

A Survey on Common Injuries in Recreational Badminton Players

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ABSTRACT

The aim of this descriptive study is to determine the incidence of injuries among recreational badminton players. We evaluated 86 recreational badminton players in the city of Malacca; 35 were excluded for fitting the exclusion criteria. The average recreational badminton player was 36.13 years old and had been playing badminton for the past 17.84 years at a frequency of 2.11 times per week. 39.21% of the recreational badminton players complained of recent injuries in relation to playing badminton. Our data showed that the most common injury sustained by recreational badminton players was pain and stiffness at the shoulder joint. None of the injuries sustained by the players in our data were serious enough to warrant any form of surgical intervention. We conclude that badminton is a sport of relatively low risk and that the majority of related injuries were chronic overuse injuries.

Key Words:

Recreational Badminton Players, Injuries

INTRODUCTION

Badminton, an individual, non-contact sport which requires a combination of jumps, lunges, quick changes in direction and rapid arm movements, is a popular racquet game in Malaysia. During such movements, the body may be exposed to various forms of injuries. Hence, it is not uncommon for badminton players to sustain various injuries during the game. A retrospective study carried out in Hong Kong on elite badminton players showed that sprains were the most common type of injuries, and that the back, shoulder, thigh and knee were the most common areas involved¹. Studies reporting injuries in recreational badminton players are limited. Thus, the purpose of this study was to describe common injuries sustained by recreational badminton players. In addition, the authors hoped to determine the level of awareness among the recreational badminton players regarding the various forms of injuries sustained while playing this game.

MATERIALS AND METHODS

We evaluated a total of 86 recreational badminton players who were playing at least once a week in 2 badminton halls

in Malacca town. We interviewed the players as to their medical history, previous injury and sports activities. Standard questions were asked to obtain information regarding age, sex, years playing badminton, frequency of playing badminton, active involvement in other sports and handedness (whether right or left). An injury was defined as any episode or history of pain, swelling, stiffness or numbness in relation to playing badminton either during or after the game.

Exclusion criteria were:

1. Playing any other sport, especially contact sport, except badminton.
2. Players who had previous injury to an area injured during badminton game
3. Players who worked in occupations involving heavy manual work.
4. Players with previous formal badminton training.
5. Players younger than 16 years old or older than 55 years old.

RESULTS

Out of the total of 86 badminton players interviewed, 35 were excluded based on the exclusion criteria. The reasons varied from falling outside the specified age group, playing other contact sports like futsal (indoor football), rugby, or football, to being involved in a previous trauma with injury sustained to the anatomical areas that were causing problems at the point of this survey. Among the remaining 51 badminton players, 33 (64.7%) were male and 18 were female (35.3%). The age of study subjects ranged from 16 to 54 years old with the mean age being 36.13 years (Table I). The average numbers of year that the involved players played badminton was 17.84 years (range of 5-30 years). The badminton players included in the study played at least once a week with a mean of 2.11 times per week.

Twenty players (39.21%) complained of recent occurrence of either pain or stiffness after playing badminton. The most common areas sustaining injuries by the badminton players were the shoulder (30% of injuries), the lower back (30% of injuries) and the knee (20% of injuries) (Table II). Of those players complaining of injury, the average number of years

Table I: Age Distribution of Badminton Players

Age range	Number of players
16 - 25	11
26 - 35	10
36 – 45	15
46 - 55	15

Table II: Anatomical Areas Involved In Injuries Due To Badminton

Anatomical Areas	Number of players with injures
Shoulder	6
Back	6
Knee	4
Ankle	2
Elbow	2

Table III: Common Reasons for Injuries in Badminton

Reasons For Injuries	Number of Players	Percentage of Players
Inadequate warm up	16	80%
Over playing	10	50%
Inappropriate technique	2	10%

Table IV: Ways to Prevent Injuries in Badminton

Ways To Prevent Injuries	Number Of Players	Percentage Of Players
Adequate warm up	14	70%
Adequate rest between matches	9	45%
Wear supportive guards	8	40%
Learning appropriate technique	3	15%

that they had been playing badminton was 19.85 years. The mean age of these injured players was 44.35 years. The average number of years that those players without injury complaints had been playing badminton was 9.68 years. The mean age of these uninjured players was 31.90 years. Those who complained of recent injuries played an average of 2.35 times per week compared to those without complaint of injuries who played only 2.03 times per week. 17 players complained of pain to the anatomical areas involved. Eight players complained of stiffness after playing badminton. The most common reasons given by the players for the injuries were inadequate warm up (80%) followed by over-playing or over-stress (50%) (Table III).

Seventy per cent of the players regularly warmed up before playing. Forty-five per cent of the players reported resting adequately in between matches. Forty-five per cent wore protective guards such as knee or ankle guards to prevent injury. Fifteen per cent of the badminton players in the study stated they had adequate training in badminton techniques. (Table IV).

Each of the 6 players who complained of shoulder injury attributed their injuries to shoulder movements performed during smashing and lobbing. All those who complained of back pain thought that their injuries were due to movements affecting the lower back region while performing manoeuvres like retrieving drop shots, retrieving sideline smashes and sudden rotational movement while changing direction. Three out of the 4 players who complained of knee injury thought that their injuries were caused by movements stressing the knee joint that occurred while retrieving drop shots at the front of the court. Seventeen out of the 20 players

with injuries (85%) sought treatment for the injuries sustained while the remaining (15%) simply took a period of rest to relieve the symptoms. The common modes of treatment sought by the badminton players to relieve their symptoms from injuries were: topical analgesic (55%); consumption of oral analgesic (40%); and/or, wearing protective guards (40%). All the badminton players in the study perceived the following as the appropriate attire for badminton: sport shirts, sport shorts, socks, proper court shoes with or without knee/ankle guards. All dressed appropriately while playing badminton.

DISCUSSION

The mean age of recreational badminton players in our study was 36.13 years old and the mean duration that they'd played badminton was 17.84 years. At 36 years of age, a professional player would usually have retired or might have become a coach. All players in the study wore appropriate attire every time they participated in a badminton game. This was an important measure in the prevention of injuries in badminton because improper attire, especially the wrong type of shoes, could have caused incidental injuries in instances where the attire or shoe was ill fitting or inappropriately structured for the sport. A study by Jørgensen and Winge suggested that badminton shoes with a higher heel, equipped with shock absorption and a stiffer anatomically fitting heel counter may reduce the risk of badminton injuries².

We note that 39.21% of the recreational badminton players complained of recent injuries sustained either during or after the game. These injuries mainly caused pain and stiffness

which, in all the cases, was not severe enough to require any form of surgical interventions. This was consistent with the findings from a study in Denmark on injuries in badminton players wherein it was reported that most injuries in badminton are minor³. The anatomical areas most often involved in these injuries were the shoulder, low back and the knee, consistent with the findings from the study from Hong Kong in 2007¹. Another study carried out in Umea, Sweden also reported that about half of the recreational players had previous or ongoing shoulder pain⁴. All subjects in the current study with shoulder injuries were certain that abduction, internal and external rotation of the shoulder joint during lobbing and smashing were the cause of the injury. The presence of underlying subacromial impingement may have contributed towards this type of injury although no formal clinical diagnosis was available.

Most players with back pain or stiffness related their injuries to rotational movement of the back while retrieving sideline smashes, retrieving drop shots and/or making sudden changes in direction. We also found that all of the injuries in our study were intrinsic in nature, such as that sustained during actions in retrieving, smashing or stroking. No injuries were caused by extrinsic factors like that of collision between the players, knocking against structures around the court, or contact with the badminton racquets or shuttlecocks. This finding is consistent with that reported by Hensley and Paup in 1979⁵.

Almost all of the badminton players with injuries sought treatment and the most common modes of treatment were the use of topical analgesics, oral analgesics and wearing protective guards. None of the players were offered surgical interventions for their injuries. Hence, badminton is a sport of relatively low risk and its related injuries are generally dominated by chronic overuse injuries^{3,5-7}. Adequate warm up may have reduced the risk of injury. Seventy per cent of study subjects with recent injuries believed that their injuries may have been avoided if they have warmed up adequately (Table IV), a results supported by Chard and Lachmann who concluded that poor warm-up was a common factor for injuries sustained in racquet sports⁸.

CONCLUSION

The most common injuries sustained by recreational badminton players were shoulder and back injuries. Most of the injuries are not serious enough to warrant any form of surgical intervention. Most badminton players were knowledgeable about the appropriate ways to prevent these injuries. In general, badminton is a sport of relatively low risk and its related injuries are generally chronic overuse injuries.

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