Injury Prevention Strategy Training in Esports Players: A Holistic Approach to Physical and Mental Health

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Abstract

Esports has grown into a global industry that attracts the attention of millions of players around the world. However, the popularity and intensity of the game has brought a risk of injury to esports players, especially related to physical problems such as hand joint injuries and poor posture. This article describes various injuries that often occur in esports players, including injuries to hand joints, posture disorders, eye disorders, sleep disorders, and mental health. We also explain the factors that can cause this injury, such as repetitive movements, high pressure, unergonomic positions, lack of rest, joint stiffness and psychological stress. Next, we present comprehensive solutions to prevent injuries in esports players, including physical exercise, stretching exercises, use of ergonomic equipment, attention to body posture, playing time management, and mental health care. Emphasis is placed on a holistic approach that includes both physical and mental health.

Keywords: Esports, Injuries, Prevention, Physical Health, Mental Health.

1. Introduction

Esports, or electronic sports, have become a global phenomenon that fascinates millions of fans around the world. Along with advances in technology and wider accessibility to electronic devices, the esports industry has grown rapidly and become one of the most popular forms of entertainment in this digital era (Septiana, 2023).

One of the most striking examples of esports success is Mobile Legends: Bang Bang, or often abbreviated as MLBB. Released in 2016 by Moonton, Mobile Legends quickly established its position as one of the most iconic and popular mobile games in the global market.

Mobile Legends combines MOBA elements with stunning graphics and intuitive game mechanics. It allows players to engage in epic battles, leading their teams to victory with strong strategy and coordination. The success of Mobile Legends not only reflects its popularity, but also marks an important historical milestone in the development of esports as a modern form of sport. Mobile Legends competitions at the professional level have attracted thousands of players from all over the world to compete in prestigious tournaments. Big prizes and status as a professional player have opened the door to a lucrative career in the world of esports, proving that the game is not just entertainment, but also an arena for serious competition (Yin et al., 2020; Mendoza et al., 2021).

With rapid growth and growing influence, Mobile Legends and the esports phenomenon as a whole have played an integral role in shaping modern entertainment culture. They broaden career horizons, unite global communities, and show the world that ability and skill in video games can be a rewarding accomplishment. Mobile Legends: Bang Bang, or often abbreviated as MLBB, is a global phenomenon in the world of mobile gaming. Released in 2016 by Moonton, Mobile Legends immediately gained extraordinary popularity throughout the world, becoming one of the most played mobile games with millions of active players every day (Palanichamy et al., 2020; Cunningham et al., 2018). This game carries the Multiplayer Online Battle Arena (MOBA) genre which attracts players with strategic gameplay and intense team competition.

In Mobile Legends, players are invited to enter a fantasy world full of magic and magical powers. Each match involves two teams of five players each, working together to destroy the opponent's base while defending their own. The level of complexity of strategy and tactics required to achieve victory has made Mobile Legends a respected eSports competition. Despite the success of Mobile Legends as one of the leading platforms in the world of esports, it cannot be ignored that players like Diky ("Tuturu") and Rivaldi Fatah ("R7") face serious challenges in the form of

hand joint injuries. Injuries to esports players can harm not only the player's own health, but also the team's performance and the integrity of the competition as a whole. Therefore, handling injuries to esports players is an important thing to pay attention to. In this presentation, we will explain why injuries to esports players are a significant problem and what efforts can be taken to prevent and overcome these injuries.

Diky, with the nickname Tuturu, is an esports player who amazes the world with his high skills in Mobile Legends. However, behind his victories, Diky faced serious trials in the form of pain in his hand joints. In his case, these symptoms include pain, stiffness, and even limited movement in the joints of the hand, especially the wrist. This shows that even at the peak of their esports careers, players are still at risk of serious injuries that can threaten their performance and well-being.

A similar case occurred with Rivaldi Fatah, or better known as "R7". Even though it has a reputation as an accomplished esports player, R7 is not free from problems involving hand joint injuries. Symptoms such as pain and discomfort in the joints of the hands, especially in the fingers, are a reality that must be faced. This highlights that esports players, even highly skilled, are still susceptible to the risk of injury which can affect the quality of their play and overall health.

These two cases bring serious attention to the problem of hand joint injuries in the esports community. In the challenge of maintaining a high skill level, players must face the potential impact of high physical stress on their hands. Therefore, appropriate preventive and treatment measures are needed to ensure optimal health and performance for esports players, including Diky ("Tuturu") and Rivaldi Fatah ("R7").

2. Discussion

2.1. Injuries to Hand Joints Due to Playing Mobile Legends

Injuries to hand joints are a significant health risk for Mobile Legends players. This occurs due to intensive and repetitive use of the fingers and wrist while playing games. Players often make the same movements repeatedly, such as pressing buttons on the device or swiping on the screen. This activity requires high coordination and precision of the fingers, which can ultimately cause excessive pressure and stress on the joints (Andre et al., 2020; Chung et al., 2019; Franks et al., 2022).

For example, imagine a Mobile Legends player who is involved in a fierce battle. He must make quick and precise movements, especially in critical situations. To respond to these situations, the fingers must move very quickly and accurately, often in a very short time. This can result in excessive stress on the joints of the hand, especially during situations that require quick reactions.

Additionally, players may be so focused on the game that they ignore physical comfort. They may sit in a position that is not ergonomic, such as bending over for too long or taking a position that puts stress on the spine and back muscles. This improper positioning can put extra stress on the joints and muscles of the hand, increasing the risk of injury (Columb et al., 2022; Luo et al., 2022).

As an illustration, imagine a Mobile Legends player who is involved in a tight match. He may sit in an uncomfortable and unergonomic position for a long time without realizing the negative impact. This can cause excess stress on the joints of the hands and affect long-term performance and health.

By understanding these factors, Mobile Legends players can take appropriate preventive steps to prevent injuries to hand joints. For example, stretching regularly or using ergonomic gaming accessories can help reduce the risk of injury. Thus, players can enjoy the game safely without compromising their physical well-being.

So it can be concluded that injuries to the hand joints are the result of excessive and intensive use of the fingers and wrists when playing Mobile Legends. This can be caused by several main factors:

a). **Repetitive Movements:** Mobile Legends players often make the same movements repeatedly, such as pressing buttons on the device or swiping on the screen. This activity requires high coordination and precision of the fingers, which can cause excessive stress on the joints.
   Case Example: A Mobile Legends player playing in an exciting match engages in a series of movements that require repeated pressure on the buttons of his device. As a result, he experienced tension in the joints of his hands and experienced persistent pain.

b). **Combat Intensity:** Especially in intense combat situations, players tend to make intense and fast hand movements. This high pressure can cause strain on the hand joints, especially when the situation requires a quick reaction.
   Case Example: When engaged in a decisive battle in the game, a Mobile Legends player may make very intense and fast hand movements. This can result in excessive strain on the hand joints, increasing the risk of injury.

c). **Unergonomic Position:** Players may be so focused on the game that they ignore physical comfort. They may sit in unergonomic positions, causing extra stress on the joints and muscles of the hands.
   Case Example: A Mobile Legends player may be too fixated on his device screen without paying attention to his sitting position. As a result, it assumes an unergonomic position, placing additional stress on the joints and muscles of the hand.

d). **Joint Stiffness:** Lack of stretching or exercises to keep the hand joints flexible can cause stiffness. Stiff joints are more susceptible to injury due to lack of flexibility.
Case Example: A Mobile Legends player may not stretch or exercise to maintain the flexibility of the hand joints. This causes the hand joints to become stiff and more susceptible to injury.

e). **Lack of rest:** Playing Mobile Legends for a long time without adequate rest can cause muscle and joint fatigue. This fatigue increases the risk of injury to the hand joints.
Case Example: A Mobile Legends player might get too carried away with the game and continue playing without getting enough rest. As a result, hand muscles and joints experience excessive fatigue, increasing the risk of injury.

f). **Psychological Factors:** Psychological stress during play, especially in competitive situations or tournaments, can cause physical strain, including on the hand joints.
Case Example: When competing in a Mobile Legends tournament, a player may experience high psychological pressure to perform well. This can cause physical strain, including on the hand joints.

Understanding these factors is an important step in preventing injuries to the hand joints. By paying attention to physical health and taking appropriate precautions, players can reduce the risk of injury and ensure that they can enjoy the game safely.

2.2. Solutions to Prevent Injuries in Esports Players

To prevent injury to esports players, it is very important to carry out a series of physical exercises that can strengthen vulnerable muscles and joints. Stretching and flexibility exercises are the main components of this exercise routine. This includes stretching movements of the fingers, wrists, arms, and shoulders to increase flexibility and range of movement. Strength training is also very important, as it helps build the muscles needed to support movements in the game(Pedraza-Ramirez et al., 2020). This includes exercises such as push-ups, sit-ups, planking, and squats. In addition, balance exercises, such as standing on one leg or using a balance device, can strengthen the supporting muscles of the body and improve coordination.

Apart from physical exercise, maintaining good posture while playing is also crucial in preventing injury. Exercises to maintain posture, such as moving your shoulders back and lifting your chest, can help prevent posture problems that can cause strain on the spine and back muscles. Specific wrist exercises can also be performed to strengthen areas frequently used in the game. Using a stress ball or rubber ball to exercise your wrists can help maintain strength and flexibility.

Additionally, the practice of yoga and Pilates can be an excellent addition to an exercise routine. Both focus on a combination of movement and breathing to improve flexibility, core strength and balance. Cardio and aerobic exercise are also important to improve physical endurance and blood circulation. This includes activities such as jogging, cycling, or swimming(Hew et al., 2023). Lastly, eye stretching exercises can also help prevent eye strain caused by focusing on a screen for long periods of time. This practice involves repeatedly shifting the focus of gaze from distant objects to close objects.

By integrating these exercises into esports players' routines, they can minimize the risk of injury and ensure their physical and mental health remains optimal while playing. Consistency is required in carrying out this exercise and you are reminded to always listen to your body and rest if there are signs of excessive tension or fatigue.

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Esports players have a high risk of injury due to repetitive and high-intensity activities during gaming sessions. However, there are several solutions that can be implemented to prevent injuries and ensure the health of esports players.

a). Warm Up and Stretch Before Playing: Warming up and stretching are important steps before starting a playing session. This helps prepare muscles and joints for intense activity. Specific stretches for areas prone to injury, such as the wrist and fingers, are essential.
Example: Before starting a tournament or practice, esports players can stretch their fingers, wrists and arms to increase flexibility and reduce the risk of injury.

b). Use Ergonomic Equipment: Choosing ergonomically designed equipment, such as mice, keyboards and gaming chairs, can help reduce stress and strain on the body. The right equipment can help players stay comfortable during long playing sessions. Example: Choosing a mouse and keyboard with a design that suits the shape of the hand and the natural position of the wrist can reduce excess pressure on the joints.

c). Good Sitting Position: Players should sit with correct posture and choose a chair that supports the back. A good sitting position reduces pressure on the spine and ensures balanced load distribution. Example: Make sure your gaming chair has back support that conforms to the shape of your spine and allows for a comfortable sitting position.

d). Regular Breaks and Arrangement of Playing Time: Players need to manage their playing time and provide regular rest. Neglecting rest can lead to physical exhaustion and increased risk of injury. Example: After every hour of play, give yourself a 10-15 minute break to stretch and reduce stress on the joints.

e). Exercise and Physical Training: Doing physical exercises and special training to improve strength, flexibility, and coordination can help protect the body from injury. This exercise can strengthen the muscles and joints that are often used when playing. Example: Regular strength and balance exercises can help build the muscles needed to support the movements in play.

f). Attention to Mental Health: Maintaining mental health is very important in preventing physical injury. Stress and psychological pressure can affect performance and trigger physical tension. Example: Using relaxation or meditation techniques to manage stress and psychological pressure can help maintain mental health.

By implementing this solution, esports players can minimize the risk of injury and ensure that they can continue to play safely and maximize their performance in the long term.

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By integrating these exercises into esports players' routines, they can minimize the risk of injury and ensure their physical and mental health remains optimal while playing. Consistency is required in carrying out this exercise and you are reminded to always listen to your body and rest if there are signs of excessive tension or fatigue.

3. Conclusion

In order to prevent injuries to esports players, there are several steps that can be taken. First of all, players need to do stretching and flexibility exercises before and during play. This includes stretching exercises for the fingers, wrists, arms, and shoulders to increase flexibility and range of movement. Furthermore, strength training is essential to build the muscles needed to support movements in the game, such as push-ups, sit-ups, planking, and squats. Players must also pay attention to correct body posture while playing and can do special exercises to maintain good posture.

In addition, using ergonomically designed gaming equipment can help reduce stress and strain on the body. The right choice of chair, mouse, and keyboard can help players stay comfortable during long gaming sessions. Additionally, it is important to manage play time wisely and provide regular breaks. Taking short breaks every hour and stretching during breaks can help maintain flexibility during long gaming sessions.

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