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Knowledge of sports injuries among teacher coaches Kedah schools sports council (MSSK)

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Abstract

This study aims to test the level of knowledge on sports injuries among teacher coaches of the Kedah School Sports Council (MSSK). A total of 40 coaches, consisting of 31 male coaches and 9 female coaches, participated in this study. The instrument of this study is a set of questionnaire with two sections. The first section consists of 9 items on the coaches' background and the second section consists of 20 items on the knowledge of sports injuries. The items have been categorised into 2 dimensions which are knowledge of managing sports injuries (10 items) and types of sports injuries (10 items). A descriptive analysis was conducted involving the mean, standard deviation and percentages based on the 5-point Likert scale. The results show that the MSSK teacher coaches possess the knowledge on injury management and are able to determine the types of injury in the sports to carry out the principles of first aid. Although there were weaknesses in some aspects, the overall findings clearly showed that the MSSK teacher coaches were knowledgeable and able to identify the types of sports injuries that the athletes experienced.

Keywords: Knowledge of sports injuries, managing sports injuries, types of sports injuries, teacher-coaches

Introduction

In 2022, the Malaysian School Sports Council (MSSM) championship will take place in all states in Malaysia with each state being chosen to host the contested games. The diagram below shows the host states for all games and athletics to be contested from 4 to 24 September 2022.



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In 1968, the Malaysia School Sports Council (MSSM) was established to organise and to implement school sports development program in Malaysia. The National Education Policy had been developed and it emphasizes psychomotor, cognitive and affective domain. In 1972, the infrastructure facilities and teaching staff were developed together.

The MSSM vision is to allow students to participate in a tournament that has fun elements while showing their excellence. Meanwhile, the MSSM mission is to produce high potential elite athletes through national or international sports tournament programmes to achieve the objectives that have been set:

- To encourage, develop, preserve and organise sports activities.
- To organise and carry out all school sports activities either at the state, national and international levels.
- To manage and conduct courses for coaching and school sports personnel.
- To coordinate all rules and regulations of school sports competitions at the national and state levels.
- To cooperate with any other sports bodies or sports organisations.
- To develop and improve overall sports performance in Malaysia.
- To make recommendations to the government on the ways, measures, methods and policies that should be taken for the progress of school sports and if approved by the government, implement and assist in implementing those recommendations.

This tournament is a platform for coaches to impart coaching knowledge to their respective students to achieve victory in several types of games. Various types of sports events for students under 18 and 12 years old at the MSSM Tournament such as Athletics, Aquatic, Badminton, Handball, Netball, Basketball, Football, Volleyball, Bowling, Chess, Artistic Gymnastics, Rhythmic Gymnastics, Golf, Hockey, Yachts, Cricket, Archery, Cross Country, Table Tennis, Rugby, Sepak Takraw, Squash, Softball and Tennis have been conducted.

Coaches are the closest person to the athletes. Besides training the skills, coaches' knowledge regarding sports injuries suffered by the athletes need to be a concern. Successful coaches need to have a comprehensive knowledge that involves mastery of skills, technical skills, increase athlete motivation and knowledge to reduce the risk of injury, as well as be able to provide first aid. Coaches need to be sensitive in every injury that suffered by their athletes and coaches who do not know about sports injury can give a negative impact on the athletes in terms of emotion and motivation.

Sports injuries occur during sports, recreation or during minor accidents. Incomplete training skills, poor training environment or venue, and non-standard equipment are other factors that contribute to the injury (Wong & Chen, 2010)^[27]. Most athletes suffer from these injuries due to inadequate training. Inadequate warm-up training will also contribute to sports injuries (Junaidy Mohamad Hashim, Mohd Foazi Md. Nor, Syed Ahmad Ezahar Syed Ambon & Mohd Zainuri Embi, 2019; Soligard, Nilstad & Steffen, 2010)^[12, 24]. Common types of sports injuries are muscle tension and injury, knee injuries, swollen muscles, tendon injuries, fractures and dislocations.

Athletes are always prone to injuries whether they are serious and it could possibly be fatal. Mild injuries could also affect the performance of athletes (Powers & Howley, 2001). Neuman (1983)^[20], his study has proven that the joints have a very high risk of injury for an athlete.

This study aims to examine the level of knowledge of teacher-coaches to the extent of their knowledge of managing injuries

in sports, identify and evaluate the level of injuries among their athletes consisting of students.

Research problems

Injury in sports is a serious problem and occurs in all types of sports regardless of age. The National Athletic Trainers Association (NATA) reports that 62% of athletes who are still in school often suffer injuries during sports. This problem often haunts athletes who engage in sports that involve body contact (*combat game*) and aggressive game patterns (Ellen, Christy, Randall & Dawn Comstock, 2001)^[8].

Injuries to athletes not only interfere with their performance but also cause negative effects and reactions to coaches, teammates, sports fans and individuals who are directly involved in the sports. Therefore, coaches need to know about managing and determining the types of injuries in sports so that the percentage of athletes who get injured can be reduced and can be given early treatment immediately (Junaidy Mohamad Hashim & Baharudin Yaacob, 2015; Junaidy Mohamad Hashim & Anuar Din, 2015)^[14, 15].

No individual wants to be injured while playing sports. However, injuries can occur regardless of anyone (Asha Hasnimy Mohd Hashim & Mat Azmin Bakar, 2011; Van Beek, 1995)^[2, 25]. According to the National Institute of Arthritis and Musculoskeletal and Skin Disease (2002)^[19], parents are encouraged to enrol their children in schools that have certified coaches and have knowledge of injuries in sports because they have been exposed and have specific strategies to avoid the occurrence of injury. This statement is supported by Flegel (2008)^[10], that the provision of specific training or periodization programs, emphasis on proper skills techniques and efficient safety systems in terms of facilities and equipment can reduce the risk of injury.

Coaches need to be sensitive to their duties and responsibilities towards athletes. Knowledge of sports injuries is one of the coach tasks or responsibilities that have to be carried. Athletes with injuries should be getting first aid treatment before seeing a physician. Therefore, the coach's knowledge and ability to determine the types of injuries in sports will be able to help injured athletes get a scientific and systematic start-up treatment (Junaidy Mohamad Hashim & Anuar Din, 2015)^[14, 15].

Research Objective

1. To identify the frequency of MSSK coaches applying knowledge of sports injuries while managing injuries to athletes.
2. To identify the MSSK coach method of identifying the types of injuries and assessing first aid injuries.

Research Question

1. What is the frequency of MSSK coaches applying knowledge of sports injuries while managing injuries to athletes?
2. How do MSSK coaches identify the types of injuries and assess first aid injuries?

Research Methodology

This study is in the form of surveys and explorations based on questionnaires. This method is suitable in research that aims to gather information on the variables related to a phenomenon without questioning why those variables exist (Mohd Majid Konting, 1990 & Chua Yan Piau, 2006; 2009)^[18, 5, 6, 7].

The research instruments used in this research are 2 sets of questionnaires that have a high validity value of 0.82 for the questionnaire "Knowledge of Sports Injury Management" and 0.81 for the questionnaire "Identifying Types of Injuries and

Assessing Injuries to Help Start" by Junaidy Mohamad Hashim and Baharudin Yaacob (2015) ^[14, 15]. This questionnaire was developed by previous researchers based on a literature review on sports injury knowledge that needs to be mastered and practised by coaches as a basis for constructing questionnaires and has undergone a pilot study process and is suitable for use.

Researchers use this design to identify knowledge of injuries in sports among MSSK teacher coaches who will prepare to participate in the MSSM tournament organized by the Ministry of Education Malaysia in 2022.

Findings

Study sample profile

Table 1: Sample Distribution by Gender and Age

	No	%	No	%	No	%	Total	%
Age	25 - 30		31-40		41-50			
Male	3	10	13	42	15	48	31	77.5
Female	2	22	4	44	3	33	9	22.5
Total							40	100

Table 1 shows the distribution of the study sample percentage by gender and age. The results of the analysis showed that 77.50% were male samples and 22.50% were female samples. There were 3 male samples (10.00%) aged 25 to 30, 13 people (42.00%) aged 31 to 40, and 15 people (48.00%) aged 41 to 50. There was 2 (22.00%) sample of women aged 25 to 30 years. The sample of women aged 31 to 40 was 4 people (44.00%) and aged 41 to 50 was 3 people (33.00%).

Table 2: Distribution of Sample Percentage by Academic Qualification

	No	%
Academic Qualification		
Diploma in Education	1	2.5
Bachelor's Degree	35	87.5
Master's Degree	4	10
Doctor of Philosophy	0	0
Total	40	100

Table 2 shows the percentage distribution of samples according to academic qualifications. The analysis showed that 1 person (2.50%) had a Diploma in Education, 35 people (87.50%) had a Bachelor's Degree, 4 people (10.00%) had a Master's Degree while no sample had a Doctor of Philosophy (PhD).

Table 3: Sample Distribution by Coaching Qualifications

	No	%
Coaching Qualification		
None	27	67.5
Level 1	10	25
Level 2	3	7.5
Level 3	0	0
Total	40	100

Table 3 shows the percentage distribution of samples according to coaching qualifications. The analysis showed

that only 27 people (67.50%) did not have any coaching qualifications. There were 10 people (25.00%) with Level 1 and 3 people (7.50%) with Level 2. No sample had a level 3 coaching qualifications.

Table 4: Distribution of Sample Percentage by Sports Science Qualification

	No	%
Sports Science Qualification		
None	29	72.5
Level 1	11	27.5
Level 2	0	0
Level 3	0	0
Total	40	100

Table 4 shows the percentage distribution of samples according to Sports Science. The analysis showed that no sample had Level 2 and Level 3 Sports Science qualifications, only 11 people (27.50%) had Level 1 Sports Science qualifications, and 29 people (72.50%) did not have Sports Science qualifications.

Table 5: Distribution of Sample Percentage by Trained Sports

	No	%
Types of Sports Trained		
Athletic	4	10
Badminton	3	7.5
Handball	2	5
Netball	4	10
Basketball	2	5
Football	8	20
Volleyball	1	2.5
Woodball	0	0
Gymnastics	3	7.5
Hockey	2	5
Archery	1	2.5
Ping pong	1	2.5
Rugby	4	10
Sepak takraw	2	5
Softball	2	5
None	1	2.5
Total	40	100

Table 5 shows the distribution of the percentage of samples according to the sports trained by the teacher-coaches from the MSSK Level to the MSSM level.

Table 6: Distribution of Sample Percentage by Experience

Experience (Year)	1 – 4 years	5 – 9 years	10 – 14 years	15 years and above
No (n)	8	19	6	7
Percentage (%)	20	47.5	15	17.5

Table 6 shows the percentage distribution of the sample according to experience as a sports coach. The analysis shows that 8 people (20.00%) have been coaches from 1 to 4 years, 19 people (47.50%) have been coaches for 5 to 9 years and 6 people (15.00%) have been coaches for 10 to 14 years, while 7 people (17.50%) have been a coach for over 15 years.

Table 7: Distribution of Sample Percentage by Sports Injury Management Disclosure

	No	%
Disclosure		
Yes	32	80
No	8	20
Place of Disclosure		
Coaching Course	8	25
Sports Science Course	11	34
IPG/University	7	22
Friends	1	3
Media	1	3
Course Regarding Injuries	4	13
Total	32	100

Table 7 shows the percentage distribution of samples according to sports injury management exposures. The analysis showed that 32 people (80.00%) has received exposure to sports injuries and 8 people (20.00%) have never received any sports injury management exposure. Various places where the sample has received exposure to sports injury management during the coaching course, 8 people (25.00%), and Sports Science course 11 people (34.00%). Disclosure through the IPG/University 7 people (22.00%) and through media of 1 people (3.00%), exposure by a friend of 1 people (3.00%) and other courses regarding to injuries of 4

people (13.00%).

Sports injury management knowledge

This section is to identify the level of knowledge of the coach in managing sports injuries according to the following scale:

1. Always
2. Often
3. Sometimes
4. Rarely
5. Never

Statement	1	2	3	4	5
Able to assess specific knowledge of old non-recurrent injuries.	8%	18%	34%	34%	6%
Emphasis on stretching activity reduces soft tissue injury.	62%	12%	4%	2%	0%
Students wear protective devices to prevent soft and hard tissue injuries.	12%	30%	4%	10%	4%
Can identify ligament and tendon injuries based on signs and symptoms.	4%	20%	4%	38%	14%
Able to assess and treat the effects of bruises immediately.	20%	26%	30%	18%	6%
Monitor and evaluate the effects of concussion 48 hours after head injury.	8%	20%	10%	16%	46%
Practise PNF for maximum stretching and muscle contraction.	12%	22%	36%	20%	10%
Ensure proper throwing and rotation activities and do not put excessive pressure on the tendons.	20%	4%	26%	22%	8%
Able to identify closed fractures.	8%	12%	14%	20%	46%
Treatment evaluation differs between closed fractures and pressure fractures.	6%	18%	16%	20%	40%

Frequent use of sports injury knowledge

MSSK coaches have a weakness to ensure that the risk of recurrence of their athletes' long-term injuries. The low scale indicates that they lack the knowledge in identifying old or new types of injuries.

However, they have high awareness in the aspect of warming up before doing activities. Warming up can reduce the risk of injury while competing (Junaidy Mohamad Hashim, Mohd Foazi Md. Nor, Syed Ahmad Ezahar Syed Ambon & Mohd Zainuri Embi, 2019; Soligard, Nilstad & Steffen, 2010)^[14, 15, 24]. The use of proper and appropriate protective equipment is also prioritized to prevent injury (Wong & Chen, 2010)^[27].

Moderate ability in identifying ligament and tendon injuries indicates coaches lack expertise and confusion between tendons and ligaments. Moderate ability in knowledge to assess and treat the effects of bruises also indicates that coaches are less robust in the knowledge and application of treating such injuries. Coaches are also less able to detect the effects of extended concussions (Junaidy Mohamad Hashim & Anuar Din, 2015)^[14, 15].

However, the coach's ability in knowledge for Proprioceptive Neuromuscular Facilitation (PNF) warm-up activities is high

and this shows that the coach knows how to apply it to ensure that athletes do proper stretching and muscle contraction. Coaches also have a high level of knowledge in proper training techniques and methods for the athletes and at the same time can reduce the risk of injury.

The moderate ability of the coach in identifying the signs of the occurrence of a closed fracture should also be given attention and the coach should improve his knowledge in the field of anatomy and physiology. Coaches also have moderate knowledge in making assessments in treating open fractures and stress fractures.

Identify the type of injury and assess the injury for first aid

This section is to look at the coach's ability to identify the type of injury and assess the injury to first aid according to the following scale:

1. Always
2. Often
3. Sometimes
4. Rarely
5. Never

Statement	1	2	3	4	5
Can identify the type of injury based on signs and symptoms.	10%	22%	30%	30%	8%
Ask the cause of the injury before giving treatment.	38%	32%	20%	6%	4%
Provide first aid treatment to injured students during training.	24%	28%	34%	14%	0%
Ability to use the DRABC method for students who faint during training.	6%	16%	16%	24%	38%

Practise the RICE method for soft tissue injuries.	10%	28%	24%	28%	10%
Ensure students receive further treatment from a doctor.	42%	32%	22%	2%	2%
Record each student injury on an ongoing basis.	14%	16%	24%	28%	18%
Provides first aid management data to each injured student.	18%	12%	20%	32%	18%
Inform the beneficiary/guardian if the student suffers an injury during training and competition.	56%	16%	26%	2%	0%
Injured students are rested from any training.	66%	18%	16%	0%	0%

Identify the type of injury and assess the injury for first aid

The coach knows the aspect of identifying the type of injury based on clear signs and symptoms. They can provide first aid to athletes before receiving further treatment. This shows they have enough basic knowledge to help athletes.

MSSK coaches are also able to practise the new method of DRACAB method if athletes face cardiovascular problems among athletes who faint during training or competition. Coaches are also able to practice the RICER method to safely reduce swelling and the effects of bruising or contusion.

The MSSK coach was found to have no record or notes of the level of injury suffered by the athlete in the previous competition but the MSSK coach had a good relationship with the athlete's family by informing the athlete's family in the event of an injury.

MSSK coaches take steps for the athlete to rest and abstain from training or competition. Only athletes who have the approval of a doctor or physician are allowed to compete or train (Junaidy Mohamad Hashim & Anuar Din, 2015)^[14, 15].

Conclusion

The findings of this study as a whole show that MSSK coaches have strengths and weaknesses in aspects of injury management knowledge in sports. Among the strengths of these MSSK coaches is that they always ensure the safety of athletes and always emphasize safety aspects as a preventive measure. MSSK coaches also have a very good level of specific coaching (skills) and this can help them ensure that athlete injuries can be avoided. MSSK coaches are also able to provide first aid if the athlete suffers a non-serious injury.

The most obvious weakness of the MSSK coaches is that they do not have a record of athlete injuries. This can cause the athlete's old injury to reoccur and this will interfere with the coaches planning to practise the planned strategy. Besides, MSSK coaches also need to deepen their knowledge of injury management in sports to help injured athletes (White, Otago & Saunders, 2014)^[26].

Suggestions

Based on the findings of this study, the researcher suggests that the Ministry of Education Malaysia (MOE), especially the Sports Division, should pay serious attention to the ability of coaches to train athletes with proper techniques and latest knowledge on injury management in sports to reduce the risk of injury to athletes during training or competition. The MOE Sports Division is proposed to conduct short-term and long-term courses for all MSSK coaches to strengthen their knowledge on injury management in sports and specific coaching. The Ministry of Education Malaysia (MOE) can also conduct smart partnership activities with relevant agencies to increase the knowledge of coaches.

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