

Examination Extent of Coaches' Awareness of Exercises in Indoor Sports Facilities

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ABSTRACT

The aim of the present research was to examine the proper use, equipment assessment, and coaches' awareness of exercises in indoor sports facilities. This study was conducted with an applied research objective, using a field research approach, and the data collection method was descriptive survey. The statistical population of the research consisted of all indoor sports facilities in Parsabad County. Since their number exceeded 6,400, the population was considered unlimited, and a sample size of 400 individuals was selected. To collect information, a researcher-made questionnaire was used, assessing the safety and hygiene of indoor sports facilities in Parsabad County. In this regard, the evaluation of safety and hygiene in indoor sports facilities in Parsabad County was divided into five regions: east, west, north, south, and central, and the questionnaires were equally distributed among the customers of these sports facilities. The data from the mentioned questionnaire were analyzed using the SPSS 18 software through descriptive statistics. The validity of this questionnaire was confirmed by sports management professors, and its reliability was determined as 0.70. The results indicated that the coaching method, proper execution of exercises, and correct equipment usage, as well as equipment assessment and control, were areas where coaches' awareness was lacking when performing exercises. Furthermore, coaches' awareness of the risks associated with unauthorized drug use in inappropriate conditions was inadequate.

Keywords: Indoor sports facilities, Coaches' awareness, Proper equipment use, Equipment assessment

Introduction

The utilization of sports facilities as a means for urban and regional development has both strong and weak arguments. Various influential factors in this context can bring about fundamental changes in construction, positioning, and new conditions, thereby offering financial benefits, as well as fostering a range of opportunities for stakeholders (1). In today's times, sports have evolved into a vital societal need with a heightened focus on health and well-being across all age groups. Beyond being a profession and recreation, sports provide financial benefits, increased social connections, and personal development. For this reason, the use of indoor facilities has gained greater prominence nationwide (2). In Iran, due to the scarcity of open-air sports venues and the lack of diversity in sports activities, people are increasingly turning to indoor facilities. They seek to harness the benefits of indoor spaces while ensuring safety and hygiene (3).

Failure to maintain essential safety and hygiene in sports facilities, particularly indoor ones, can lead to injuries, physical harm, and even fatalities, incurring substantial financial costs. Incidents occurring in indoor sports facilities have caused harm and may not have been extensively reported. Preventing accidents is both easier and cost-effective (4). The lack of necessary information about indoor facilities, such as safety, hygiene, sports facilities, personnel, and weather conditions, has posed challenges to sports facility managers and national authorities in terms of health and safety management. Clubs, if they adhere to safety and hygiene standards in indoor facilities and timely control these aspects, can establish a sanitary and safe environment for their customers. They should also take measures to minimize risks and injuries among facility users, as a significant number of individuals use indoor facilities where infections and diseases can spread. Ensuring the essential peace of mind for all facility users, including athletes, children, women, seniors, men, coaches, and managers, is crucial to enhancing the utilization of indoor sports facilities (5).

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Abot *et al.* (2007) conducted a study titled "Assessing Safe Clubs and Managing Sports-Related Injuries." The findings of their research emphasized the importance of safety as a significant factor (6). In another study by Richlo *et al.* (2008), titled "Comparative Epidemiology of Sports Injuries in School Training and Competitions," they found differences in the number and types of sports injuries between training and competitions. However, coaches and sports teachers, through proper educational programs, can familiarize themselves with these differences and play an influential role in reducing the frequency and severity of sports injuries, thus promoting safety in sports facilities (7).

Foroughipour, Saboonchi, and Teip (2011) proposed a study titled "Evaluation of the Efficiency of Sports Facilities from the Perspective of Physical Education in Hamedan." They suggested that due to the scarcity of sports facilities in physical education in educational institutions and the absence of expert individuals with experience in sports facilities management, it is worthwhile for senior managers to consider solutions for addressing this fundamental issue. They can do so by providing incentives such as increased monthly income, recruiting specialists, and enhancing the skills of individuals responsible for managing sports facilities. Furthermore, they emphasized the utilization of managers and supervisors in sports facilities for monitoring and control, the use of checklists, regular maintenance, and the implementation of hourly scheduling to increase the efficiency of sports facilities (8).

Shahabinejad (2012) conducted a study titled "Investigating the Safety Status of Sports Halls Affiliated with the Sports and Youth Office of Kerman Province." The findings of this research indicate that the safety status of the facilities and buildings of sports halls falls within the moderate range, and the safety of the activity areas in sports facilities is generally in good condition (9). In another study by Farsi, Zamanithani, and Fathi Rezaei (2012), titled "Investigation and Comparison of Safety Standards in Sports Spaces and Equipment in Schools from Different Areas of Tehran County and Providing Appropriate Solutions for Addressing Potential Issues and Optimal Use," they found that the safety of sports facilities in Tehran County is much lower than the standard conditions. However, the safety of sports facilities in secondary and high schools is better compared to elementary schools (10). Heydari (2013) conducted a study titled "Comparison of Safety and Per Capita Facilities in Zanjan Province with International Standards." The findings of this research indicate a significant disparity between the per capita sports facilities in Zanjan and the global average per capita sports facilities. Furthermore, the safety conditions of the ten criteria for indoor sports facilities and equipment in Zanjan Province differ significantly from international standards (11). Naderian Jahromi and colleagues (2013) conducted a study titled "Identification of Safety Indices and Standards for Sports Halls and Facilities." The results of this research show that compliance with safety standards and indices in five areas, including crisis management, risk management, communications and training, modeling and simulation, is higher than the average (12).

Javanmardi and Bagheri (2010) conducted a study titled "Comparison of Safety and Hygiene Status in Indoor Sports Facilities of the Physical Education Department and the Sports and Youth Organization of Hamedan Province with Standards." The findings of this research reveal that the safety and hygiene status of sports facilities in these organizations is below the global standards (13). In a study by Afrouzeh and colleagues (2010) titled "Investigation of the Safety and Hygiene Status of Sports Facilities and Spaces in Jahrom City," they found that the construction and facility conditions had a 56.5% safety rate, equipment and materials had a 45% safety rate, the surroundings had a 37.5% safety rate, and the spectator seating and hygiene checklists had the highest and lowest safety rates, respectively (14). Sayyah and colleagues (2005) conducted a study titled "Evaluation of the Safety Status of Sports Facilities in Kashan City with a Focus on Kashan's Safety." The findings of this research indicate that the sports facilities in Kashan City are not in a favorable condition (15). Kargar and colleagues (2006) conducted a study titled "Analysis of the Status of Sports Facilities in the Country and Determination of Factors Affecting Efficiency from the Perspective of Experts and the Presentation of an Efficiency Model." The results of this research suggest that human resources, management, facilities and equipment, and the construction efficiency of sports facilities are the most important factors in this model (8).

Hosseinpour (2010) conducted a study titled "Comparison of the Safety and Hygiene Status of Sports Halls in Razavi Khorasan Province." The findings of this research indicated that multi-purpose halls in this province had a lower safety level compared to single-purpose halls. Additionally, there was a significant and meaningful difference in the safety and hygiene status among the mentioned halls (16). Farsi and colleagues (2007) conducted a study titled "Investigation of the Safety Status of State University Sports Facilities in Tehran." The findings of this research indicate that the facilities in the university, including the safety level of spaces and sports facilities, safety of stands, benches for spectators, and the hygiene conditions of the sports venue, were all rated at a lower level. Furthermore, the condition of equipment, facilities, borders, and boundaries had an average safety and hygiene rating of 2.79, indicating a relatively good state. However, concerning standards, the sports facilities at the University of Tehran did not meet the desirable safety criteria (17).

The aim of safety in sports venues is to manage indoor facilities. An issue of great concern to venue managers is the use of sports supplements and enhancements (18). This topic is prevalent among indoor sports facilities, and most customers believe in the use of these supplements to achieve their desired performance in sports (19). The safety and hygiene conditions of sports venues, the stability of equipment, appropriate dressing rooms, heating, and ventilation are essential factors to consider. Are the indoor facilities meeting the psychological and physical safety and hygiene standards (20)?

Considering that the focus of the current research is the awareness level of coaches regarding exercises in indoor sports

facilities in Parsabad County, the results of this study can provide valuable insights and information to the managers and developers of these facilities. Furthermore, it can help identify the strengths and weaknesses of the sports facilities and equipment, providing information for improving existing programs and achieving desired efficiency in future planning.

Materials and Methods

This research is considered to be applied in terms of its objective, and the data collection method employed is field research. The research method used is descriptive and survey-based. The research population encompasses all athletes, employees, coaches, and customers of indoor sports facilities in Parsabad County. The indoor sports facilities in Parsabad County are divided equally into five regions: north, south, east, west, and central, and questionnaires were distributed among managers, customers, coaches, and the facilities themselves. The total number of athletes who use these facilities is 6400. To determine the sample size, the Cochran formula was used, and a sample size of 400 individuals was considered. The participants were selected randomly through cluster sampling.

For data collection, the researcher employed a questionnaire designed based on existing questionnaires related to safety and hygiene, while also seeking consultation from management experts knowledgeable in the field. This questionnaire consisted of 17 components and 89 questions, including 10 descriptive questions for personal information and 79 inferential questions, which aimed to assess safety and hygiene through the perspectives of individuals using indoor sports facilities, such as athletes, coaches, managers, and facility personnel.

To assess the safety and hygiene status of indoor sports facilities in Parsabad County, a questionnaire was developed by the researcher. To determine the content validity, the questionnaire was reviewed by university management professors and confirmed for validity. The reliability of the questionnaire was measured using Cronbach's alpha, and the results, as shown in **Table 1**, indicate that all variables have satisfactory reliability with a value greater than 0.70.

Table 1. Reliability Coefficients for Research Variables

Research Variables	reliability coefficient (α)	Number of questions
Methods of guidance, proper implementation of movements, and correct use of equipment	6	6
Measurement of equipment and extent of equipment control in facilities	11	11
Limits of coaches' awareness with proper implementation of exercises	9	9
Limits of coaches' awareness of the dangers of unauthorized pill consumption in indoor facilities	6	6
All variables	0.87	81

SPSS software was used at a significance level of 0.05 for data analysis.

Results and Discussion

The results indicate that the majority of the respondents in terms of age fall within the range of 25 to 35 years, with a frequency of 31.3%. Conversely, the lowest number of respondents are aged over 45 years, accounting for 17.3%. Of the respondents, 57% are male, and 43% are female, with males comprising the majority of the sample under study. Marital status shows that 57.5% of the respondents are single, while 42.5% are married. Among the respondents, the largest proportion (50.5%) have a sports history of more than two years. In terms of monthly income, 35.5% of the respondents earn more than one million Rials, with the lowest income category being those who earn less than or equal to five hundred thousand Rials, constituting 29.8% of the sample. Most respondents (54.8%) are employed as civil servants. A significant portion of the respondents (50.3%) spend more than two hours on exercise. (Table 2)

Table 2. Descriptive Statistics of Research Variables

Research Variables	Descriptive Statistics								
	N	min	max	mean	Standard deviation	Skewness	Kurtosis		
Guidance and proper execution of exercises	400	1.00	5.00	3.5175	1.10124	-.408	-.122	-.682	.243
Examining the extent of control and evaluation of sports equipment	400	1.00	5.00	3.5133	1.05362	-.536	-.122	-.057	.243
Locker rooms for athletes and coaches	400	1.00	5.00	3.5871	1.09370	-.381	-.122	-.607	.243
Entrance and exit doors of indoor facilities	400	1.00	5.00	3.815	1.11978	-.251	-.122	-.503	.243

Table 3. Results of the one-sample t-test for methods of guidance, proper implementation of movements, and correct use of equipment in indoor sports facilities of Parsabad County

Variable	Median	df	Test statistics	Significance level	Mean difference
Methods of guidance, proper implementation of movements, and correct use of equipment	51.2	399	81.12	000.0	517.0

Source: Research findings 2020

Given **Table 3**, the significance level is zero which is less than 0.05, so the null hypothesis that methods of guidance, proper implementation of movements, and correct use of equipment in indoor facilities have no effect is rejected. In other words, and according to previous explanations, this means that methods of guidance, proper implementation of movements, and correct use of equipment in indoor facilities are above average, so it can be said that they are not in a favorable condition.

Table 4. Results of the one-sample t-test for examining the measurement of equipment and extent of equipment control in indoor sports facilities of Parsabad County

Variable	Median	df	Test statistics	Significance level	Mean difference
Measurement of equipment and extent of equipment control in facilities	51.2	399	26.13	000.0	513.0

Source: Research findings 2020

Given **Table 4**, the significance level is zero which is less than 0.05, so the null hypothesis that measurement of equipment and extent of equipment control in indoor facilities have no effect is rejected. In other words, and according to previous explanations, this means that measurement of equipment and extent of equipment control in indoor facilities of Parsabad County are above average, so it can be said that they are not in a favorable condition.

Table 5: Results of the one-sample t-test for examining the limits of coaches' awareness with proper implementation of exercises in indoor sports facilities of Parsabad County

Variable	Median	df	Test statistics	Significance level	Mean difference
The limits of coaches' awareness with proper implementation of exercises in indoor sports facilities	58.2	399	14.46	000.0	587.0

Variable	Median	df	Test statistics	Significance level	Mean difference
The limits of coaches' awareness with proper implementation of exercises	58.2	399	14.46	000.0	587.0

Source: Research Findings 2020

According to **Table 5**, the significance level is equal to zero, which is less than 0.05. Therefore, the null hypothesis, which implies no significant effect, is rejected. In light of the above table, the significance level is equal to zero, which is less than 0.05. Hence, the null hypothesis, suggesting no significant effect, is considered undesirable. In other words, it can be concluded that, for assessing the awareness boundaries of coaches regarding the proper execution of exercises in the indoor sports facilities of Parsabad city, the level of awareness is higher than the average. Consequently, it can be stated that the situation is not desirable.

Table 6. Results of One-Sample T-Test for Assessing Coaches' Awareness Boundaries of the Risks of Unauthorized Use of Supplements in the Indoor Sports Facilities of Parsabad City.

Variable	Median	df	Test statistics	Significance level	Mean difference
The limits of coaches' awareness of the dangers of unauthorized pill consumption in indoor Sports Facilities	2.46	399	11.81	000.0	461.0

Source: Research Findings 2020

Based on **Table 6**, the significance level is equal to zero, which is less than 0.05. Consequently, the null hypothesis, which suggests no significant impact, is rejected. Considering the above table, the significance level is equal to zero, which is less than 0.05.

Conclusion

Regarding the assessment of the relationship between the guidance method, proper exercise execution, and correct equipment usage in the indoor sports facilities of Parsabad County, the results demonstrate a significant level equal to zero, which is less than 0.05. Therefore, the null hypothesis suggesting a favorable condition is not supported. This implies that the status

of these factors is less than desirable in terms of coaches' awareness of proper exercise execution in indoor sports facilities. In contrast to the present study, Richel *et al.* (2008) conducted a research study titled "Comparison of the Epidemiological Incidents of School Sports in Training and Competitions," which found that the incidence of sports injuries differs between training and competitions. It was noted that coaches and sports teachers should be familiar with first-aid training to effectively reduce the severity and frequency of sports injuries, thus enhancing safety in sports facilities (21). Additionally, Hasani *et al.* (2008) conducted a study titled "Description and Comparison of Safety Management in Guidance School Physical Education Classes in Ahvaz City." The results showed that the average safety status of equipment, sports facilities, and first aid equipment in Ahvaz City's Guidance schools was at a medium to low level (22). In light of previous studies and their inconsistency with the present research, it can be concluded that the guidance method, proper exercise execution, and correct equipment usage in indoor sports facilities in Parsabad County are above average and not in a favorable condition.

For assessing the relationship between the assessment of equipment and the degree of equipment control in the indoor sports facilities of Parsabad County, the results also indicate a significant level equal to zero, which is less than 0.05. Consequently, the null hypothesis suggesting a favorable condition is not supported. This suggests that the status of equipment and equipment control in indoor sports facilities in Parsabad County is inadequate and not in a favorable condition. In contrast, Esfahan Kalati and Asgharpour (2008) conducted an incongruent research study titled "Investigation of the Safety and Health Status of Basketball Halls in Gorgan City," which found that the basketball halls were assessed at an intermediate level, and the condition of the equipment used was considered desirable. This implies that the equipment and equipment control in Parsabad County's indoor sports facilities are not appropriate and are not in a favorable condition. (23)

To assess the relationship of coaches' awareness with the proper execution of exercises in covered sports facilities in Parsabad County, as indicated by the results, a significant level has been obtained equal to zero, which is less than 0.05. Therefore, the null hypothesis, which implies a desirable condition, is not confirmed. Soltanin (2015) conducted a research titled "Assessment of the Efficiency of Sports Facilities from the Perspective of Physical Education in Hamedan." He proposed that due to the low per capita sports environment in the field of physical education in education and the absence of experienced and specialist individuals, senior managers should consider an appropriate way to address the fundamental problem. By providing incentives such as increased monthly earnings, having advantages, and more. Also, he emphasized that the use of managers and supervisors in sports facilities for supervision and control, the use of checklists, maintenance, having a schedule for using sports facilities, and more, are essential for enhancing the efficiency of sports facilities. In general, based on the obtained

results, it can be concluded that coaches' awareness regarding the proper execution of exercises in covered sports facilities in Parsabad County is above average and in a desirable condition.

To assess the relationship between coaches' awareness of the unauthorized use of drugs in the covered sports facilities in Parsabad County, as the results have shown, a significant level has been achieved, which is less than 0.05. Therefore, the null hypothesis, implying a desirable condition, is not supported. Tinswortha and Mc Donald (2001) conducted a relevant study on the subject of "Injuries and Deaths Resulting from Children's Sports Equipment." The findings of this study indicate that the critical factor in the occurrence of injuries is not the equipment itself but other factors such as incorrect usage, improper sports movement techniques, and more. The study also reveals that the injury rate among girls is 55% higher than that among boys. Subsequently, Tinswortha and Mc Donald analyzed safety concerns for parents as a significant factor in preventing children's sports activities. The research findings suggest that girls' participation is underreported compared to boys, and contact sports such as football, rugby, and weightlifting are more prevalent among male participants. To address this issue, enhancing the safety of sports equipment is necessary and creating opportunities for female participation can help parents encourage their daughters to engage in sports activities with greater confidence (24).

Based on the results obtained in this section, it can be concluded that the coaches' awareness of the unauthorized use of drugs in the covered sports facilities of Parsabad County is in an undesirable condition. This research was conducted in the covered facilities of Parsabad County, and its generalization to other cities and provinces should be done with caution. The research findings have shown that coaches' awareness of proper exercise performance is not in a desirable state. However, it is recommended that significant efforts be made to improve this condition so that users of the covered sports facilities in Parsabad County can achieve good results in their exercises.

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