



Analysis Of The Opinions Of Running Community Members In Semarang City Regarding Factors Causing Injuries In Running Sports

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Abstract

This research was conducted to explore the beliefs and perceptions of the members of the Semarang City running community regarding the risk factors contributing to running injuries based on the gender of the community members. The data for this research were obtained using an instrument in the form of a questionnaire. The questionnaire was administered using a Likert scale. The research method used is descriptive with a quantitative approach, with the research subjects being members of the running community in Semarang City. The sample size of this study is 87 active runners, consisting of 59 male runners and 28 female runners. The results of this study indicate that, according to male members, attitude is the highest factor (16.31%) with a very high criterion in causing injuries while running. Meanwhile, female members stated that the biomechanical factor is the highest factor (16.80%) with a very high criterion in causing injuries while running. It can be concluded that there is a difference of opinion among members of the running community in Semarang City regarding the highest factor that can cause injuries in running sports.

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INTRODUCTION

Exercise is an important daily activity to maintain health. This activity is essential for humans to achieve optimal physical health. The development of sports in Indonesia is accelerating, in line with the increasing awareness and understanding of the community. Each person has different goals in exercising, because they do it according to their own desires (Marliansyah, Sukardi, and Akhbar 2020). Some aim to achieve accomplishments like athletes, while others exercise merely for recreation and to fill their free time with joy (Marliansyah, Sukardi, and Akhbar 2020). Recreational Sports are also known as community sports (Br Nababan et al. n.d.) Sports recreation is a form of physical activity performed voluntarily during leisure time to achieve happiness and inner satisfaction. When people exercise, they prioritize principles such as satisfaction, optimism, health, freedom from coercion, and doing it recreationally. Considering the importance of health and fitness, exercise becomes the main means to achieve it.

Exercise allows the body to perform physical activities at maximum capacity (Marliansyah, Sukardi, and Akhbar 2020). In human life, sports play an important role; between humans and sports, the two cannot be separated, whether sports are for maintaining health or for improving performance, because through sports, it can produce physically and mentally healthy, disciplined individuals, leading to the formation of

quality humans (Suryansah, Hariadi, and Nopiana 2023).

In recent years, running has become increasingly popular and has become a trend among various segments of society (Hafizh, Asriwandari, and Hidir 2022). This may be due to ease of access, affordable costs, and various positive benefits. For example, this exercise has been proven to reduce the risk of diabetes, hypertension, and hypercholesterolemia (Kozinc and Šarabon 2017). Running as an outdoor activity has seen an increase in popularity among generations, namely Generation X, millennials, and Generation Z (Adi, Rani, and Candra 2024). Various running communities in the city of Semarang, such as Semarang Runners, Teman Long Run, Bestifity, Duraking Run Club, and Playon Ambyar Nusantara, have formed as a sign of the popularity of running among urban youth. The more enjoyable atmosphere when running together, the ease of sharing information about running techniques, racing experiences, equipment used to support running, and more, are the reasons why many runners join the community (Rika Rachmawaty et al., 2023).

Running, besides having positive impacts, also has negative impacts, such as injuries. Injuries become a major concern for runners, especially when they experience an injury and have to decide whether to continue or stop (Bullock et al. 2020). Data analysis shows that every 1000 hours, there are 2.5 injuries among professional athletes, but the risk for

beginner runners is higher, with 33 injuries per 1000 hours (Videbæk et al. 2015). To reduce the injury rate in running sports, various approaches need to be implemented, one of which is taking preventive measures through education for the running community in Semarang City regarding the factors causing injuries, so they can anticipate risks and provide appropriate treatment when injuries occur (Wardati and Ardi Kusuma 2020).

The factors causing running injuries have been investigated and divided into two categories: intrinsic factors such as personal characteristics, biomechanics, and attitudes, and extrinsic factors such as shoes, nutrition, training, and track conditions (Saragiotto, Yamato, and Lopes 2014). Understanding that sports injuries occur due to the interaction of various factors and recognizing the types of injuries experienced by athletes is a crucial stage in developing effective prevention, management, and rehabilitation programs for sports injuries (Asri et al. 2024) A deep understanding of the beliefs held by runners has the potential to be significant in the development of more effective injury prevention programs. Such a program needs to consider the initial beliefs of runners as well as behavioral factors related to the risk of injury while running (Saragiotto, Yamato, and Lopes 2014)

This study was conducted to explore the beliefs and perceptions of runners regarding the risk factors that

contribute to the occurrence of running injuries.

METHODS

In this study, the method applied is descriptive research based on a quantitative approach. As stated by (Sugiyono, 2019) quantitative descriptive research aims to present a structured depiction of phenomena or characteristics of a population based on facts and with a high level of accuracy through the use of numerical data (quantitative).

Participants

The entire subject of the research is the population. According to (Arikunto 2019:173). if the research is conducted by including all elements within the studied area, then the activity is categorized as population research. The population in this study consists of members of the running community in the city of Semarang, with a total sample of 87 active runners, including 28 female runners and 59 male runners, among them Semarang Runners with 33 runners, Duraking Run Club with 12 runners, Teman Long Run with 11 runners, Bestifity with 16 runners, and Playon Ambyar Nusantara with 15 runners.

Sampling Procedures

The characteristics of the criteria in sample selection are considered based on the field of study in teaching. In this study, the sample was selected using purposive sampling technique, which is an approach to sample selection based on certain considerations (Sugiyono,

2017). In this method, the researcher determines the sample based on specific criteria relevant to the research objectives, such as demographic characteristics or other attributes deemed important. The researchers have determined the sampling criteria, which are running communities in the city of Semarang. Based on these criteria, they selected the 5 most popular running communities with a significant number of members, including Semarang Runners, Duraking Run Club, Teman Long Run, Bestifity, and Playon Ambyar Nusantara, with a total of 87 runners as research subjects, consisting of 59 male runners and 28 female runners.

Materials and Apparatus

This research collects data using a closed questionnaire instrument based on the Likert scale. (Sugiyono, 2016) states that the Likert scale is used to measure the opinions, attitudes, and perceptions of individuals or groups of individuals about social phenomena. Likert scale Describing the variable to be measured in the form of indicators, which will then serve as a reference for designing instrument items, either in the form of questions or statements. Each answer from these items has a scale, which ranges from very positive to very negative (Sugiyono, 2016). The questionnaire used in this study has been tested for its validity and reliability, involving 29 men and 6 women as samples for the testing process. Based on the validity test, all statements for male respondents used have a corrected item-total correlation value of 0.35-0.72, and the statements for

female respondents have a value of 0.78-0.94, so it can be concluded that all statement items are declared valid because they are greater than 0.30 (Hendryadi 2021). Meanwhile, the reliability test is said to be reliable if the Alpha Cronbach value is greater than the standard value of 0.6 (Hasan Basri , Aridhotul Haqiyah 2022). The Cronbach's Alpha value obtained for all statement items from male respondents is 0.92 and from female respondents is 0.98, indicating that all these items are considered reliable.

This questionnaire consists of 29 statements divided into 2 variable categories: the opinions of running community members regarding intrinsic factors causing injuries in running sports with 3 indicators (personal characteristics, biomechanics, attitude) and extrinsic factors with 4 indicators (shoes, nutrition, training, others) (Saragiotto, Yamato, and Lopes 2014). This research does not involve medical personnel, so the factors causing injuries in running sports are limited to the perceptions of members of the running community in Semarang City.

Procedures

The research process has several stages and efforts made by the researcher to obtain optimal results. The procedures carried out include: a) selecting research subjects, namely members of the running community in Semarang City, b) creating an instrument grid and questionnaire, c) obtaining research permission letters to be submitted to the community leader, d) conducting validity and reliability tests

on the questionnaire beforehand and finding that the questionnaire meets the requirements as a research instrument, e) the researcher distributing the questionnaire in the form of a Google Form through the WhatsApp group of the community that is the research sample, f) calculating the obtained data to determine the level of opinion of the running community members regarding the factors causing injuries in running sports, g) interpreting the results of the research data calculations.

Design or Data Analysis

The collected data is then processed and analyzed through several stages. The data analysis techniques used are descriptive analysis, including mean, standard deviation, minimum and maximum values, data processing using percentage calculation techniques, data translation into categories, and data presentation in descriptive form. Percentage is calculated using the formula :

$$P = \frac{f}{N} \times 100\%$$

P = Percentage

100% = Nominal Value

F = Frequency of Alternative Answers

N = Number of Respondents
(Taufik et al. 2020)

RESULT

The data obtained from this research has been processed and presented in a table, which includes calculations of the lowest, highest, average, and standard deviation values, using SPSS version 26 software.

Tabel 1. Descriptive Statistics of Male Running Community Members

	N	Min	Max	Mean	Std. Dev
Male	59	74	116	89.66	9.557
Valid N (listwise)	59				

Tabel 2. Descriptive Statistics of Female Running Community Members

	N	Min	Max	Mean	Std. Dev
Female	28	70	106	84.96	8.745
Valid N (listwise)	28				

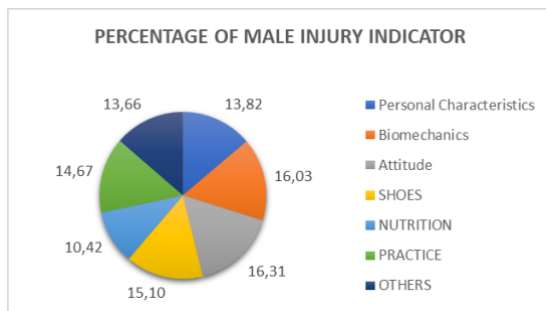
Based on the descriptive test table above, among the male community members totaling 59 people, an average score of 89.66 and a standard deviation of 9.557 were obtained. The maximum value is 116 and the minimum value is 74. Meanwhile, among the 28 female community members, an average score of 84.96 and a standard deviation of 8.745 were obtained. The maximum score was 106 and the minimum score was 70.

• Male Community Members

Tabel 3. A table of opinions of community members of male members regarding the factors that cause injuries in running sports.

Factor	Mean	Criteria
Personal Characteristic	14,58	High
Biomechanics	6,76	Very High
Attitude	6,88	Very High
Shoes	15,93	High
Nutrition	8,80	High
Practice	30,95	High
Others	5,76	High

Picture 1. Percentage Chart of Male Running Community Members' Opinions on Factors Causing Injuries in Running Sports.



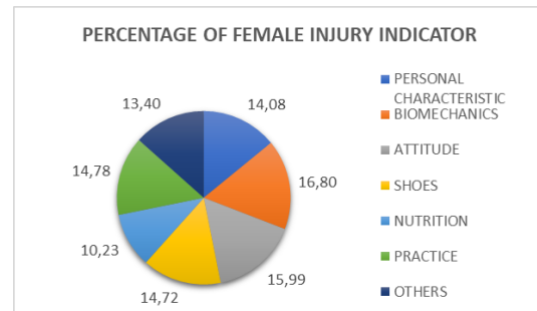
Based on Table 3, it can be seen that attitude factors and biomechanical factors are the highest causes of injuries in running sports. Male community members agree that biomechanical factors and attitude factors have a very high influence on the occurrence of injuries during running. Whereas based on Figure 1, it can be seen that the attitude factor is the highest factor causing injuries in running sports with a percentage of 16.31%, followed by the biomechanical factor with a percentage of 16.03%.

• Female Community Members

Tabel 4. A table of opinions of community members of female members regarding the factors that cause injuries in running sports.

Factor	Mean	Criteria
Personal Characteristic	14,07	High
Biomechanics	6,71	Very High
Attitude	6,39	High
Shoes	14,71	High
Nutrition	8,18	High
Practice	29,54	High
Others	5,36	High

Picture 2. Percentage Chart of Female Running Community Members' Opinions on Factors Causing Injuries in Running Sports



Based on table 4, it can be seen that biomechanical factors are the highest contributing factors to injuries in running sports. Female community members agree that biomechanical factors have a very high influence on the occurrence of injuries during running. Meanwhile, based on Figure 2, it can be seen that the biomechanical factor is the highest factor causing injuries in running sports with a percentage of 16.80%.

DISCUSSION

The research results show that there is a variation of opinions among 87 members of the running community in Semarang City regarding the causes of injuries in running sports. Among the 59 male runners, the majority stated that attitude and biomechanics are the main causes of injuries, with an attitude percentage of 16.31% and biomechanics 16.03%, both of which are considered highly influential. On the other hand, 28 female runners expressed different opinions regarding the factors considered to be the causes of injuries in running sports. They opined that biomechanical factors are the highest factor with very high criteria causing injuries in running sports with a percentage of 16.80%.

Male members opine that attitude factors, which include not respecting body limits and ignoring pain, are the highest factors with very high criteria in causing injuries in running sports. Meanwhile, female members opine that attitude factors are not the highest cause because they only have a high impact on injuries. However, the opinion of male members regarding the very high attitude factor towards running injuries is supported by literature stating that excessive treatment of the body or exceeding its limits, whether done intentionally or unintentionally, can result in injuries to organs or body parts. (D. Setiawan 2022). Excessive exercise activity and not considering the body's ability threshold can increase the risk of injury in athletes (Thoyfur, Kinanti, and

Abdullah 2021). In addition, ignoring incoming pain can also be one of the causes of more serious injuries (Gultom M T A and Yuni 2023). Lack of attention to pain experienced during exercise can have a significant impact on an athlete's career and life. This is because minor injuries or pain during exercise can become serious injuries later on if these minor pains or injuries are ignored and not treated with appropriate medical care (Oktavian and Roepajadi 2021). Therefore, it is important for us to respect the limits of our bodies and not ignore pain as an effort to minimize the occurrence of injuries.

In addition to attitude factors that have very high criteria as causes of injuries in running sports, male members of the running community in Semarang City believe that biomechanical factors, which include running technique and running posture, fall into the very high category. The opinion of the male members is also the same as that of the female members. Female members stated that the highest injury factor is the biomechanical factor with very high criteria in causing injuries in running sports. This is relevant to the literature which states that mastery of running techniques, including proper starting technique, running technique, and finishing technique, can reduce the risk of injury (Zainuddin, Masjaya, and Hasanuddin 2023). Biomechanics of the body while running, which includes the running cycle, joint kinematics, and muscle balance, need to be considered by a runner (Kozinc and Šarabon 2017). So,

when the running cycle or movement pattern is inefficient and has weaknesses in certain muscles, it will cause injuries to the runner. When the body position is too tilted forward, the foot landing becomes inaccurate, reducing the coordination between the arms and legs, which increases the risk of injury for the runner. In addition, runners tend to be more susceptible to tendon injuries due to an increased Q-angle and errors in running technique (Kozinc dan Šarabon, 2017). Therefore, paying attention to proper running techniques and correct posture becomes very important to reduce the risk of injury while running.

On other factors, including personal characteristics, shoes, nutrition, training, and other factors, both male and female members agree that these factors are classified as high criteria in causing injuries in running sports. This shows that runners cannot overlook personal characteristics, shoes, nutrition, training, and other factors when running. This is supported by literature stating that personal characteristics such as weight and increasing body mass index will also lead to a higher risk of injuries such as musculoskeletal disorders (Andini 2019). The factor of shoe usage plays an important role in minimizing the causes of injuries because using the right shoe size, good shoe quality, shoe comfort, and using shoes for less than three months can minimize injuries in runners (Burke et al. 2023). Adequate nutritional factors for the body will enhance the immune system and optimize fitness, thereby minimizing the occurrence of illness or injury (Vita,

Sugiyanto, and Defliyanto 2018). Excessive training, whether in terms of intensity, duration, distance covered per week, speed, or sudden changes in training patterns, can damage body structures and increase the potential for overuse injuries (Wardati dan Kusuma, 2020). The type of track is also an important factor that can affect the risk of injury. Tartan tracks tend to be safer compared to gravel tracks, as they have a harder surface that better integrates with shoes and is softer, providing better support for the feet and reducing the likelihood of injury. (Sari, Kristiyanto, and Sabrini 2020).

CONCLUSION

This study shows that there are differing opinions among members of the running community in Semarang City regarding the factors causing injuries in running, both in terms of gender and personal characteristics. This study involved 87 runners, where male runners agreed that attitude was the highest factor with a very high criterion in causing injuries in running sports, with a percentage of 16.31%. Meanwhile, female members agreed that the biomechanical factor is the highest factor with a very high criterion in causing injuries in running sports, with a percentage of 18.80%. This shows that it is important for us to respect the limits of our bodies, not ignore pain, pay attention to running technique, and maintain the correct running posture as efforts to minimize the occurrence of injuries.

Although attitude and biomechanics are significant factors in causing injuries, we cannot ignore other factors such as personal characteristics, footwear, nutrition, training, and other factors. This is because personal characteristics, shoe factors, nutrition factors, training factors, and other factors have high criteria as causes of injuries. Maintaining an ideal body weight, choosing the right shoes, ensuring daily nutrition is met, proper training portions, and the right type of track will minimize the occurrence of injuries.

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