

**Injury-Related Knowledge and Beliefs of Basketball Coaches in Indonesian Setting**

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Abstract

As the level of restrictions on community activities decreased, more institutions and organizations began to conduct basketball competitions as a result of the broad popularity of the sport. The intensity of practice has increased as a result of the competitive atmosphere. As a result of increased training intensity, there is an increase in player injuries sustained during practice or competition. This study aimed to explore basketball coaches' beliefs toward injury in student-athletes, particularly at the high school and university levels. The study employed a survey approach, with the target group consisting of basketball coaches at the high school and university levels in Malang, East Java. According to the study's findings, individual factors affecting players put the most significant pressure to play during an injury. Additionally, the coach is the second most influential factor in pressuring injured players to play, trailing only teammates and parents. Among the themes that emerged from this study on injury-related knowledge and beliefs were the determination to win, the significant role of the participants, and the ability to serve as a source of motivation for other players.

INTRODUCTION

Among the most popular sports in today's culture, basketball is one of the most popular. Due to the widespread popularity of this sport, institutions and organizations are interested in arranging basketball championships for people of all ages (Leonardo et al., 2020). However, while dealing with the Covid-19 pandemic, the number of basketball competitions seems to decline. Nonetheless, some institutions or organizations have begun to conduct basketball competitions again after the Republic of Indonesia's Ministry of Youth and Sports Affairs stipulated a circular letter 6.11.1/Menpora/VI/2020 concerning Protocol Prevention of Corona Virus Transmission Disease (COVID-19).

In addition to the applicable circular letter, various student, non-professional, and professional basketball competitions resumed as the level of limitations on community activities (PPKM) lessened (Hasanah, 2020; Putri, 2020). The competitive environment felt by the coaches and players has boosted the intensity of practice, which had been declining owing to the pandemic. According to Bourdas et al. (2021), due to significant lay-offs during the pandemic, aerobic and anaerobic training should be introduced gradually, building to basketball-specific high-intensity drills and should include different types of exercise and drills in combination with applied technical and tactical skills.

A gradual increase in training intensity increases the frequency of player injuries during practice or competition. As more children and youth participate in organized sports, injuries associated with sports have risen (Emery, 2009). Moreover, injury rates during games were two times higher than those during practices (Troijan et al., 2013). According to Bahr et al. (2015), a sports injury is damage to the body's tissues that develops due to sport or exercise. It includes any physical activity-related injury.

Injuries that frequently occur in sports primarily affect the musculoskeletal system, including muscles, tendons, ligaments, and bones. A study by Meeuwisse et al. (2013) found that 44.7% of inter-university basketball players were injured throughout the course of the study's two years. Furthermore, McKay et al. (2014) discovered that ankle injuries occur at a rate of 3.85 per 1000 participants. A substantial number of injuries were discovered even at the professional level. According to a prior study conducted by Drakos et al. (2010), profes-

sional NBA athletes sustain a high proportion of game-related injuries, with ankle sprains being the most prevalent. In addition, Troijan et al. (2013) reported that a lower extremity injury was three times as prevalent among teenagers (15-19 years old) than in younger children (50.7% of basketball-related injuries). Injury to basketball players at the non-professional level is probably due to a lack of resources and knowledge of proper injury management.

The high number of injuries sustained during training and competitions is not consistent with the treatment of the associated injuries. Iversen & Friden (2009) found that inadequate coach knowledge has been linked to increased injury rates, and corrected injury prevention training approaches have been shown to decrease injury risk. Frequently, coaches rely on experience over knowledge regarding the value of injury prevention (Munoz-Plaza et al., 2021). As a result, injuries may become a discouragement from participating in sports or other forms of exercise. Based on field observations, the coaching staff, mainly coaches and coaching assistants, were shown to have a limited role in providing appropriate help to injured players. Generally, coaches play an important role in facilitating injury preventive actions to lower the risk of injury in youth sports; however, this is likely influenced by their understanding of and attitude toward injuries and injury prevention programs (Callaghan, 2022).

Basketball coaches should contribute more to injury prevention activities since they have direct contact and influence on the field. According to McKay et al. (2014), athletes are more likely to commit to injury prevention methods by educating coaches. In addition, Smoll & Smith (2001), coaches and the atmosphere they provide are broadly acknowledged to significantly impact young players' sporting and personal experience, which is affected by the priorities, beliefs, and behaviors that coaches communicate. As a result, a coach with a positive attitude toward injury prevention is more likely to implement an injury prevention approach, which is critical for increasing compliance and, ultimately, the program's success (Whatman et al., 2018). However, there is limited research in youth basketball, specifically in the Indonesian setting, investigating coach knowledge and beliefs towards injury. Thus, the purpose of this study was to explore basketball coaches' beliefs about injury in student-athletes,

particularly at the high school and university levels.

METHODS

The survey design was utilized in this study, and the target group was basketball coaches at the high school and university levels in Indonesia. The primary research instrument was a survey with open and close-ended questions. Coaches' beliefs toward injuries were explored using open-ended questions in the survey.

Participants

The participants of this study were 25 basketball coaches in Malang, East Java, consisting of 2 female and 23 male coaches involved in basketball activity at high school and university levels obtained from purposive sampling. The inclusion criteria were male and female coaches for high school and higher education levels. Of 25 coaches, 20 people coach at the high school level, and five people coach at the university level. Among those coaches, 7 of them have more than ten years of coaching experience, and 12 coaches have been coaching for 6-10 years. The rest of them have been coaching for between 1-5 years. The characteristics of basketball coaches participating in the survey can be seen in Table 1.

Table 1. Characteristics of basketball coaches participating in the survey (n = 25)

| | | Total |
|------------------------------------|------------------|-------|
| Age | 21-30 | 7 |
| | 31-40 | 15 |
| | 41-50 | 2 |
| | 51-50 | 1 |
| Gender | Male | 23 |
| | Female | 2 |
| Team | Male | 4 |
| | Female | 3 |
| | Male and Female | 18 |
| Level | High School | 20 |
| | Higher Education | 5 |
| Coaching Experience | 1-5 years | 12 |
| | 6-10 years | 6 |
| | >10 years | 7 |
| Coaching License | Yes | 23 |
| | No | 2 |
| License Type | A | 1 |
| | B | 11 |
| | C | 11 |
| | No license | 2 |
| Injury-related Certification | Yes | 0 |
| | No | 25 |
| Injury-related course/ training | Yes | 19 |
| | No | 6 |

Survey Design

Researchers adapted a survey to assess the beliefs of high school and university basketball coaches about injury prevention. The survey was based on Whatman et al. work's (2018). There were ten closed questions and ten open questions, highlighting injuries to players and whether or not they returned to play. The coaches' exposure to injury prevention training and first aid certifications was also analyzed.

Data Collection

All participants in this study attended a "Basketball Safety During the Pandemic" webinar; then, the researchers distributed the survey after the event. The participants received a digital survey form using the Google Forms platform. A Google Form was administered to collect the data about participants' knowledge of injury and their beliefs of Indonesian basketball coaches during the pandemic of Covid-19. This online questionnaire consisted of two sections, personal information and questions related to the abovementioned topic. Four close-ended questions were used to gather quantitative data from respondents. The participants could choose one option among pre-defined responses involving very often, sometimes, rarely, or never to describe their experiences concerning player injuries during the basketball play. To further investigate how they handled the injuries, open-ended questions were also provided so the participants could give more profound responses based on their experiences.

The recorded data was then filtered because the focus of this study was on coaches at the high school and university levels, specifically in Malang, East Java.

Data Analysis

In order to analyze the data, a Microsoft Excel spreadsheet was created from the survey results. The results of the survey's closed questions were analyzed using descriptive statistics. The qualitative description explained the open-ended question response analysis and presentation. The themes were primarily drawn from quantitative data, and the researchers supplemented them with responses to open-ended questions. Then, the responses to the open-ended questions were classified into the themes that had been identified. Thus, thematic analysis was conducted deductively because the descriptive responses as the qualitative data were closely identified based on the themes taken from the ques-

tions to collect the quantitative data. The themes were coaches witnessing injured players, injured players pressured by coaches, injured players pressured by teammates, and injured players pressured by parents.

RESULT

The survey received responses from a total of 25 participants. There were 15 coaches between the ages of 31 and 40, 7 coaches between the ages of 21 and 30, and 3 coaches between the ages of 41 and 60. The vast majority (n=23) of the coaches surveyed (92%) claimed to have some type of coaching qualification, with only two coaches reporting no such certification. The basketball coaching license is managed by Persatuan Bola Basket Indonesia (PERBASI). The number of coaches holding licenses B and C was similar (n=11), whereas only one coach acquired license A. Unexpectedly, none of the survey participants received a first aid certification. However, more than half (76%, n=19) of the participants had undergone any sport-related first aid/injury prevention courses. Those who stated that they had completed courses received them from the coaching qualification workshop and college. The overall survey result of closed-ended questions can be seen in Table 2.

return to the game.

Based on their answers, most coaches reported that the most frequent injury happened to the returning players were sprain, specifically ankle sprain, followed by concussion and knee injury. The other mentioned injuries were open wounds and dislocation.

Furthermore, regarding the pressure received by the injured players from their coaches, half of the participants reported witnessing this event sometimes (52%, n=13). At the same time, 24% of respondents encountered this event rarely (n=6). Then, 16% of the respondents have witnessed other coaches putting pressure on the injured players often (n=4), and only 8% of them experienced this very often (n=2).

Another aspect being examined in this study is whether or not the participants have witnessed the teammates putting pressure on the injured players to keep playing. The results indicated that 32% (n=8) of the respondents sometimes encountered this event, and a similar result was obtained for rare experiences. Then, 24% (n=6) of the respondents never witnessed this event. Twelve percent of the respondent (n=3) have witnessed their teammates put pressure on their friends to keep playing while injured.

Table 2. Coaches' experiences with an injury accident

| Question | Frequency of Response | | | | |
|---|-----------------------|--------|-----------|-------|------------|
| | Never | Rarely | Sometimes | Often | Very Often |
| Have you ever witnessed a player who was injured but continued to play when you thought they should not continue playing? | 16% | 8% | 28% | 32% | 16% |
| Have you ever witnessed a Coach exerting pressure on a Player to continue playing despite an injury? | 0% | 24% | 52% | 16% | 8% |
| Have you ever witnessed a player putting pressure on another player to continue playing despite being injured? | 24% | 32% | 32% | 12% | 0% |
| Have you ever witnessed a player's parents putting pressure on a player to continue playing despite being injured? | 36% | 28% | 24% | 12% | 0% |

Related to the participants who saw the injured players kept playing, the occurrence of this event was often (32%, n=8). Twenty-eight percent of the respondents sometimes witness this event (n=7). Then, 16% (n=4) of the participants reported never and very often encountering this problem, respectively. Meanwhile, only 8% of the respondents rarely see players push themselves to play when injured. Table 1 presents the total percentage of coaches witnessing injured players

Furthermore, aspect related to parents' involvement in fields was also examined. Thirty-six percent of respondents (n=9) reported that they never saw parents putting pressure on their children to continue the game while injured. Then, 28% (n=7) encountered this experience rarely. The rest of them witnessed parents putting pressure on their injured children sometimes (24%, n=6) and often (12%, n=3).

Three major themes emerged from the qualitative data when it came to the pressure basketball coaches and players put on their players. These included the determination to win the competition, the significant role of the players, and functioning as a factor of motivation for other players. The theme of determination to win the competition are seen in the quotes: “karena pelatih tersebut hanya memikirkan kemenangan, tetapi tidak memikirkan karir jangka panjang atlit” or “because the coach only thinks about winning, but doesn't think about the athlete's long term” Coach NR (aged 31-40 years), “karena faktor dalam diri yang pengen menang tanpa memperdulikan masa depan (pembuktian diri)” or “due to internal factors that want to win regardless of future (self-evident)” Coach DS (aged 31-40), “Faktor pelatih dan pemain mengejar target kemenangan” or “Coaches' and players' factors in achieving the winning target” Coach DW (aged 31-40), and “memenuhi target tuntutan juara dari pengurus” or “fulfill the winner's management objective demands” Coach NH (aged 31-40).

The second theme related to the significant role of the players in their teams can be seen in the following quotations. “Karena pemain andalan dalam team” or “because she/he is the main player of the team” Coach MW (aged 21-30), “karena pemain utama dalam tim dan memiliki keinginan untuk memenangkan pertandingan” or “because of he/she is the main player in the team, and has a desire to win Coach RK (aged 21-30), “hanya dia yang mampu menyelesaikan pertandingan itu” or “he/she is the only one who can finish the game” Coach NH (aged 21-30), and “Karena pemain tersebut sangat dibutuhkan oleh tim” or “because the player is needed by the team” Coach SA (aged 21-30).

The third theme related to the players becoming the motivation for other teammates can be seen in the following quotations. “Untuk memotivasi tim” or “to motivate the team” Coach DY (aged 21-30), “Motivasi untuk menyemangati teman-teman” or “being a motivation to encourage friends” Coach MW (aged 31-40), and “meningkatkan semangat rekan-rekan tim” or “increase teammates' confidence” Coach DS (aged 31-40).

Coaches claimed that parents pressured injured players to continue playing because they lacked appropriate awareness of injuries and wanted to see their children win the game. These results were supported by

the following quotations from the coaches. “Karena orang tua mau melihat anaknya bisa menang dikompetisi, padahal tidak harus seperti itu karena membahayakan cedera lanjutan” or “because parents want their children to win competitions, even though it isn't necessary because it puts their children's health at risk” Coach NR (aged 31-40), “Karena orang tua mau team anaknya menang” or “because the parents want their child's team win the game” Coach MW (aged 21-30), and “Karena mereka tidak tahu dengan detail hal teknis” or “because they do not know about technical issues” Coach AA (aged 21-30).

DISCUSSION

Based on our results, the first aspect being observed is whether or not the respondent has witnessed basketball players insist on playing while they suffered from injuries that happened during the game. According to most coaches, injured players have been spotted playing with a frequency that ranges from sometimes to very often. According to the literature, injured players who still participate in the game are common. In research conducted by Whatman et al. (2018), 87% of coaches reported witnessing a player continue to play when they believed he should have been managed to stop. Furthermore, sprains, particularly in the ankle, were the most frequently reported injury by coaches at the high school and university levels of competition. In this particular instance, some coaches believe that the ankle injury is not so severe that it is possible to finish the game without being substituted. This result also confirms the previous research from Trojian et al. (2013) and McKay et al. (2014), which explained that the most common injury in basketball players is an ankle sprain. Mainly to avoid worsening a sprain, it is preferable to seek immediate medical assistance; however, this is not always possible. Depending on the severity of the damage, it may take longer for the person to recover or heal completely.

When it comes to concussions during games, most coaches and players cannot determine the severity of the incident. One of the sports activities associated with the greatest number of concussions among young people includes basketball (Gilchirst et al., 2007). The hit on the head, according to the respondent, occurred because the player did not know how to position himself when he fell. Players should be aware of their condition

after having physical contact. The development of self-control skills that allow basketball players to identify their muscle and ligament functions may have been an alternative to injury prevention (Bolotin & Bakayev, 2016).

Furthermore, players who continue to play while injured should be able to determine the severity of the injury, for example, by measuring their level of pain. Currently, few basketball scholars, such as players Yildirim et al. (2018) begun to develop a set of scales to determine pain levels for players. They establish a shoulder pain scale for wheelchair basketball players.

According to multiple instances noticed by one of the researchers, players who continue the game despite being injured are those who play a significant part in their team. As Weinberg et al. (2013) explained, individuals with high degrees of athletic identity, particularly, describe themselves largely in terms of their athletic status. Consequently, they place a high value on their athletic success or failure. Therefore, the injured players continue playing through pain and injury.

One of the issues to emerge from this study is the importance of teammates. According to the responses, some coaches continue instructing these individuals to play even though they should be receiving additional treatment. In research conducted by Kroshus et al. (2015), the two highest pressure to return to play after a head impact comes from coaches and teammates. Supposedly, coaches or players are not obligated to pressure injured players into continuing the game. This is where knowledge regarding the initial management of injuries is essential. Unfortunately, none of the coaches in this study had been certified as injury managers before participating in the study. However, the majority of them have received brief training in dealing with sports injuries through coaching license workshops and courses.

Additionally, a theme that emerged from this study was the players', coaches', and parents' determination to win the game. This will be balanced against the necessity to manage injured key players. According to Markel (2013), along with coaches, parents can unintentionally set a player up for failure by imposing unrealistic performance and winning objectives on young athletes and pressuring them into sports for which they are not prepared or interested. A team, it is assumed, must be suf-

ficiently prepared to compete. In addition, a team or coach should not rely on a single player for success. This is because a basketball team consists of 12 players, 5 of who compete and 7 of whom serve as substitutes. Each player must be prepared to compete to step in and substitute a teammate who has been injured. The team's ability to respond quickly to injury problems can benefit the achievement of the winning target.

As a third theme, injured players were allowed to play to serve as a motivating factor for the rest of the team. Acceptance and minimization of pain and injury were also evident in female athletes' attitudes, as demonstrated by Pike and Maguire (2003), who discovered that players persevered through pain to appear tough in front of teammates and significant people in the community. However, according to the authors, this cannot be used as a reason for pushing injured players to participate in games because such interference can worsen the injuries they have already sustained. Instead, other motivating methods can be used, such as providing opportunities for substitute players to compete for more minutes on the field or rewarding them for their efforts. Additionally, the coach can create motivation by strengthening the player's confidence by using positive reinforcement.

In response to parents who prefer to watch their children play despite being injured, this is due to a lack of awareness about injuries and a willingness to see their children win a game. This is understandable given that many parents have no experience with injury management or basketball fundamentals. However, perceived pressure from parents and spectators may be a risk factor that affects injury-related decisions when combined with pressure from others in the sports environment (Kroshus et al., 2015). In this case, the interaction between parents and coaches is also needed. Coaches can address parents' education about the risks of pressuring their children to continue playing after an injury.

In consequence, this study has several research limitations. First, only coaches participating in basketball activities at the high school and university levels were included in the survey. Second, the number of samples in this study is still small, and it only focuses on coaches based in Malang, East Java, rather than other parts of the region. Additionally, it is necessary to design interventions that address the pattern through

which athletes make injury-related decisions.

CONCLUSION

According to the findings of this study, individual factors of players have the highest percentage of pressure to play at the time of injury. Additionally, the coach is the second most important influence in putting injured players under pressure to play, followed by teammates and parents. The determination to win the tournament, the significant role of the participants, and serving as a source of motivation for other players are three themes that emerged from this study about injury-related knowledge and beliefs.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

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