

Assessment of knowledge of first aid principles among Yemenis athletes

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Abstract

As sport activity is promoted as part of a healthy lifestyle, sports injuries are becoming an important public health concern in many countries. Despite there is little published evidence on the absolute number and rate of sport related injuries in athletes in the Republic of Yemen. It is widely agreed that sport first aid is a potentially lifesaving resource that athletes can rely on to make smart decisions when encountering emergency situations with injured athletes.

This study carried out to study athletes' knowledge and its associated factors (age, level of education, years of experience, the degree of the club, type of the game and the previous attended first aid courses) about first aid. 75 male athletes were included in the study (26 coaches and 49 players) with a mean ages of 27.77 ± 3.48 years. The data was collecting using self-administer questioner. According to the present study more than one third of the athletes (37.3%) achieved unsatisfied score in first aid knowledge. 73.3% of the study subject reported that they have not previous course of first aid. Statistically significant relations were detected between athletes' first aid knowledge and level of education, types of games, degree of the club and experience.

Key words: First aid, athletes, coach, player, individual games, team games.

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Introduction:

Participation in sports is great fun and exercise. Unfortunately, injuries are a part of most games. Given the probability of injuries, coaches and athletes should have a basic knowledge of first aid. Injuries are an inevitable part of athletic participation, and when coaches are forced to assess such injuries due to a lack of immediately available medical personnel, they may be forced to make medical decisions that exceed their training (Ransone and Dunn-Bennett, 1999). Currently it is estimated that from 1 in 2 to 1 in 5 athletes will sustain a sports related injury (Aukerman, et al., 2006; Lyznicki, et al., 1999) and in rare cases, 1 in 100,000 athletes, will suffer a catastrophic injury resulting in severe injury, paralysis or even death (Andersen, et al., 2002; Lyznicki et al., 1999). The term sports injury, in the broadest sense, refers to the kinds of injuries that most commonly occur during sports or exercise. Some sports injuries result from accidents; others are due to: poor training practices, improper equipment, lack of conditioning or insufficient warm-up and stretching (Phillips, 2000).

Giving appropriate injury treatment at the time can mean the difference between a relatively rapid, uneventful recovery and a longer time

spent out of action Cohen (2009). First Aid is immediate and temporary treatment of a victim of sudden illness or injury while awaiting the arrival of medical aid. Proper early measures may be instrumental in saving life and ensuring a better and more rapid recovery. The avoidance of unnecessary movement and over-excitation of the victim often prevents further injury (Columbia Encyclopedia, 2010). A basic knowledge and understanding of first aid can be invaluable for individuals to be able to provide emergency care in the event of an accident, possibly saving lives and minimizing injury. It may on occasion obviate the need to visit a hospital or clinic, not only providing convenience for the individual but lessening demand on medical facilities (Al-Khamees, 2006).

First aid means just that providing aid before more qualified medical help can be obtained. Athletes a like should have some knowledge of first aid procedures so they can aid an injury victim in an emergency (Pfeiffer et al., 2009). Often, such knowledge can make the difference between life and death, rapid recovery and long hospitalization, or temporary and permanent disability (Anspaugh et al., 1987).

Many experts explain the basic principles of first aid for treating sport injury. For example Quinn(2009) stated that the basic formula for early first aid is commonly known by the acronym "R.I.C.E." which stands for Rest, Ice, Compression and Elevation. Following the

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principles of R.I.C.E. immediately after an injury can minimize the soft tissue damage from an injury, leading to a faster recovery. R.I.C.E. Technique will also lessen swelling and decrease pain associated with the injury (Flegel, 2004). Hoekelman et al., (1997) also suggest that The basic principles of first aid for treating traumatic injury can be summarized to; immobilize (do not use or move the injured area), compress (apply pressure to stop bleeding and cool compresses to stop swelling), elevate (raise the injured area to stop bleeding and reduce swelling).

The majority of all athletic injuries occur at practice (Powell & Barber-Foss, 1999). In contrast, practices are the events least likely to have a physician present (Lindaman, 1991; Rutherford, et al., 1999). In the absence of the qualified healthcare providers, the player and coaches most often assumes the responsibility for providing initial healthcare regarding athletes' injuries (Wright, 2006) and because of this role athletes should have adequate knowledge of first aid principles to act prudently in the case of injury or sudden illness experienced during athletic participation.

Aim of the Study:

The aim of this study is to determine if the athletes (coaches and players) have appropriate first aid knowledge.

Objectives:

1. To evaluate knowledge of athletes about first aid.
2. To investigate factors that influenced athletes' knowledge about first aid.
- 3.

Research Question

This study attempted to answer the following question:

1. What is the prevalence of appropriate first aid knowledge among athletes?
2. Which is the most factors affect athletes' knowledge about first aid?
3. Is there a difference in the first aid knowledge between athletes who attends a first aid courses and athletes who do not?

Methodology

Study design

A cross-sectional design was used to conduct this study.

Setting:

The study conducted at 12 clubs in Hadhramout governorate, republic of Yemen.

Sample:

A total of 150 questionnaires were administered, and 75 were returned, a response rate of 50%. Seventy-five male athletes were included in the study. This number covered 49 players and 26 coaches. The data were collected for a period of three months from the first of January till the end of March 2010.

Tools:

The data was collecting using self-administer questioner sheet was developed and constructed by the research's group to investigate the knowledge of athletes about first aid. It was constructed based on review of pertinent literature, and was revised by experts in the field of Physical Education and Sports for face and content validation.

The tool consisted of questions that elicit the following:

I. Socio-demographic Characteristics that cover 4 items namely age, level of education, years of experience and The previous attended first aid courses.

II. Athletes characteristics that cover 3 items namely type of athletes (coach or player), degree of clubs and type of the game.

III. knowledge related to first aid: this part questioned items like the meaning of first aid and the component of first aid kit Also, knowledge of studied subjects about proper sequence of first aid for athletic injuries (R.I.C.E.) and first aid of different types of injuries related to sports and the management of different types of injuries such as cuts, bleeding, scrapes, bruises, epistaxis(nosebleed), fractures, dislocations, sprains and strains.

Methods

1. Official permission to conduct the study was obtained from the responsible authorities.
2. The purpose of the study was explained to the participants to gain their cooperation.
3. Informed consent to participate in the study was obtained from the athletes.
4. A pilot study was carried out on a sample of 10 athletes to assess the tool for its clarity and feasibility.

Statistical Analysis:

The data were coded, fed and then analyzed using SPSS version 17.0-. The level of significance was set at 0.05 and all tests were two tailed.

The athletes' knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Results:

Table (I) describe the socio demographic characteristics of the sample . The study included 75 athletes , their ages ranged between 25 –35 years with a mean ages of 27.77+3.48 years, 41.3% were below than 25 years and only 21.3% were 35 year and above.

As regard education almost both of secondary and diploma level were the same (24% and 25.3% respectively), More than one third of the study sample have university level (34.7%), while primary level constituted only 16% of the study sample. Regarding athletes, the table showed that more than one third of athletes (34.7%) were coaches, while Less than two thirds of athletes (65.3%) were player. Regarding subject's type of sports, the table also represents that team sports athletes constituted higher percentage than those individual sports (73.3% and 26.7 respectively). More than half of the study subject (56%) were in first degree clubs. Meanwhile, about one quadrant of athletes (25.3%) in second degree clubs compared to 18.7% in third degree clubs.

Concerning years of athletes experience ranged from 10 to 20 years of experience. In relation the first aid previous training courses, 73.3% of the study subject reported that they have not previous course of first aid.

Table (2) presents the total score of first aid knowledge of the studied sample, more than one third of the athletes (37.3%) achieved unsatisfied score in first aid knowledge.

Table (3) illustrate the relation between total score of first aid practical knowledge of the studied sample and there demographic characteristics. Concerning their age, there no statistical significant associations were found between athletes age and their first aid knowledge total score ($p > 0.05$).

In relation to level of education, a highly statistically significant association was revealed between level of education and total score of first aid knowledge ($p \leq 0.01$). The table illustrate that both of diploma and university level of education

achieved higher percentage of satisfied total score of first aid (73.7% and 80.8%) respectively. Meanwhile athletes scored higher percentage of unsatisfied total score of first aid were their education either primary or secondary level (58.3% and 61.1%) respectively.

Concerning type of athlete, the table show that no statistical significant associations were found between either the study subject are coaches or player, and their first aid knowledge score ($p > 0.05$).

As regards types of sports, the percentage of athletes involved in team sport were significant more (65.5%) among those achieving satisfied total score of first aid than those whose involved in single sports (55%). The relation between sports type and first aid knowledge score was statistically significant ($p \leq 0.05$).

Concerning the class of clubs, those who involved in first class clubs were significant more (81%) among those achieving satisfied total score of first aid than athletes involved in either second or third class clubs (50% and 31.6%) respectively. The relation between class of club and total score satisfaction was highly statistical significant ($p \leq 0.01$).

Regarding years of athlete experience, the percentage of athletes have experience from 10 to 20 years were significant high (80%) among those scoring satisfied total score of first aid than those less than 10 years and over than 20 years (45.2% and 68.4%) respectively. The relation between years of experience and first aid practical knowledge score was statistically significant ($p \leq 0.05$).

No association of statistical significant could be revealed between taking training program in first aid and the level of practical knowledge about first aid.

Discussion:

Athletes in all sports at every level of ability are susceptible to injury during athletic practice or competition (Carol & Richard 2006). Whither on the court, on the field, at the pool or in the gym, coaches and players must be prepared to handle the common injuries and illnesses they will likely encounter while coaching their sport (Robbins and Rosenfeld, 2001).

The primary consideration when examining an injured athlete is to determine the extent and seriousness of the injury (Flegel, 2008). If the injured athlete cannot be evaluated immediately by a medical professional, the coaches and

players need to determine if the athlete need medical attention or can safely return to participation. If it is determined the athlete needs medical care, arrangements should be made to safely and quickly transport them to that care (Flegel, 1997).

The present study aimed to evaluate knowledge of Yemenis athletes and determine the factors influenced these knowledge.

Data from the present study showed that nearly three quadrant of the study sample did not get any first aid training course. This result may be due to lack of availability of such courses in Yemen. Cunningham (2002) in the study carried in two English youth football league, found that sixty percent of the study sample did not have a first aid qualification.

As regard level of the knowledge of the study sample, the study showed that more than one third of the study sample achieved unsatisfied score in first aid knowledge. This result is may be due to the following reasons. One of these reasons is the lack of attending of first aid training courses. Another reason is the low quality of such courses and the third reason is unrepeated periodically of the first aid training courses. Berden, et al., (1993) stated that first aid training must be repeated periodically in order to maintain adequate levels of skill and expertise. In the same line, Al-Kamees (2006) in Kuwait found that the knowledge of first aid was not widespread among student athletes. Moreover Ransone & Dunn-Bennett (1999) in United Kingdom, reported that nearly two third of athletic coaches achieved unsatisfied score of first aid assessment.

Despite There is little published evidence on the absolute number and rate of sport related injuries in athletes in the republic of Yemen. It is widely agreed that sport first aid is a potentially lifesaving resource that coaches and player athletes can rely on to make smart decisions when encountering emergency situations with injured athletes. Thornburg (2002) suggests that, if student athletes are provided with first aid training, this will most likely reduce the extent and severity of injuries that these athletes experience.

The present study investigates factors influence the satisfied knowledge of athletes about first aid. Highly statistically significant relations were detected between the level of education and the total score of knowledge about first aid. The athletes with university level of education gave

higher score than those with lower level of education

In the same line Dincer et al., (1998) found that significantly more university than high school graduates gave correct answers for dealing with different types of injuries.

Another highly statistically significant relation was found between the class of club and the total score of knowledge about first aid. The athletes in the first class clubs scored more satisfied knowledge about first aid than those in either second or third class clubs. This result may be due to first-class athletes are the elite athletes, they have the qualities and physical skill, tactical, psychological and mental distinguish them from others so that these qualities to qualify as a whole to engage with the first class clubs, which represents the elite athletes. As well as they represent a broad-based and from which is the selection of players the national team this side and the other side that these athletes formed to have information and knowledge of first aid due to go about games and a lot of competitions when they were involved clubs, third-class and second as well as first class.

Statistically significant relation also was detected between knowledge towards first aid and the type of game (team or individual). Athletes play group games had satisfied knowledge more than those play individual games. This may be because athletes who play in team games used to cooperate together in occasion of some one injured. Moreover, Owaid (2005) found that the incidence of injuries in the team games such as soccer, handball, and basketball is higher than incidence of injuries in individual games. On this basis, the team game players get a better chance to identify ways to provide first aid for themselves or their colleagues or even competitors.

Conclusion:

Based on the results of the study, it can be concluded that athletes either coaches or players have insufficient knowledge about first aid. The study proves that level of education, types of games, class of the club and experience are factors influenced the level of athletes' knowledge. This study reveals unfortunate that the attendance of first aid courses doesn't improve athletes' knowledge toward first aid principals.

Recommendation:

In the light of the present study, the following recommendations are suggested:

1. Further studies on the prevalence of injuries among athletes, and different types of these injuries .
2. A well planned health education program for coaches and athletes how to administer basic first

aid to sick and injured athletes as well as well ways to prevent illnesses and injuries from occurring.

3. A periodic educational program for athletes about first aid.
4. First aid measures of various types of sports injuries must be planned and directed to athletes through mass media.

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Table (1): Distribution of Socio-demographic characteristics of the study subjects (n= 75)

Socio-demographic items	No	%
Age		
<25	31	41.3
25-35	28	37.3
>35	16	21.3
Mean ± SD 27.77± 3.48		
Education		
Primary	12	16
Secondary	18	24
diploma	19	25.3
University	26	34.7
Athlete		
Coaches	26	34.7
Players	49	65.3
Games		
Team	55	73.3
Individual	20	26.7
Club classes		
First	42	56
Second	14	18.7
Third	19	25.3
Experience		
<10	31	41.3
20-10	25	33.3
>20	19	25.3
First aid training		
Yes	20	26.7
No	55	73.3

Table (2) distribution of athletes knowledge of first aid

	No	%
Score		
Satisfactory	47	62.7
Unsatisfactory	28	37.3

Table (3) Relation between level of knowledge of athletes and their demographic characteristics

Socio-demographic items	Satisfactory		Unsatisfactory		X ² (P)
	No	%	No	%	
Age					
<25	21	67.7	10	32.3	.707 (.702)
25-35	16	57.1	12	42.9	
>35	10	62.5	6	37.5	
Education					
Primary	5	41.7	7	58.3	11.24** (.010)
Secondary	7	38.9	11	61.1	
Diploma	14	73.7	5	26.3	
University	21	80.8	5	19.2	
Athlete					
Coaches	30	61.2	19	38.8	.126 (.723)
Players	17	65.4	9	34.6	
Games					
Team	36	65.5	19	34.5	.685* (.408)
Individual	11	55	9	45	
Club classes					
First	34	81	8	19	14.811** (.001)
Second	7	50	7	50	
Third	6	31.6	13	68.4	
Experience					
<10	14	45.2	17	54.8	7.54* (.023)
10-20	20	80	5	20	
>20	13	68.4	6	31.6	
First aid training					
Yes	14	70	6	30	.627 (.428)
No	33	60	22	40	

* Statistically significant at $p \leq 0.05$

** Statistically significant at $p \leq 0.01$

تقييم المعرفة بمبادئ الإسعافات الأولية بين الرياضيين اليمنيين

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الملخص

عندما تم الترويج بأن النشاط الرياضي هو جزء من نمط حياة صحي، أثارت الإصابات الرياضية قلقاً واهتماماً كبيراً بالصحة العامة في عدد من البلدان. وعلى الرغم من ندرة الدلائل على معدل إصابات الرياضيين في الجمهورية اليمنية. فمن المتفق عليه على نطاق واسع أن الإسعافات الأولية هي منقذة للحياة ومن المحتمل أن يتخذ المدربون والرياضيون قرارات ذكية عند مواجهة حالات الطوارئ مع الرياضيين المصابين. هذه الدراسة أجريت لدراسة الحصيلة المعرفية بمبادئ الإسعافات الأولية والعوامل المرتبطة بها مثل (العمر، مستوى التعليم، سنوات الخبرة، ومستوى النادي، ونوع اللعبة، وحضور الدورات السابقة للإسعافات الأولية).

أجريت هذه الدراسة في اثني عشر نادياً رياضياً من محافظة حضرموت بالجمهورية اليمنية وقد تم توزيع 150 استبياناً أعيد منها 75 استبياناً بمعدل استجابة 50%. اشتملت العينة على 75 رياضياً (مدربين ولاعبين) جميعهم من الذكور (26 مدرباً و 49 لاعباً)، متوسط أعمارهم 27.77 ± 3.48 سنة، تم جمع البيانات باستخدام استبيان للتعرف إلى البيانات الشخصية للعينة وكذلك تقييم معرفتهم عن الإسعافات الأولية للإصابات الرياضية. ووفقاً لهذه الدراسة وجد أن أكثر من ثلث الرياضيين (37.3%) معرفتهم بالإسعافات الأولية غير مرضية، كما أفاد (73.3%) من الرياضيين أنهم لم يتلقوا أي دورات سابقة في الإسعافات الأولية، وتم الكشف عن علاقات ذات دلالة إحصائية بين معرفة الرياضيين بالإسعافات الأولية ومستوى التعليم، وأنواع الألعاب، ودرجة النادي والخبرة.

الكلمات المفتاحية: الإسعافات الأولية، الرياضيون، المدرب، اللاعب، الألعاب الفردية، الألعاب الفرقية.

مشروع ممول من قبل جامعة حضرموت / نيابة الدراسات العليا والبحث العلمي.