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Research Article

Analysis of the relationship between knowledge, behaviour, prevention, and self-efficacy on the mental health of athletes during the COVID-19 pandemic

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ABSTRACT
Background: Mental health has become a trending topic during the pandemic. Many athletes have experienced decreased performance during the pandemic, but not a few athletes are able to control their mental health. Objective: The purpose of this study was to examine the relationship between knowledge, preventive behaviour, and self-efficacy on mental health in professional football athletes during the COVID-19 pandemic. This research uses quantitative methods. Methods: This type of research is observational with a cross-sectional study. Eighty professional football athletes were involved in this research. The sampling technique was carried out using a proportional stratified simple random sampling technique. This research was conducted by distributing questionnaires consisting of 4 parts, namely knowledge level questionnaire sheets, preventive behaviour questionnaire sheets, self-efficacy questionnaire sheets, and mental health questionnaire sheets. The data obtained in this study were analyzed using the SPSS application with a descriptive test method to determine the min, max, average, and percentage. Furthermore, data analysis was carried out using the Spearman test method. Results: Based on the results of the study, The low p-value of 0.046 and the correlation coefficient of -0.224 suggest a meaningful negative correlation between self-efficacy and mental health. This indicates that as self-efficacy increases, mental health tends to decrease among the respondents. Conclusion: There is a significant relationship between self-efficacy and the mental health of the respondents. We provide recommendations for Psychologists to develop online interventions that aim to increase individual ability to cope with stressors during a pandemic and reduce excessive perceptions that have a negative impact on mental health.

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Introduction

A novel coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Cov-2) is the cause of coronavirus illness 2019 (COVID-19) (Nurhasanah et al., 2022). COVID-19 was first discovered in December 2019 in the city of Wuhan, Hubei province, China (Zu et al., 2020). SARS-Cov-2 is an RNA virus that causes infections with symptoms ranging from ordinary cold to catastrophic illnesses such as Middle East Respiratory Syndrome (MERS-Cov) and Severe Acute Respiratory Syndrome (SARS-Cov) (Zhou et al., 2020). The primary symptoms of COVID-19 that have been found include fever, dry cough, lethargy, muscle pains, and shortness of breath (Chan et al., 2020).

COVID-19 has a rapid pattern of transmission, so the incidence and mortality rate is growing rapidly throughout the world (Guan et al., 2020). Global data obtained from WHO as of October 26, 2020, reported that there were an additional 2.8 million new cases where the number of deaths increased by 40 thousand in the last seven days so that the cumulative cases of COVID-19 since the beginning of the discovery to date are 42 million and 1 million sufferers died. Countries in the Southeast

Asia region rank the 3rd largest for COVID-19 cases after Europe and America, and Indonesia is the 2nd highest country for COVID-19 cases in the Southeast Asia region (WHO, 2020). The number of active cases in Indonesia as of October 2020 was 62,455 or 16.9%, about 5% below the world average. However, the number of dead cases in Indonesia was 12,734 or 3.5%, 0.65% higher than the average cases of death due to COVID-19 in the world. The decline in the number of active cases and deaths due to COVID-19 is a priority for governments around the world, including Indonesia (Setiati & Azwar, 2020).

Various actions were taken to prevent the transmission and spread of COVID-19, such as self-isolation, mass quarantine, travel restrictions, lockdown or Large-Scale Social Restrictions (PSBB), and the establishment of isolation units in hospitals (Rubin & Wessely, 2020). Despite all the precautions taken to decrease the downsides connected with the propagation of the virus, recent evidence reveals that there is a detrimental psychological impact of such acts on a person's mental health. This psychological impact is most clearly demonstrated in athletes (Xiang et al., 2020).

A study conducted by Bullard et al. (2020) on a number of student-athletes in America found that there was an increase in mental stress on athletes related to the lack of available resources and facilities to train athletes during the COVID-19 pandemic, which in turn would lead to a decrease in motivation levels, increased feelings of stress and helplessness. The psychological impact of the COVID-19 pandemic has also been observed in professional athletes, and their study involving professional athletes concluded that the COVID-19 pandemic affected athletes' mental health, including disturbed sleep patterns and feelings of depression (Pillay et al., 2020). Mental health aspects are an important part of athlete performance, and the disorder must be recognized quickly.

The International Federation of Professional Footballers' Associations (FIFPro) reports that the percentage of professional football players experiencing symptoms of mental disorders has doubled during the COVID-19 pandemic. In a survey conducted by FIFPro, it was found that 13% of players reported symptoms that matched a diagnosis of depression, and 16% of players reported symptoms that matched a diagnosis of anxiety (Gouttebarge et al., 2018).

A high level of knowledge and awareness is essential to address the mental health problems of an athlete during an outbreak. During a pandemic, a person who has appropriate knowledge will believe themselves to be at risk of infection, which can motivate them to adopt preventative practices and eventually protect their mental health (Hossain et al., 2020). The key to raising awareness of infection and its repercussions is to use many sources of information, such as newspapers, television, social media, and official government information (Van Der Weerd et al., 2011). Information on COVID-19 transmission, risk and severity of infection, symptoms, availability and efficacy of medications and vaccines, updates on confirmed cases and fatalities, possible treatments for infection, preventive advice, COVID-19 experiences of other nations, and information on local outbreaks (Wang et al., 2020). According to recent research, ignorance of the pandemic might exacerbate mental health issues by elevating stress, anxiety, and despair (Muslic et al., 2021). Mental health is negatively impacted by ignorance and myths spread by the media, such as "overwhelmed hospitals" and "rumors of an epidemic" (Wang et al., 2020).

Because COVID-19 is viewed as a danger, people are more likely to take preventive measures and take better care of their mental health as a result (Nurhasanah et al., 2022). When people believe that there is a high danger and severity of sickness, they take the appropriate steps to engage in preventative activity. Persistent rumours concerning the seriousness of the illness typically have a detrimental psychological impact (Roy et al., 2020). Previous studies have demonstrated that poor mental health outcomes are caused by ignorance about illness (De Zwart et al., 2009).

In general, self-efficacy is the degree to which an individual believes that they are capable of handling stressful situations (Bandura, 1977). Self-efficacy affects how people feel, perceive, and behave when they take risks (Wang et al., 2020). Numerous researches have demonstrated a strong correlation

between self-efficacy and mental well-being. Abdel-Khalek and Lester (2017) found a strong correlation between mental health and self-efficacy. Also reported the same results, research already conducted indicates that firsthand experience with an outbreak raises self-efficacy, which encourages people to take preventative action and improves mental health during a pandemic (Kasapoğlu, 2022).

Very little is known about the contributing variables despite the findings and evidence of a rise in mental health issues during the COVID-19 epidemic. To the best of the researcher's knowledge, no prior studies have examined the connection between knowledge, self-efficacy, preventative behaviour, and mental health, particularly among athletes. Thus, the purpose of this research was to investigate the connection between athletes' mental health and their knowledge, preventive behaviour, and self-efficacy.

Method

Research Design

Quantitative approaches are employed in this study. This kind of research uses a cross-sectional and observational methodology. A questionnaire with four sections—a knowledge level questionnaire, a preventative behaviour questionnaire, a self-efficacy questionnaire, and a mental health questionnaire—was distributed as part of this study.

Participants

A total of 80 professional football athletes were involved in this research. In this study, proportionate stratified simple random sampling was used as the sampling technique. The Slovin formula is used to determine the minimal sample size and the necessary number of responders.

Data Collection Techniques

Every responder received an explanation of the study before any data was collected. The respondents are duly apprised of their entitlement to withdraw from the study at any point, and the confidentiality and anonymity of their responses will be preserved. After that, respondents were asked to sign as proof of their informed permission. This is an indication that the research can proceed. The responder was permitted to answer all questions pertaining to the variables examined in the study once they provided their consent. In exchange for their participation in this survey, respondents were not paid.

Data Analysis

The SPSS program was used to evaluate the study's data using a descriptive test approach in order to calculate the minimum, maximum, average, and percentage. Additionally, the Spearman test method was used to analyze the data.

Results and Discussion

Result

Characteristics of Respondents

The respondents who filled out the questionnaire were 80 people, whose characteristics can be seen in Table 1. The total number of respondents who completed all the questions in the questionnaire was 80 people, which corresponds to the number of samples required for this study. Table 1 shows the demographic characteristics of the respondents. In accordance with the results obtained in Table 1, most of the respondents (78.75%) aged 17-25 years are included in the category of late adolescence. The majority of respondents (82.5%) have a high school education. Most of the respondents (86.25%) had received the second dose of the COVID-19 vaccine, and there were no respondents who had not received the COVID-19 vaccine.

Table 1. Characteristics of Respondents

Variable	Group	N	Percentage (%)
Age	17-25 years old	63	78.75 %
	26-35 years old	12	15 %
	36-45 years old	5	6.25 %
Education	Primary school	2	2.5 %
	Junior high school	2	2.5 %
	Senior high school	66	82.5 %
	Degree program	10	12.5 %
COVID-19 Vaccine Status	Not Vaccine yet	0	0%
	First Vaccine	11	13.75
	Already Second Vaccine	69	86.25

Respondent's Knowledge

The results of the respondent's level of knowledge about COVID-19 can be seen in Table 2.

Table 2. Knowledge Level About COVID-19

Knowledge level	n	Percentage (%)
Good	44	55 %
Enough	30	37.5 %
Not enough	6	7.5 %
Total	80	100 %

Table 2 shows that just six respondents (7.5%) have a low degree of knowledge of COVID-19, while the bulk of respondents, 44 persons (55%) have a good level of knowledge. The majority of respondents (55%) had a decent degree of understanding about COVID-19, which is in line with the expected results. When the COVID-19 pandemic conditions persisted long enough for data gathering to be conducted, it became one of the explanations for why the majority of respondents had good knowledge levels.

Respondent Behavior

Based on Table 4, the majority of respondents (55%) have a good level of preventive behaviour against COVID-19. Most of the respondents carried out all preventive behaviours against COVID-19, including wearing masks, avoiding travelling out of town by public transportation, avoiding gathering with many people, taking supplements, herbs or vitamins, avoiding shaking hands, washing hands with soap, and exercising.

Table 3. Average Respondents' Preventive Behavior Score Against COVID-19

Preventive Behavior against COVID 19	Min	Max	Average
Using a mask	1	5	4.63
Avoid traveling out of town by public transportation	1	5	2.92
Avoid gathering with a lot of people	1	5	3.27
Taking herbal or vitamin supplements	1	5	4.07
Avoid shaking hands	1	5	3.23
Washing hands with soap	1	5	4.43
Sport	1	5	4.93

Table 4. Respondents Preventive Behavior Against COVID-19

Preventive Behavior	N	Percentage (%)
Good	44	55 %
Enough	33	41.25 %
Not enough	3	3.75 %
Total	80	100 %

Respondent Mental Health

Table 5. Mental Health

Mental Health	N	Percentage (%)
Normal	80	100 %
There is Anxiety Disorder	0	0 %
Total	80	100 %

Table 6. Respondent's Average Mental Health Score

Statement	Min	Max	Average
I feel dizzy, lightheaded, or faint when I read or listen to news about the corona virus	0	4	0.11
I have trouble sleeping because I think about the corona virus	0	4	0.02
I feel paralyzed or frozen when I think about or get information about the coronavirus	0	4	0.01
I lose my appetite when I think or get information about corona virus	0	4	0.01
I feel nauseous or have stomach problems when I think about or get information related to the corona virus	0	4	0.01

Table 5 shows that none of the respondents (100%) have anxiety problems, and all of the respondents have normal mental health. Classification of normal and anxiety disorders is based on the number of scores obtained from 5 question items. Mental health is classified as normal if the total score obtained is between 0 and 8, while mental health is classified as impaired if the score is 9. The results of the average mental health scores of respondents can be seen in Table 6. From the table, it is found that all question items were answered by respondents with an average score in the range of 0 to 8, which means that the mental health of respondents in all question items is classified as normal.

Respondent's Self-Efficacy

Table 7. Average Respondents' Self-Efficacy Score

Question	Min	Max	Average
How confident are you that you can prevent contracting COVID-19 during this pandemic?	1	5	4.28

Based on Table 7, the average score of respondents' self-efficacy is 4.28.

Table 8. Respondent Self Efficacy

Question	Not confident (score 1)	Not confident (score 2)	Normal (score 3)	Low self confidence (score 4)	Very confident (score 5)	Amount
Do you believe that you can prevent contracting COVID-19 during this pandemic?	1 (1,25%)	0 (0%)	21 (26,25%)	11 (13,75)	47 (58,75)	80 (100%)

The Relationship between Knowledge, Behavior and Self-Efficacy on Respondents Mental Health

Based on Table 9, all variables obtained a p-value less than = 0.05 (p <0.05). This shows that the assumption of normality in the two variables still needs to be met. If the assumption of normality in the two variables is not met, then the correlative test is carried out using the Spearman test.

Table 9. Normality test

Variable	p-value	Information
Knowledge	0.000	Not normal
Behavior	0.034	Not normal
Self Efficacy	0.000	Not normal
Mental health	0.000	Not normal

Table 10. Spearmen test results relationship of knowledge, behavior and self-efficacy with respondents mental health

Independent variable	Dependent variable	p-value	Correlation coefficient	Information
Knowledge	Mental health	0.975	0.004	Not significant
Behavior	Mental health	0.349	-0.106	Not significant
Self Efficacy	Mental health	0.046	-0.224	Significant

The analysis reveals a non-significant relationship between knowledge and mental health, as evidenced by the high p-value of 0.975 and a low correlation coefficient of 0.004 (Table 10). This suggests that there is no statistically significant correlation between the level of knowledge and the mental health status of the respondents. Similarly, the Spearman test results indicate a non-significant relationship between behaviour and mental health, with a p-value of 0.349 and a correlation coefficient of -0.106. This implies that there is no significant correlation between respondents' behaviour and their mental health outcomes. In contrast, the analysis highlights a significant relationship between self-efficacy and mental health. The low p-value of 0.046 and the correlation coefficient of -0.224 suggest a meaningful negative correlation between self-efficacy and mental health. This indicates that as self-efficacy increases, mental health tends to decrease among the respondents. In summary, while knowledge and behaviour do not appear to influence mental health outcomes significantly, self-efficacy emerges as a significant factor affecting respondents' mental well-being. Higher levels of self-efficacy are associated with poorer mental health outcomes among the surveyed individuals.

Discussion

Respondent's Knowledge

Experience is one of the factors that affect a person's knowledge. An experience is an event that has been experienced by someone before. The more experience a person has, the more knowledge he will gain. The results of this study are in line with research that This has carried out is in line with research

conducted by Al-Hanawi et al. (2020) on the people of Saudi Arabia; the average result of respondents' knowledge regarding COVID-19 is 81.64%, where the score is into the category of good knowledge. The Arab community has experienced the MERS epidemic, so in dealing with this pandemic, they are more aware and immediately find out all information related to COVID-19, and this makes their level of knowledge good.

The results of this study are not in line with the research conducted by Yıldırım & Güler (2020) in Turkish society. The majority of respondents (55.11-64.42%) have less knowledge related to COVID-19. This is because the data collection in this study was carried out at the beginning of the COVID-19 pandemic, so public knowledge regarding COVID-19 is still low due to no previous experience, and information related to COVID-19 is also still limited.

The majority of respondents have a good level of preventive behaviour against COVID-19, indicating that the health protocol in order to prevent the transmission of COVID-19 has been internalized in the respondent's daily behaviour. In Table 3, it can be seen that the behaviours that have a high average score include consuming supplements, both herbal and vitamin supplements (4.07), washing hands with soap (4.43), using masks (4.63), and exercising (4.93). This result is in line with Yıldırım & Güler (2020) in the Turkish community who reported that the behaviour of washing hands with soap and wearing masks is the thing that has the highest average score. The average score of the highest COVID-19 prevention behaviour among respondents was sports (score of 4.93). This is in accordance with the characteristics of the respondents themselves, where all respondents are professional soccer athletes in East Jawa Province, where sports activities are routine activities that are carried out even during the pandemic without ignoring health protocols.

Exercise has a positive effect on COVID-19 in the sense that someone diligent in exercising can reduce the risk of being exposed to COVID-19. Exercise can affect the immune system and defence against the virus (Walsh et al., 2011). Daily exercise can help fight disease by boosting the immune system and ward off several diseases, including COVID-19 (Grix et al., 2021).

Respondent's Mental Health

The results of this study are not in line with several previous studies related to the mental health of athletes during the COVID-19 pandemic. Research conducted by Bullard (2022) on a number of student-athletes in America found that there was an increase in mental stress in athletes related to a lack of resources and facilities available to train athletes in sports during the COVID-19 pandemic, which in turn will lead to decreased levels of motivation, increased feelings of stress and helplessness. Another study that also investigated the mental health of athletes during the COVID-19 pandemic was a study conducted by Pillay et al. (2021). Their study involved professional athletes in South Africa, and the results were that the COVID-19 pandemic had an effect on athletes' mental health, including disturbed sleep patterns and feelings of depression.

The difference in the results between this study and several studies that have been carried out is related to the conditions at the time of data collection. The research of Bullard (2020) and Pillay et al. (2020) was conducted at the beginning of the COVID-19 pandemic, when cases of COVID-19 were still high and could not be controlled, affecting the policies made by the government, including the prohibition of holding sports events, the lockdown policy and the lack of clarity regarding the careers of athletes during the COVID-19 pandemic. This is different from the conditions in which this research was conducted. The lockdown policy no longer exists, and sporting events have begun to be held even though in conditions that are quite tightly controlled, the number of COVID-19 sufferers has decreased, and the government has stated that it can control the pandemic condition.

Respondent's Self-Efficacy

Determination of the score on self-efficacy using a Likert scale based on the reference of de Zwart et al. (2010). Scores from the smallest to the highest score in a row are as follows: score 1 indicates not confident, score 2 indicates slightly not confident, score 3 indicates average, a score of 4 indicates a little self-confidence and a score of 5 indicates very confident. Although it has not yet attained the highest score, the average score of 4.28 indicates that respondents' confidence in stopping the spread of COVID-19 during the pandemic is fairly high.

The study's findings are consistent with studies on people's self-efficacy in relation to the SARS pandemic undertaken globally by de Zwart et al. (2010). The study's findings indicated that people in the Asian region had higher levels of self-efficacy than people in the European zone. Furthermore, de Zwart et al. (2009) explained that residents in the Asian region, including Indonesia, felt more able to control SARS because they had long experience in dealing with outbreaks; this increased the self-efficacy of the people of the Asian region and was quite high. In addition, the precautions taken by people in the Asian region are also more convincing.

The Relationship between Knowledge, Behavior and Self-Efficacy on Respondents Mental Health

Table 6 reveals a substantial negative correlation coefficient between the respondent's mental health and self-efficacy. This implies that an individual's mental health score decreases with increasing self-confidence. A person's health will improve and generally return to normal if their health score is lower. This study also discovered that there is no meaningful correlation between respondents' mental health and their knowledge and conduct.

Few research have looked at the connection between COVID-19-related mental health and self-efficacy. These findings are consistent with research done in Turkish society (Yıldırım & Güler, 2020), which concluded that people with high self-efficacy would fare well mentally during the COVID-19 pandemic and people with low self-efficacy would fare poorly mentally.

The study's findings have significant ramifications for both practice and research. Psychologists can design and carry out online interventions with the goal of enhancing a person's capacity to manage stressors during hardship and lessening their impression of the exaggerated seriousness of any possible threat that could be harmful to their mental health.

There are some fundamental limitations to this study. The use of a single metric to assess the self-efficacy research variables is the study's most significant shortcoming. The respondent's burden is to be minimized by employing this one parameter. Subsequent research endeavours have to employ many criteria in order to furnish more robust proof concerning the correlation between self-efficacy and psychological well-being. Secondly, an online survey was used to perform this study.

Conslusions

The study's findings support the notion that there is a strong link between athletes' mental health and self-efficacy. We offer suggestions to psychologists on how to create online therapies that try to improve people's capacity to handle stressors during a pandemic and lessen exaggerated beliefs that are detrimental to mental health.

Authors' contributions

FA is responsible for data compilation, analysis, article conception, writing, and revision. FRI and PDA are responsible for article conceptualization and strict and critically revised manuscripts. All authors read and approved the final manuscript.

Competing interests

The authors declare no competing interests.

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