	Male/Female/Both	84 (82.3)	18 (17.7)
Which of the following factors make a person more likely to be attended to by physiotherapist?	Broken bones	78 (76.5)	24 (23.5)
	Stomach pain	94 (92.2)	8 (7.8)
	Ligament injury	90 (88.2)	12 (11.7)
	Muscle pain	97 (95.1)	5 (4.9)
	Cardiac/Heart pain	88 (86.3)	14 (13.7)
	Joint pain	82 (80.4)	20 (19.6)
	Back pain	88 (86.3)	14 (13.7)
Sports physiotherapist attends to the following areas	a. Injury prevention	64 (62.7)	38 (37.3)
	b. Surgery of an injured athlete	38 (37.3)	64 (62.7)
	c. Injury treatment	76 (74.5)	26 (25.4)
	d. First aid treatment on field	74 (72.5)	28 (27.5)
The equipment used by the physiotherapist includes the following	a. Ice	90 (88.2)	12 (11.7)
	b. Exercise machines	92 (90.2)	10 (9.8)
	c. Electrical machines	32 (31.4)	70 (68.6)
	d. Bandages	84 (82.4)	18 (17.6)
	e. Walking aids	84 (82.4)	18 (17.6)
	f. Training beds	72 (70.6)	30 (29.4)
Does warming up before the game and training reduce the risk of injury?	Yes/No	98 (96.1)	4 (3.9)
Does cool down after the game and training reduce the risk of injury?	Yes/No	94 (92.2)	8 (7.8)
Does strapping before the after the game reduce the risk of injury?	Yes/No	54 (52.9)	48 (47.1)
Does returning too early to play after the injury lead to re-injury?	Yes/No	88 (86.3)	14 (13.7)
Does playing with injury lead to disability?	Yes/No	80 (78.4)	22 (21.5)
Can the physiotherapist conduct training sessions with the team?	Yes/No	72 (70.6)	30 (29.4)
Physiotherapy treatment includes	a. Massage	92 (90.2)	10 (9.8)
	b. Operations	10 (9.8)	92 (90.2)
	c. Exercises	96 (94.1)	6 (5.9)
	d. Medication	38 (37.3)	64 (62.7)
	e. Education	82 (80.4)	20 (19.6)
Physiotherapists provide services	a. during the game matches only	72 (70.6)	30 (29.4)
	b. during training and game matches	82 (80.4)	20 (19.6)
	c. during training matches only	24 (23.5)	78 (76.5)

The majority of the sport coaches knew that physiotherapists could be involved in providing services during training and game matches (80.4%). However, 23.5% of the sports coaches recognised that the importance of physiotherapists during training matches. The coaches indicated to

have knowledge of the following preventative measures: warming up before the game and training (96.1%), cooling down after the game and training (92.2%), returning to play early after an injury (86.3%) and playing with an injury (78.4%).

Table 3: Coaches' level of knowledge on physiotherapy services by gender (N=102)

Level of knowledge (score)	Frequency N (%)	Male N (%)	Female N (%)	$\chi^2(1)$	P value
Inadequate knowledge (0-20)	34 (33.3)	24 (36.4)	10 (27.8)	0.77	0.38
Adequate knowledge (21-41)	68 (66.7)	42 (63.6)	26 (72.2)		
Total	102	66	36		

Table 3 shows that 66.7% of the sports coaches had adequate knowledge about physiotherapy services. There was no statistically significant difference in the level of knowledge between male and female sport coaches. Three-quarters of the sport coaches with adequate knowledge on physiotherapy indicated that their source of information about physiotherapy was mainly from the media. Figure 2 below shows the source of information for the sports coaches for physiotherapy. As indicated in Table 3 below, the level of knowledge of physiotherapy among the sport coaches was associated with coaching experience ($p=0.03$).

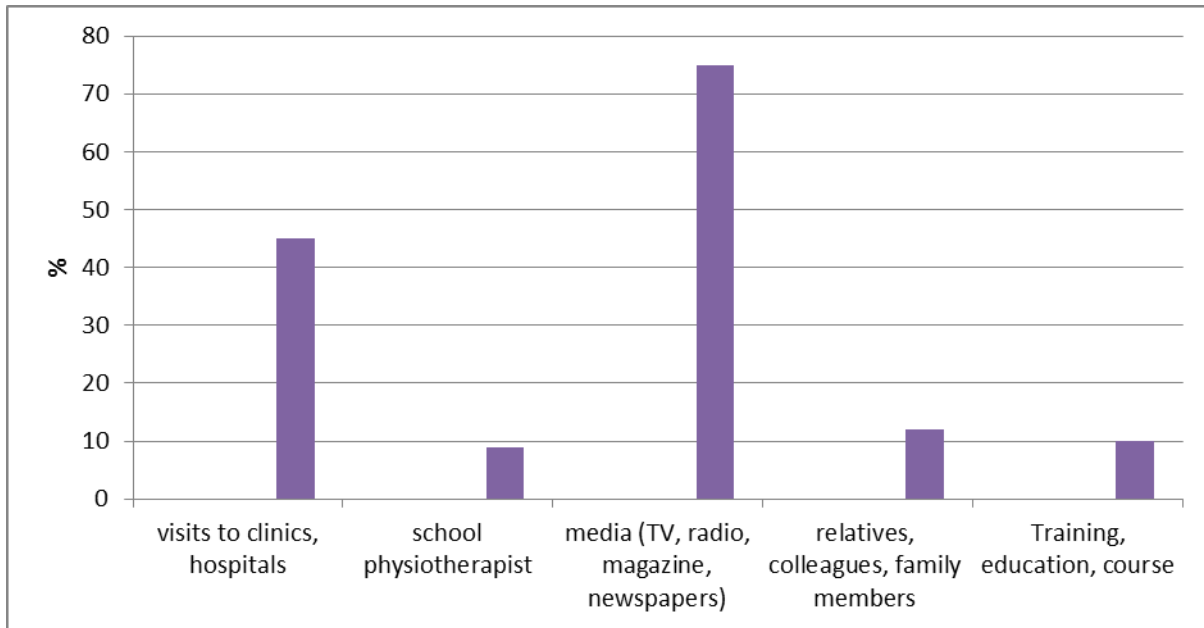


Figure 2: Sources of information for sport coaches with adequate knowledge on physiotherapy (N=68)

Table 4: Factors associated with the level of knowledge for the sport coaches (N=102)

Factors	Responses	Level of knowledge		Total	Statistic	P value
		Adequate Knowledge	Inadequate Knowledge			
Age	≤ 40 years	42 (61.8)	22 (64.7)	64	0.08	0.77
	> 40 years	26 (38.2)	12 (35.3)	38		
	Total	68	34	102		
Qualification	Diploma	57 (83.8)	31 (91.2)	88	Fishers	0.24
	Diploma +	11 (16.2)	3 (8.8)	14		
	Total	68	34	102		
Coaching experience	≤10 years	42 (61.8)	28 (82.4)	70	4.46	0.03
	> 10 years	26 (38.2)	6 (17.6)	32		
	Total	68	34	102		
Sport coached	Team based	60 (88.2)	32 (94.1)	92	Fishers	0.49
	Not	8 (11.8)	2 (5.9)	10		
	Total	68	34	102		
Having a sports physiotherapist at the school	Yes	15 (22.1)	7 (20.6)	22	0.03	0.86
	No	53 (77.9)	27 (79.4)	80		
	Total	68	34	102		
Having a sports coaching training certificate	Yes	9 (13.2)	6 (17.6)	15	0.35	0.55
	No	59 (86.8)	28 (82.4)	87		
	Total	68	34	102		
Having personally benefited from physiotherapy	Yes	7 (10.3)	3 (8.8)	10	Fishers	0.56
	No	61 (89.7)	31 (91.2)	92		
	Total	68	34	102		

IV. DISCUSSION

The study sought to determine the level of knowledge on physiotherapy and its services amongst sports coaches in Harare, Zimbabwe. Studies relating to the knowledge level of sports coaches with regards to physiotherapy services are limited in literature. This renders comparisons with other studies difficult. Although this could have limited participants from fully expressing their concerns, the questions on knowledge were asked as close-ended questions with one correct answer in order to deduce a total score on knowledge for each individual coach. Future studies using mixed methods and larger sample sizes focusing on sports coaches and athletes may provide more useful information. Therefore, this study should be seen as a pilot study describing the baseline level of knowledge of high school sports coaches in government-administered schools with regards to physiotherapy. Nevertheless, the response rate for the study was satisfactory eliminating bias from non-participation and was consistent with other cross-sectional studies evaluating awareness of physiotherapy among members of the community¹¹. The high response rate could be attributed to immediate collection of the questionnaires after being completed by the participants. Moreover, assistance from the school headmasters ensured that all the participants were prepared for the impending visit by the researchers.

The present study showed that 67% of the sports coaches had adequate knowledge about physiotherapy. This was in terms of the scope of practice, place of work, conditions seen, equipment used, and treatment techniques used by physiotherapists. Additionally, the majority (85.3%) of the sport coaches were aware of the therapeutic benefits of physiotherapy and 92.2% indicated that physiotherapy was crucial for treatment and rehabilitation of sports injuries. However, 37.3% of the sports coaches were not aware of the role of physiotherapists play in injury prevention. These findings suggest high school sports coaches in Harare, Zimbabwe government schools are aware of physiotherapy, its services and its role in treatment and prevention of sports injuries in high school sports. This is important for sport coaches in high schools to understand as they can advocate for physiotherapists to be employed on part time or resident basis in high schools as a local resource for injury prevention and treatment. Although studies specifically evaluating awareness of physiotherapy among sports coaches working with high school adolescents are limited, the present study findings are consistent with other studies that found increased awareness of physiotherapy among different participants^{19,23,24}. In the present study, the actual reasons for the adequate knowledge on physiotherapy among sports coaches are unclear but could be related to coaching experience. About 33% of the sports coaches with adequate knowledge had more than ten years of experience in coaching compared to 17.6% of the coaches without adequate knowledge.

It is encouraging to realise that high school sport coaches are aware of physiotherapy and its therapeutic benefits but these

findings create a need for future researches to investigate the uptake of physiotherapy services by schools and the factors favouring or militating against that especially in government-administered schools. Unfortunately, the adequate theoretical knowledge of the importance of physiotherapy by coaches seem not to translate into practical knowledge of acquiring the services of these health professionals. This is evident in the present study with only 21.6% of the coaches indicating having a sports physiotherapist at their school to assist with physical training, conditioning, treatment and rehabilitation of injuries. This decreased uptake of physiotherapy services in government-administered high schools could be due to financial constraints. It could be expensive for the government-sponsored high schools to employ physiotherapists at permanent basis. However, with the ever-increasing emphasis on sports participation among high school adolescents in Zimbabwe by the Ministry of Primary and Secondary Education, there is need for the schools to engage the services of qualified medical personnel on regular basis to assist with the prevention and management of injuries. Sports in high school adolescents have been recognised as a leading cause of musculoskeletal injuries sometimes with long term health-related consequences^{2,7,8}.

Another possible reason for the poor uptake of physiotherapy services in the schools could be lack of formal training of the sports coaches. Quite often, sports coaches are school teachers with but just passion in the respective sport without the necessary pre-requisite qualifications to coach the sport. In the present study, only 15% of the sports coaches indicated having obtained a formal training certificate as a sports coach. However, there was no statistically significant association between knowledge and having obtained a coaching training certificate. This probably indicates that the content of the training courses do not expose the sport coaches to medical information relevant to the sport the coach is involved in. This create a need for conducting medical training workshops sensitising and educating the local high school sports coaches on the roles of all the health-care professionals involved in sports and how they can contribute to talent identification, screening of athletes, physical training, conditioning and injury prevention. Health-related information regarding the pertinence and relevance of professions such as physiotherapy in high school sports could then be emphasised in the training. There is also a need to mandate formal training of all high school sports coaches in order for them to have a certificate of competency in the sport that they coach. That way the training courses can be used as a platform to educate the coaches on physiotherapy. In the present study, the majority of the sports coaches admitted sourcing their information on physiotherapy from the media (newspapers, television, radio and magazines). This was also shared by Johnsey et al (2013) who found that half of all Indian village health workers who knew about physiotherapy relied on the media for their information.

The present study revealed that the participants knew the conditions commonly treated by physiotherapists such as muscle pain, joint pain and back pain. Motha (2010) reported similar

results among South African team managers of Premier League Clubs although that study had a relatively small sample size. A study by Holdsworth (2006) revealed that 54% of the patients who self-referred themselves to physiotherapists presented with back pain indicating that the patients knew that physiotherapists treat such conditions involving muscle and joint pain²⁵. The present study findings suggest that sports coaches in government-administered high schools are aware of the conditions in need of physiotherapy. This is important for coaches in high school sports to understand as early identification and appropriate management of these impairments is crucial. There were few coaches who thought physiotherapists directly assist with heart pain (13.7%) and stomach pain (7.8%) in their line of work. This may have been attributed to the observation of the general role adopted by physiotherapists in field games of assisting any athlete who may need medical assistance. The majority of the sports coaches knew that physiotherapists could be involved in both training and competitive matches but it was surprising to note that 76.5% of the sport coaches were not aware that physiotherapists could be involved in training matches only. This creates a need to raise awareness among high school sports coaches of the potential role that could be played by physiotherapist in training games. Training matches offers physiotherapists an opportunity to implement preventative strategies, educate athletes and for screening athletes for various functional or biomechanical deficits that predisposes athletes to injuries. This probably explains why results on the role of physiotherapists in injury prevention were not satisfactory with 62.7% of the sport coaches showing awareness of the involvement of physiotherapists in injury prevention.

V. CONCLUSION

Cognisant of the limitations of the study, the study showed that the majority of the high school sports coaches were adequately knowledgeable about physiotherapy with regards to its scope of practice, place of work, conditions seen, equipment used, and treatment techniques used by physiotherapists. Most of the information about physiotherapy that sports coaches had was from the media. The level of knowledge was significantly related to the number of years in coaching. A few of the sports coaches had formal training awarding them with a certificate in the sports they coach and the level of knowledge was not associated with having a sports training certificate. This create a need for formal training of sports coaches through regular workshops as a means to educate them on the potential benefits of physiotherapy and its relevance in sports context especially with regards to injury prevention. These workshops may assist in improving awareness of physiotherapy.

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