International Journal of Innovative Research and Advanced Studies (IJIRAS)
Volume 4 Issue 5, May 2017

ISSN: 2394-4404

A Study On Knowledge, Attitudes And Practices Among Sportsperson On Injury Prevention Strategies

Kalra S. K.

MPT (Specialization - Sports),
Department of Physiotherapy, Punjabi University, Patiala

Sinha A. G. K

Dean Faculty of Medicine and Professor,
Department of Physiotherapy, Punjabi University, Patiala

Abstract: ***Introduction: The incidence of sports injuries can be reduced by incorporating the principle of injury prevention at primary, secondary and tertiary levels. KAP survey is one of the widely used study design to get an insight into what people know about certain things, how do they feel and also how do they behave. However KAP study on the topic of sports injury prevention is not widely reported.***

Objective: This paper aims to study the Knowledge, Attitudes and Practices among sportspersons on injury prevention strategies.

Method: A sample of 240 players (120 males and 120 females) aged between 13 – 30 years was surveyed in Punjabi university, Patiala (Punjab), National Institute of Sports (Punjab) and Haryana school of sports, Jind (Haryana) by using a self administered questionnaire.

Result: More than 70% of players displayed good knowledge and positive attitude for most of the variables but there was deficit in practice of these variables. For some variables such as recovery and reconditioning there was poor knowledge, negative attitude and poor practice. No significant association was found with gender, injury occurrence in present and previous season, level of play and nature of game.

Conclusion: The findings indicate that as far as knowledge, attitude and practice of scientific training and prevention of injuries are concerned there is not much difference across the training centers. There is an urgent need to increase the awareness of players about the recovery methods and reconditioning after injury. At the same time facility should be improved at the grass root level so that players can incorporate injury prevention strategies in their daily training schedules.

Keywords: Sports injuries, Injury prevention measures, knowledge, attitude, practice.

I. INTRODUCTION

Injuries are the inherent risk of sports participation (Sinha, 2010). With this increasing participation in sports, number of injuries has also been increased. Some sporting activities may cause serious injuries, which may lead to permanent disability. There are certain factors that add to the occurrence of injury. These are classified as extrinsic and intrinsic risk factors (Bahr and Holme, 2003; Bahr and Krosshaug, 2005; Murphy et al, 2003). Risk factors can also be classified into non modifiable and modifiable risk factors. (Cameron, 2010; Theisen et al, 2014).

Injury countermeasures can be classified as primary (actions taken before occurrence of injury), secondary (actions taken after occurrence of injury) and tertiary (actions taken to minimize the consequences of injury) (Sherker and Cassell, 2002). Some important factors that assist in prevention of injury are warming up, stretching, cool down. Physical fitness, taping and bracing, complete treatment and rehabilitation of previous injury, protective equipments, balanced training, adequate recovery and reconditioning (Brunker and Khan, 2007).

KAP survey is one of the most popular and widely used study design to get an insight into what people know about certain things, how do they feel and also how do they behave.

(Vandamme, 2009). Awareness and attitude can greatly influence the practice therefore it becomes important to gather information on this issue. KAP study on the topic of sports injury prevention is not widely reported. There exists few studies in the field of sports medicine (Killowe and Mkandawire, 2005; Muwonge *et al*, 2015; Neeraja *et al*, 2014). The researcher could find only one study in the field of sports in Indian context (Neeraja *et al*, 2014) that explored the knowledge, attitude and practices with regards to oro-facial injuries and protective devices.

It is the observation of investigator that many sporting teams in Punjab do not practice the methods of injuries prevention. There is a need to explore the reasons for this. This would help to design strategies to ensure better injury prevention which may contribute to improve performance of a player.

II. METHODOLOGY

DESIGN

The design of this study is a survey using scheduled interview. The research proposal of this study was approved by departmental ethical committee of Punjabi university Patiala.

SAMPLE

The nature of sampling in this study is simple random sampling. The sample consisted of 240 players (males (120) and females (120) aged 13 – 32 years) from both contact and non contact sports (foot ball, volley ball, basketball, handball, baseball, taekwondo, archery, athletics, rowing, tennis, badminton) which were recruited from Punjabi university, Patiala (Punjab), National institute of sports (Punjab) and Haryana School of sports, Jind (Haryana). Subjects with minimum 2 years of regular participation in sports were included. This criterion was imposed in order to eliminate the recreational players. The data was collected from August 2016 to November 2016.

DEVELOPMENT OF SURVEY QUESTIONNAIRE

An initial draft of questionnaire consisting of 67 questions including demographic data and questions on knowledge, attitude and practices of injury prevention strategies was developed after a thorough review of literature. This questionnaire was pilot tested on 15 players to establish the internal consistency and time taken to complete it. The content and validity of the questionnaire was established by jury of experts during which it was discovered that the 10 questions were difficult to comprehend and hence these were deleted and 3 questions were added. Thus the final questionnaire consisting of 60 questions was established. Section 1 consists of questions on demographic details and training profile and section 2 consists of questions on knowledge (1-15), attitude (16-30) and practice (31-48). Coaches of all the teams were taken into confidence by explaining them in detail about the purpose, aim, objective and significance of the study. After this the data was obtained through scheduled interview.

STATISTICAL ANALYSIS

Players were categorized according to their involvement in sports (contact/ non contact) level of play (elite senior, elite junior, non elite senior and non elite senior), and occurrence of injury in present and previous season. Frequency and percentage were used to prepare summary statistics. Cross tabulation with chi square (χ^2) test was also used to determine the association of knowledge, attitude and practices with the injury prevention variables. Data was analyzed using IBM SPSS version 24 software. Statistical significance was accepted at $p<0.05$ level.

III. RESULTS

At primary level more than 70% of players gave correct response regarding questions on knowledge of injury prevention strategies whereas a large number had poor knowledge regarding recovery (67.5%) is useful. More than 70% of players displayed positive attitude for all the variables except for necessity of fitness whereas a huge deficit was observed in the practice of these variables except for warm up (97.1%), stretching (87.5%) and cool down (73.3%).

At secondary level more than 70% of players had good knowledge and positive attitude towards all the variables except attitude for the use of taping (24.6%) but deficiency was observed in the practice. Similarly at tertiary level more than 70% of players have correct knowledge and positive attitude regarding complete treatment but there was poor practice regarding the same (40.4%). However poor knowledge (65.8%) and poor practice (39.6%). was seen in the reconditioning.

Domain	Correct knowledge	Positive attitude	Regular practice
Necessity of fitness before vigorous training	100%	61.7%	24.2%
Fitness assessment is essential before participation	79.2%	72.5%	45%
Previous injury increases chances of new injury	83.3%	95.4%	-
Protective gears protect from external injury	96.2%	83.3%	45.8%
Warm up helps prevent injury	87.1%	70%	97.1%
Stretching is important, improve flexibility	96.2%	90%	87.5%
Cool down is essential after training	83.3%	89.6%	73.3%
Recovery is useful for injury prevention	32.5%	77.5%	67.1%

Balanced training is important for preventing injury	89.2%	83.8%	31.7%

Table 1: presents the information about knowledge, attitude and practice with regard to primary level of prevention

Domain	Correct knowledge	Positive attitude	Regular practice
Bracing protect body part from external stress	74.2%	85.8%	23.3%
Taping prevent damage to the joint structures	78.8%	24.6%	8.3%
PRICE and medications after injury are first step	91.3%	91.3%	52.5%

Table 2: presents the information about knowledge, attitude and practice with regard to secondary level of prevention

Domain	Correct knowledge	Positive attitude	Regular practice
Complete treatment helps preventing injury	92.1%	80.8%	40.4%
Reconditioning helps in improving performance	65.8%	72.1%	39.6%

Table 3: presents the information about knowledge, attitude and practice with regard to tertiary level of prevention

IV. DISCUSSION

This study was an attempt to find out the knowledge, attitude and practices among sports persons on injury prevention strategies.

Though KAP studies are common in other disciplines such as oral health (Harikiran *et al*, 2008; Humagain, 2011; Smyth *et al*, 2007), pain management practices (Alzghoul and Abdullah, 2016), chronic pain management on health care workers (Kheshti *et al*, 2016) and health sciences such as HIV post exposure prophylaxis (Ajibola *et al*, 2014), AIDS awareness (Kalasagar *et al*, 2006), cerebral palsy (Sharma and Sinha, 2014), type 2 diabetes (Das *et al*, 2016; Okonta *et al*, 2014). The researcher could identify only one study on the awareness of sports injury prevention strategies by *Hawkins and Fuller*, (1998). But they have not deal in level of prevention in their study which is done in present study.

There are three levels of injury prevention which can be categorized as: primary prevention, secondary prevention and tertiary prevention.

Primary prevention is preventing the injury to occur. This level includes measures such as fitness, protective gear, warm up, stretching, cool down, recovery and balanced training. It is believed that if players practice these measures then chances of injury will be less. In the current study most of the players had a good knowledge of all the variables except for recovery, of which very less numbers of players were familiar with. More than 80% of players showed positive attitude towards all the variables. Despite this complete knowledge and attitude, a huge deficit is seen in the practice of items such as involvement in fitness program, preparticipation assessment, use of protective gears, recovery and balanced training. With regards to fitness, only 24% of players participate in fitness program. Just 45% underwent pre participation fitness evaluation before selection into the team. Similarly only 45.8% player wears protective equipments, 67% follow some form of recovery methods and 31.7% players practice balanced training.

Secondary prevention is the measures taken after occurrence of an injury. This includes wearing brace or tape to prevent further injury, using PRICE protocol, taking medications and complete treatment of injury. In the present study more than 75% of players had good knowledge of methods of secondary prevention and they showed positive attitude towards these methods. Despite this, only few players engage in practice of these measures. Only 52% followed PRICE after injury and 13% take medicines after injury. Only 23% wear brace during training and competition and 8.3% tape their body part during game. Interestingly players displayed negative attitude for taping and most of them did not believe that taping helped in reduction of symptoms.

Tertiary prevention includes the measures taken to return to sports after an injury. In the present study, majority of players demonstrated good knowledge about complete treatment and about 65% had knowledge of reconditioning. Moreover players also showed positive attitude towards these variables. But, this knowledge and positive attitude did not translate into practice. Only about 40% of players take complete treatment or participates in reconditioning.

We examined the influence of gender, injury status in present season, injury status in previous season, level of players and nature of game, on these variables. No significant difference was found among the gender, level of play, nature of sports, and occurrence of injury in the previous and present season on the awareness, attitude and practice

Knowledge influence attitude and positive attitude towards particular methods contributes to adherence to the practice. However in this study it was observed that for most of the variables players displayed good knowledge, positive attitude but poor practice. The reason for this finding is difficult to interpret. However with regards to the practice of tobacco smoking and drug addiction the similar findings have been reported (Al-Haqwi *et al*, 2010; Leshner, 1999). Peer pressure and stress has been implicated as some of the reason for this phenomenon. The lack of facility may also contribute to poor practice. This should be improved at the grass root level so that players can incorporate injury prevention strategies in their daily training schedules.

It is important to address this issue in future research. The present study was delimited to a particular area. There is a need to conduct similar studies in other parts of country. There is a possibility that results might differ. There is a need for cross-validation of the finding yielded by this study on a larger sample. It was observed that some non elite junior players did not pay much attention to the instructions of the investigator and had filled the questionnaires causally. This needs to be controlled in further studies by the use of appropriate methods.

In conclusion it can be said that for most of the variables the player displayed awareness and positive attitude but poor

practice. Recovering and reconditioning after injury were the areas where the awareness was limited. There is an urgent need to increase the awareness of players about the recovery methods and reconditioning about after injury. At the same time facility should be improved at the grass root level so that players can incorporate injury prevention strategies in their daily training schedules.

REFERENCES

[1] Ajibola, S., Akinbami, A., Elikwu, C., Odesanya, M. and Uche, E. (2014) Knowledge, attitude and practices of HIV post exposure prophylaxis amongst health workers in Lagos University Teaching Hospital. *Pan African Medical Journal*, *19*(172): 1937-8688.

[2] Al-Haqwi, A. I., Tamim, H. and Asery, A. (2010) Knowledge, attitude and practice of tobacco smoking by medical students in Riyadh, Saudi Arabia. *Annuals of Thoracic Medicine*, *5*(3): 145-48.

[3] Alzghoul, B. I. and Abdullah, N. A. C. (2016) Pain management practices by nurses: an application of the knowledge, attitude and practices (KAP) model. *Global Journal of Health Science*, *8*(6): 154-58.

[4] Bahr, R. and Holme, I. (2003) Risk factors for sports injuries—a methodological approach. *British Journal of Sports Medicine*, *37*(5): 384-92.

[5] Bahr, R. and Krosshaug, T. (2005) Understanding injury mechanisms: a key component of preventing injuries in sport. *British Journal of Sports Medicine*, *39*(6): 324-29.

[6] Brunker, P. and Khan, K. (2007) Principles of injury prevention. In: *Clinical Sports Medicine 3E*, McGraw-Hill Professsional: 84-106.

[7] Cameron, K.L., (2010) Commentary: Time for a paradigm shift in conceptualizing risk factors in sports injury research. *Journal of Athletic Training*, *45*(1): 58-60.

[8] Das, T., Wallang, B., Semwal, P., Basu, S., Padhi, T. R. and Ali, M. H. (2016) Changing Clinical Presentation, Current Knowledge-Attitude-Practice, and Current Vision Related Quality of Life in Self-Reported Type 2 Diabetes Patients with Retinopathy in Eastern India: The LVPEI Eye and Diabetes Study. *Journal of Ophthalmology*, *ISSN:*3423814: 1-8.

[9] Harikiran, A. G., Pallavi, S. K., Hariprakash, S. and Nagesh, K. S. (2008) Oral health-related KAP among 11- to 12-year-old school children in a government-aided missionary school of Bangalore city. *Indian Journal of Dental Research*, *19*(3): 236.

[10] Hawkins, R. D. and Fuller, C. W. (1998) A preliminary assessment of professional footballers' awareness of injury prevention strategies. *British Journal of Sports Medicine*, *32*(2): 140-43.

[11] Humagain, M. (2011) Evaluation of knowledge, attitude and practice (KAP) about oral health among secondary level students of rural Nepal-a questionnaire study. *Webmedcentral*. ISSN 20461690:1-11.

[12] Jones, B. H., Bovee, M. W., Harris, J.M. and Cowan, D.N. (1993) Intrinsic risk factors for exercise-related injuries among male and female army trainees. *The American Journal of Sports Medicine*, *21*(5): 705-10.

[13] Kalasagar, M., Sivapathasundharam, B. and Einstein, T. B. A. (2006) AIDS awareness in an Indian metropolitan slum dweller: A KAP (knowledge, attitude, practice) study. *Indian Journal of Dental Research*, *17*(2): 66.

[14] Kaliyaperumal, K. (2004) Guideline for conducting a knowledge, attitude and practice (KAP) study. *AECS Illumination*, *4*(1): 7-9.

[15] Kheshti, R., Namazi, S., Mehrabi, M. and Firouzabadi, D. (2016) Health care workers' knowledge, attitude, and practice about chronic pain management, shiraz, Iran. *Anesthesiology and Pain Medicine*, *6*(4): 1-6.

[16] Killowe, C. and Mkandawire, N. C. (2005) Knowledge, attitude and skills regarding sports medicine among football players and team doctors in the football super league in Malawi. *Malawi Medical Journal*, *17*(1): 9-11.

[17] Launiala, A. (2009) How much can a KAP survey tell us about people's knowledge, attitudes and practices? Some observations from medical anthropology research on malaria in pregnancy in Malawi. *Anthropology Matters*, *11*(1): 1-10.

[18] Leetun, D. T., Ireland, M. L., Willson, J. D., Ballantyne, B. T. and Davis, I. M. (2004) Core stability measures as risk factors for lower extremity injury in athletes. *Medicine and Science in Sports and Exercise*, *36*(6): 926-34.

[19] Leshner, A. I. (1999) Science-based views of drug addiction and its treatment. *Jama*, *282*(14): 1314-16.

[20] Messina, D. F., Farney, W. C. and DeLee, J. C. (1999) The Incidence of Injury in Texas High School Basketball A Prospective Study Among Male and Female Athletes. *The American Journal of Sports Medicine*, *27*(3): 294-99.

[21] Murphy, D. F., Connolly, D. A. J. and Beynnon, B. D. (2003) Risk factors for lower extremity injury: a review of the literature. *British Journal of Sports Medicine*, *37*(1): 13-29.

[22] Muwonge, H., Zavuga, R. and Kabenge, P. A. (2015) Doping knowledge, attitudes, and practices of Ugandan athletes: a cross-sectional study. *Substance Abuse Treatment, Prevention, and Policy*, *10*(1): 1-8.

[23] Neeraja, G., Bharadwaj, S., Shah, K. and Subramaniam, P. (2014) Knowledge, attitude, and practices regarding oro-facial injuries and oro-facial protective devices among physical instructors in Bangalore. *Journal of International Oral Health: JIOH*, *6*(3): 1-5.

[24] Okonta, H. I., Ikombele, J. B. and Ogunbanjo, G.A. (2014) Knowledge, attitude and practice regarding lifestyle modification in type 2 diabetic patients. *African Journal of Primary Health Care and Family Medicine*, *6*(1): 1-6.

[25] Sharma, R. and Sinha, A. G. K. (2014) A study on the awareness, beliefs, and service utilization among families of children with cerebral palsy in Jalandhar District of Punjab. *CHRISMED Journal of Health and Research*, *1*(3): 170-75.

[26] Sherker, S. and Cassell, E. (2002) A review of field hockey injuries and countermeasures for prevention. *Monash University, Accident Research Centre*. ISBN NO: 0732614414: 31-55.

ISSN: 2394-4404

[27] Sinha, A. G. K. (2010) Physiotherapy in sports: prospects and challenges in the Indian context. *Physiotimes* ISSN No: 0976-1993: 4-11.
[28] Smyth, E., Caamano, F. and Fernandez-Riveiro, P. (2007) Oral health knowledge, attitudes and practice in 12-year-old schoolchildren. *Med Oral Patol Oral Cir Bucal*, *12*(8): 614-20.
[29] Theisen, D., Malisoux, L., Seil, R. and Urhausen, A. (2014) Injuries in youth sports: epidemiology, risk factors and prevention. *Dtsch Z Sport Medicine, 65(*9): 248-52.
[30] Vandamme, E. (2009) Concepts and challenges in the use of knowledge-attitude-practice surveys: Literature review. *Department of Animal Health. Institute of Tropical Medicine*, *1*: 1-7.