


## Knowledge and Perception of the Role of Physiotherapy Among Members of Hockey Teams In Accra Ghana

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### Abstract

#### To cite this article:

Noamesi S, Quartey J, Kwakye SK. Knowledge and Perception of the Role of Physiotherapy Among Members of Hockey Teams in Accra Ghana. *Journal of Preventive and Rehabilitative Medicine*, Vol. 2, No. 1, 2020, pp. 53-60. doi: 10.21617/jprm2020.219

**Background:** Physiotherapy plays an important role in the prevention and management of sports injuries to enable athletes return to play when fully fit. In Ghana first aid personnel and team masseurs generally manage sports injuries. Inadequate knowledge on the role of Physiotherapy may be the reason for not seeking Physiotherapy services. We objectively set out to determine the knowledge and perception about the role of Physiotherapy in managing sports injuries among hockey players and technical staff.

**Methods:** This cross-sectional study involved 65 members of 15 hockey teams in Accra. Participants included female and male hockey players between the ages of 15 and 50, coaches and team managers. They were made to complete a self-administered questionnaire. Data obtained was analyzed using SPSS, version 23. Spearman correlation was used to determine the association between variables at a significant level of 5%.

**Results:** Fifty hockey players and 15 technical staff took part in the study. Majority (94%) and (91%) of participants identified ice and exercises as modalities used by Physiotherapists. About 66.2% of hockey players had high knowledge and perception ( $p=0.032$ ) about the role of Physiotherapy and reported that 18% of their injuries were treated by a Physiotherapist while majority (89%) were of the view that a Physiotherapist is a competent professional. Sixty-six percent participants perceived that Physiotherapists were involved in research, however, there was no significant association between, knowledge, perception and years of experience of hockey players ( $p=0.945$ ) and technical staff ( $p=0.201$ ).

**Conclusion:** Majority of participants had good knowledge and perception on the role of Physiotherapy in training common hockey injuries, although very few of their injuries were managed by Physiotherapists. There is a need to educate players and technical staff on the role of Physiotherapy in the prevention and management of sports injuries, which may encourage players to seek early treatment for injuries rehabilitation.

**Keywords:** Hockey, Physiotherapy, knowledge, role of perception

## Introduction

A Physiotherapist working in the field of sports medicine, plans, organizes and directs programmes of pre-season screening, first aid, rehabilitation, education and counselling for athletes, coaches and others concerned with sports [1]. The role of Physiotherapy in sports includes the promotion of safe physical activity participation, provision of advice, rehabilitation and training intervention for the purposes of preventing injury, restoring optimal function and the enhancement of performance in athletes [2].

It has been reported that hockey injuries are numerous and can be serious [3]. Similarly, Murtaugh [4] also reported that injury is common in the field of hockey and that most hockey injuries such as sprains, strains, contusions and lacerations affect the lower limb. Quartey and Bonney [5] reported that in Ghana contusions were the most common injury observed in hockey, followed by strains, sprains and lacerations.

The knowledge of the role Physiotherapy plays in sport influences the manner in which players adhere to Physiotherapy prescriptions to aid proper recovery and can inform the decision-making of coaches and team managers concerning players [6]. Waddington and Roderick [7] asserted that professional players often train and play while not fully fit and were expected to continue playing with pain and injury. Roderick, Waddington and Parker [8] suggested that the continued participation of injured players in sports could be due to financial reasons, a lack of sympathy on the part of some managers who insist that injured players participate or in order not to lose their position on the team.

The Ghana Hockey Association (GHA) is the governing body for both women and men's field hockey in Ghana [9] and the Greater Accra Hockey Association (GAHA) is the regional governing body for hockey in Accra. At the commencement of the 2013-2014 hockey season, GAHA had 20 registered teams. According to the GAHA, each team could register up to 25 players, required to have two coaches, one team manager, one Physiotherapist, one medical doctor and a welfare officer. However, this composition does not seem to be fully adhered to, which therefore compels GAHA to provide a Physiotherapist who attends to the players of all teams during

tournaments.

It is important that players are adequately rehabilitated after injuries, before returning to pre-injury levels of play [3]. Football is a popular sport in Ghana as compared to hockey and there seems to be better involvement of Physiotherapy services [10] which lead to the opinion of Afu and colleagues [10] that there is a general lack of a strong presence of Physiotherapy in Ghana sports. Quartey and Bonney [5] also reported that first aid personnel were the most common service providers available to assist for treatment of injuries during hockey games. It may therefore seem that studies pertaining to Physiotherapy in hockey [5] and football [10] in Ghana indicate a lack of Physiotherapy involvement in sports in Ghana.

Poor knowledge of the role of Physiotherapy has been identified as an obstacle to obtaining Physiotherapy services in a Nigerian community [11]. The perception that sporting teams are unable to afford Physiotherapy services and that such services are not necessary has probably contributed and is also attributed to the lack of a strong presence of Physiotherapy in majority of sports engagements in Ghana [10]. The aim of this study was therefore to determine the knowledge and perception about the role of Physiotherapy in managing sports injuries among hockey players and technical staff.

## Material and Methods

This cross-sectional study which involved male and female hockey players and their technical team (coaches and managers) of 15 teams registered with GAHA, was conducted at the Theodosia Okoh hockey pitch in Accra, Ghana. A convenience sampling method was used to recruit participants. A sample size of 80 was calculated using the formula  $n = (z)^2 p (1-p)/e^2$ .

The questionnaire used to collect data were adapted from the studies of Odebiyi et al [12] and Motha [6]. Motha [6] validated the questionnaire in 2009 using content validity [13] and test re-test reliability [6]. Each questionnaire administered had a total of five sections consisting of closed and open-ended questions. Section A sought demographic information of participants, which included age-range, gender, educational level and whether there was a qualified Physiotherapist

on the team or otherwise. Section A was adjusted to accommodate the necessary demographic characteristics of hockey players and technical team. Section B sought information on the participants' knowledge on prevention of injuries, treatment strategies in sports and the role of the Physiotherapist. Section C was used to obtain information on the knowledge of participants about the types of injuries that can be treated by a Physiotherapist. Section D also sought the knowledge the participants had on the modalities used by Physiotherapists for treatment and section E, which sought information on participants' perception about the role of Physiotherapy in sports.

Ethical approval (identification number SAHS-ET/10305738/AA/12A/2012-2013) was sought and obtained. Written informed consent was obtained from the participants after they had been briefed about the study before the questionnaire was administered. Each questionnaire was coded with a unique 3-digit number written on it to ensure the anonymity of each participant and confidentiality of the information obtained. The questionnaire was then distributed randomly to participants.

Eighty (80) copies of the questionnaire were given out appropriately by the researchers to the hockey players and members of the technical staff of the hockey teams when they arrive on match days prior to the commencement of games. Each questionnaire took approximately 20 minutes to complete. Follow-ups were done weekly on either match days or non-match days via telephone calls to retrieve completed questionnaires. Frequent contact was maintained with the Secretary-General of GAHA, who received and kept any completed questionnaires returned in the absence of the investigators. Copies of the questionnaire were retrieved over a period of six weeks.

### Data Analysis

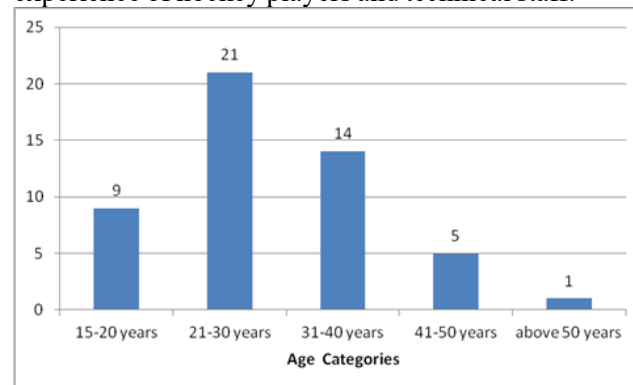
The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 23 to run basic descriptive statistics such as frequencies, percentages and means of the main variables. Bar charts and tables were used to represent age distribution of the players and the technical staff. Using the SPSS, a Mann Whitney test was used to compare knowledge of the technical staff and the hockey players about Physiotherapy, the perception of

technical staff and hockey players about Physiotherapy and the knowledge of players who had or had not received Physiotherapy as well as their perception. Spearman correlation was used to determine the association between participants' knowledge of Physiotherapy and the number of years' experience in hockey and perception about Physiotherapy and the number of years' experience as technical staff. A significant level of  $p \leq 0.05$  was set.

## Results

### Demographics

Of the 80 questionnaires distributed 65 were completed and returned giving a response rate of 81%. Fifteen were members of technical staff and 50 were hockey players. Figures 1 and 2 show the age distribution of players and technical staff. Twenty-two percent (22%) of the hockey players were female while 33% of technical staff were also female. Majority (21%) of the players who took part in this study were between 21-30 years whilst majority (53%) of technical staff were between 41-50 years. Many (82%) players had been playing for more than two years whilst 73.3% of the technical staff had more than 2 years working experience. Table 1 depicts the number of years of experience of hockey players and technical staff.



**Figure 1: Age distribution of Players**

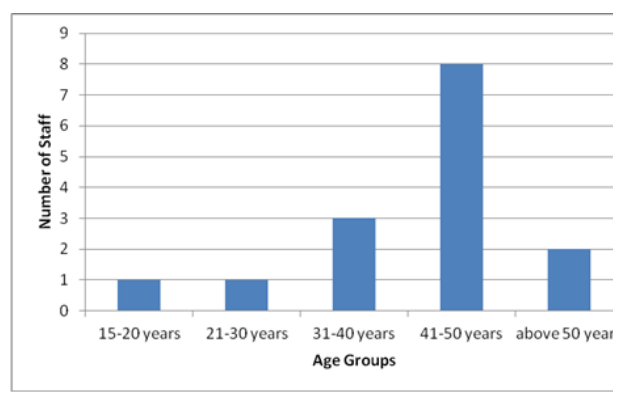


Figure 2: Age distribution of Staff

Table 1: Number of years' experience of participants

NUMBER OF YEARS' HOCKEY PLAYERS EXPERIENCE	HOCKEY PLAYERS		TECHNICAL STAFF	
	Frequency	%	Frequency	%
Less than 6 months	4	8.0	1	6.7
6 months-1 year	2	4.0	2	13.3
1 year- 2 years	3	6.0	1	6.7
More than 2 years	41	82.0	11	73.3
TOTAL	50	100	15	100

**Treatment of Hockey Injuries**

A few 9 (18%) hockey players indicated that their injuries were treated by a Physiotherapist, 12 (24%) by a doctor, 4 (8%) by a doctor and Physiotherapist while majority (26%) reported that they were treated by first aid personnel.

**Attendance of Medical Workshops**

Only 4 (27%) of the technical staff indicated that they had attended a medical seminar or workshop (once from a Physiotherapist and twice from doctors) while majority 11 (73%) had never attended any. Ten (20%) hockey players indicated that they had received medical orientation about the role of medical staff in a hockey team. Of the ten players, five reported that the orientation was facilitated by a Physiotherapist whilst the other five reported that the orientation was facilitated by a doctor. Forty (80%) of the players indicated that they had not received any medical orientation at all.

**Knowledge on Injury Prevention and The Role of Physiotherapy in Sports**

Most (93.8%) participants agreed that warm-ups and stretching exercises before training and games help prevent injuries while 95.4% reported that Stretching before and after training and games also helps prevent injuries as shown in Table 2. Table 3 depicts participants' knowledge on the conditions amenable to Physiotherapy of which 89.2%, reported that Physiotherapists treat joint pain.

Table 2: Knowledge on Physiotherapy and injury prevention

	RESPONSE			
	Appropriate answer		Inappropriate answer	
Prevention and treatment of injuries	N	%	N	%
Warming up before games and training reduces risk of injury	61	93.8	4	6.1
Cooling down after games and training reduces injury risk	61	93.8	4	6.1
Stretching before and after games reduces injury risk	62	95.4	3	4.6
Returning too early to play after injury leads to re-injury	57	87.7	8	12.3
Playing with injury leads to disability	47	72.3	18	27.7

Table 3: Knowledge on the conditions amenable to Physiotherapy

CONDITIONS TREATED	RESPONSES	
	Appropriate answer	
	N	%
Corrected fractures	47	72.3
Stomach pain	40	61.5
Ligament injury	43	66
Muscle pain	57	87.7
Heart pain	41	63
Joint pain	58	89.2
Back pain	54	83

### Knowledge on the treatment modalities used by Physiotherapists

Most (93.8%) participants identified ice as a modality used by Physiotherapists and 32.3% indicated that Physiotherapists prescribed medications for treatment as shown in Table 4. Majority (89.2%) of participants agree that a Physiotherapist is a competent professional and 66% agree that Physiotherapists were involved in research as depicted on Table 5.

**Table 4: Knowledge on the treatment modalities used by Physiotherapists**

TREATMENT MODALITIES	RESPONSES	
	CORRECT ANSWER	
	N	%
Hydrotherapy	29	44.6
Ice	61	93.8
Massage	56	86
Mobilization	18	27.6
Surgical Operations	44	67.7
Exercises	59	90.7
Medication	21	32.3
Education	55	84.6
Acupuncture	18	27.6

**Table 5: Perception of participants about the role of Physiotherapy**

	Strongly Agree		Agree		Neutral		Disagree		Stro Disa
	N	%	N	%	N	%	N	%	N
Progressive profession	30	46.2	26	40	6	9.2	2	3.1	1
Competent and professional	39	60	19	29.2	4	6.2	3	4.6	0
Teach public health	21	32.3	28	43.1	12	18.5	2	3.1	2
Involved in research	13	20	30	46.2	15	23.1	5	7.7	2
Well qualified	29	44.6	19	29.2	12	18.5	3	4.6	2
Caring to patients	27	41.5	19	29.2	10	15.4	5	7.7	4
Interested in money making	3	4.6	6	9.2	12	18.5	19	29.2	25
Offer effective treatment	27	41.5	26	40	8	12.3	1	1.5	3
Able to diagnose conditions	21	32.3	19	29.2	18	27.7	5	7.7	2
Doctor's referral needed	28	43.1	17	26.2	12	18.5	5	7.7	3

### Comparison of knowledge and perception of participants about Physiotherapy

Ranking of knowledge and perception of Physiotherapy showed mean ranks of 25 and 31 respectively for those who had received Physiotherapy treatment as shown in Table 6.

Table 7 shows that there was no significant difference ( $p=0.945$ ) between years of playing and knowledge about Physiotherapy. Similarly, there was no significant difference ( $p=0.889$ ) between years of playing and perception about Physiotherapy.

**Table 6: Comparison of knowledge and perception of players about Physiotherapy**

Has Physiotherapy Treatment	Knowledge			Perception		
	Freq	Mean rank	Sum of ranks	Freq.	Mean rank	Sum of ranks
YES	13	25	325	13	31	409.00
NO	37	26	950	37	23	866.00
U score=234.00 p-value=0.885			U score= 163 p-value= 0.042			

**Table 7: Association between, knowledge, perception and years' experience of participants (N=65)**

	Hockey Players		Technical Staff	
	Knowledge	Perception	Knowledge	Perception
Correlation coefficient	0.010	0.020	0.350	-0.226
p-value	0.945	0.889	0.201	0.417

## Discussion

With respect to the number of years of experience of participants, more than three quarters of the players had been playing for more than two years, while most of the technical staff also had more than two years of experience working with the club. The highest number of years of experience recorded was 15. A section of the technical staff reportedly played hockey before progressing to become members of technical staff. This is similar to outcomes of the study by Motha who stated that most team managers were former players [6].

Almost three quarters of the players who took part in the study reported that they had sustained hockey injuries during their current career life. This outcome corroborates reports by Sherker & Cassell [3] and Murtaugh [4] that injuries are common in hockey while overuse injuries to the ankles and lower back are frequently reported. The frequency of playing could also have contributed to the prevalence of



hockey injuries reported. A higher frequency of playing may result in an increase in the risk of injury in a fast-paced game such as hockey [4]. For instance, Sandmark and Vingard found a positive relationship between intensity of sports participation and osteoarthritis [14].

First aid personnel treated most of the hockey injuries (for example ankle strains, low back pain, knee pain etc.) sustained. Since most of treatments were offered by first aid personnel coupled with the lack of information about the severity of the injuries sustained it could be inferred that the injuries sustained may have been minor. Quartey and Bonney [5] also reported that majority of hockey injuries sustained in Accra were managed by first aid personnel.

This corroborates our findings. In addition, this study showed that either a doctor and/or Physiotherapist treated few of the hockey injuries sustained. One participant reportedly took personal responsibility for managing his injury. This may have been because the participant wanted to conceal the injury, didn't consider the injury severe or because of the lack of awareness about the available complete medical team. Thus, wanted to ensure complete recovery that may allow him return to participation fully fit. Anderson and Jackson reported that most players for fear of losing their positions on the team prefer to play even while injured [15]. The low level of involvement of Physiotherapists in many sports teams in Ghana could also be a contributory factor.

With regards to return to participation of an injured player, more than half of the participants of the study were of the opinion that the Physiotherapist and doctor had a say while a minority of the participants averred that the coach had a say in the return of an injured player. This is not proper since it does not serve the player's interest however it happens because Anderson and Jackson, [15] reported that members of the sports medicine team may sometimes have to breach professional standards due to pressures from coaches to return injured players to play earlier than is advisable. An insignificant number of participants were of the view that the team owner or financiers should have a say on the return to participation of an injured player. This may result in pressures from the team owner or financier as corroborated by Anderson and

Jackson to field the full measure of players including injured players at all times [15].

This study revealed that participants had a good knowledge about the prevention of injuries using warming up, cooling down and stretching techniques. Similar findings were reported by Rodenburg and Colleagues in 1994 [16] and demonstrated that static stretching and warm-up by cycling increase flexibility and hence prevent injury [16]. Majority of the participants also believed that returning too early to play after injury led to re-injury. However, most participants were not able to tell whether or not playing with an injury could lead to disability. This could be because it is found prudent to keep a player's position on the team as consistently as possible. Losing one's position on team, means loss of financial gains and possibly a permanent loss of position on the team if the replacement player does better. According to Roderick and Colleagues, players often learn to accept pain and playing with injury as normal and tend to do so for reasons such as keeping their positions on the team as well as financial interests [8].

Most participants were able to appropriately identify the conditions, which were amenable to Physiotherapy or otherwise. This study showed that joint, muscle and back pains were the conditions with the most frequencies. Kumar and Colleagues [2] revealed that muscle injuries were the most common while Murtaugh [17] reported that back pain was a common complaint among hockey players. The most frequent conditions identified in this study appear to have revealed an additional peculiar condition which may need further investigation.

A good number of participants agreed that Physiotherapists use ice and exercises as treatment modalities while more than half of the participants indicated medications as a modality used to treat injuries. Although majority of the hockey players who participated in this study had sustained hockey injuries before very few had received any form of Physiotherapy. The inadequacy of contact with Physiotherapy services may have accounted for this notion. Acupuncture and hydrotherapy did not seem to be known by the participants of this study and this may be because of the low frequency of usage of those modalities in Ghana.

The results of this study indicate that the level of knowledge of Physiotherapy by players

was significantly greater than that of technical staff. However, a study conducted in South Africa among female hockey players concluded that most coaches realize the importance of Physiotherapy, but lack knowledge about the importance of strength training and proprioceptive exercises [18]. A few players who participated in this study had received some medical orientation about the role of the medical sports team. This may have accounted for the significant knowledge players had over technical handlers in this study because they may have shared the knowledge with their colleagues in their teams. The players who had received prior Physiotherapy intervention together with medical orientations may have accounted for the significant difference in knowledge although a Physiotherapist provided one out of the four medical orientations for technical staff.

In recent years, there has been an increase in the presence of Physiotherapists in the healthcare system of Ghana and society at large since the Ministry of Health undertook a drive to increase availability of Physiotherapists and services at regional hospitals with the building of ultra-modern Physiotherapy departments. This change compared to the presence of Physiotherapists in past years may have contributed the significantly greater level of knowledge of the players who are considerably younger.

Majority of the players who participated in this study indicated that they had sustained prior hockey injuries but not all of these injuries were treated with Physiotherapy, which may have accounted for the low percentage Physiotherapy managed injuries that was also reported. There was a slight positive relationship between number of years of playing experience and knowledge, as obtained from this study, which implies that, the number of years' experience in the hockey league may not affect the knowledge and perception of Physiotherapy.

## **Conclusion**

Despite the limited presence of Physiotherapists in the teams that participated in this study, participants were found to have a good knowledge about the equipment, modalities conditions amenable to Physiotherapy as well as injury prevention. The

participants also had a good perception of the role of Physiotherapy in sports. They however had limited knowledge on the ability of Physiotherapists to diagnose conditions and were of the opinion that a doctor's referral was always needed to see a Physiotherapist. Other factors may have contributed to the lack of a strong presence of Physiotherapy in Ghanaian sports. It is suggested that a larger sample size involving a variety of sports disciplines be conducted to determine the general knowledge and perception that exists in Ghana sports as well as the other factors that could be contributing to the low patronage of Physiotherapy services. Additional campaigns may be undertaken to improve awareness and knowledge of the role of Physiotherapy in Ghana sports.

It is also important that players and technical staff alike be educated through seminars, symposia and orientations on the role of Physiotherapy in the prevention and management of sports injuries, which may in turn encourage players to seek early treatment when injuries occur.

## **DECLARATION**

### **Acknowledgement**

We would like to acknowledge all hockey players and technical staff who took time off their busy schedules to participate in this study. We would like to thank the Department of Physiotherapy, University of Ghana for all their support during the study.

### **Disclosures**

**Funding Source:** None

**Conflict of interest:** There is no conflict of interest to declare

## **AUTHOR CONTRIBUTIONS**

SN and JQ contributed to the study design, collected and the analysed data. SN, JQ, and SK wrote the manuscript and also reviewed the manuscript for important intellectual content. SK did the literature search and review. SN, JQ, and SK revised the final draft version of the manuscript and approved the final version of the manuscript for submission.

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