THE EFFECTIVENESS OF STRESS BALL THERAPY TO REDUCE ANXIETY LEVEL IN COVID-19 PATIENTS IN PATI, CENTRAL JAVA

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ABSTRACT

Background: COVID-19 has become a pandemic in all countries, including Indonesia. COVID-19 cases are increasing concern for the public because of the possibility of exposure and the anxiety experienced by confirmed COVID-19 patients undergoing self-isolation. This study aimed to analyze the effectiveness of stress ball therapy on reducing anxiety levels among COVID-19 patients in a self-isolation room.
Subjects and Method: This was a randomized controlled trial (RCT) conducted at Self-Isolation Room, RAA Soewondo General Hospital, Pati, Central Java, in June 2021. A total of 56 COVID-19 patients was selected and divided into 2 groups: (1) Experimental group consisting of 28 patients receiving stress ball therapy; (2) Control group consisting of 28 patients not receiving stress ball therapy. The dependent variable was anxiety level. The independent variable was stress ball therapy. The anxiety level was measured by Hamilton Anxiety Rating Scale (HARS). The Mann-Whitney test analyzed the data.
Results: Anxiety level after stress ball therapy intervention was lower in the experimental group (Mean= 14.17; SD= 4.36) than the control group (Mean= 19.93; SD=0.62), and it was statistically significant (p<0.001).
Conclusion: Stress ball therapy effectively lowers anxiety levels in COVID-19 patients.

Keywords: stress ball therapy, anxiety level, COVID-19

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BACKGROUND

This COVID-19 became a world health problem in early 2020. This case began with information from the World Health Organization (WHO) on December 31, 2019, with a cluster case of pneumonia with an unclear etiology. In Wuhan, Hubei Province, China, these cases increased with deaths and imports outside China (Li et al., 2020).

The cases of COVID-19 around the world are getting more expansive, and the growth is accelerating. On March 2, 2020, Indonesia reported two confirmed cases of Covid-19. WHO has declared this COVID-19 incident as a pandemic, which is a global crisis that not only threatens public health physically but over all aspects of people's lives in the world; on January 30, 2020, WHO has designated this COVID-19 case as a Public Health Emergency of International Concern (PHEIC) (Roy et al., 2020).

The number of cases of COVID-19 in the world as of December 2020 has reached more than 65,651,683 confirmed cases of COVID-19, including 1,519,193 cases of death. In Southeast Asia, the growth of COVID-19 cases has also drastically increased,

with 11,071,129 confirmed cases of COVID-19 and 168,458 cases of death. Indonesia ranks top in Southeast Asia for the incidence of COVID-19 until December 2020, where confirmed cases of COVID-19 were more than 569,707 cases (WHO, 2020).

Pati Regency, one of the regencies in Central Java, also has a relatively large number of COVID-19 cases. The latest data for March 2021 has touched the range of 706 suspect cases and 6,236 confirmed cases of COVID-19, where confirmed cases are essential. gal as many as 330 cases. (Ministry of Health, 2020).

The growth of COVID-19 cases, which is increasing day by day, certainly makes most people worry and anxious because, of course, people are afraid of the high possibility of being exposed to the COVID-19 virus. Anxiety is felt by the general public and confirmed COVID-19 patients who are currently in self-isolation (Sukesih et al., 2020). Independent isolation room at RAA Soewondo Pati Hospital Based on data obtained from the Pati City Health Office, the total number of patients being treated or undergoing self-isolation in March 2021 is 125 people. This figure will undoubtedly continue to increase rapidly.

On average, preliminary studies in the field and reports from officers at the Independent Isolation of RAA Soewondo Pati Hospital, patients treated experience varying stress and anxiety. Starting from refusing to be treated, not believing that the diagnosis will be confirmed, and anxiety for various reasons.

Based on a field survey, 55% of patients felt anxious and restless in the first week of self-isolation. Then in the second week and the next, the patient felt less anxious, but boredom began to arise in isolation. These various patient problems will cause anxiety to stress, which will also disrupt the physical and mental health of COVID-19 patients. Ria (2019) explained that there is a significant spirit on the level of anxiety of pre-school aged children (3-6 years) (Sari and Afriani, 2019).

Anxiety is a feeling of fear of something happening caused by the anticipation of danger and is a signal that helps individuals prepare to take action in the face of threats. Demands, competition, and disasters in life can impact physical and psychological health. One of the psychological impacts is anxiety (Sutejo, 2018).

The impact caused by anxiety varies depending on the type of anxiety experienced by the individual. Given the seriousness of the effects of uncontrollable anxiety, we should be able to control or divert this anxiety in various ways, both pharmacologically and non-pharmacologically, so that the impact is not more severe (Sukesih et al., 2021). One of the non-pharmacological measures to deal with anxiety is to do exercise using stress ball.

The purpose of this study was to determine the effectiveness of Stress Ball therapy on the anxiety level of COVID-19 patients.

SUBJECTS AND METHOD
1. Study Design
This is a randomized controlled trial (RCT) conducted in the isolation room

of the RAA Soewondo Hospital, Pati, Central Java, in June 2021.

2. Population and Sample

The population in this study were COVID-19 patients. 56 COVID-19 patients were divided into 2 groups: (1) 28 patients received the Stress Ball Therapy and (2) 28 patients did not receive the Stress Ball Therapy; subjects were randomly selected.

3. Study Variables

The dependent variable is the level of anxiety. The independent variable is stress ball therapy

4. Operational Definition of Variables

Anxiety Level is a response range that divides the individual into whether it includes mild, moderate, severe, or even panic anxiety

Stress Ball Therapy is a therapy used to treat anxiety in COVID-19 patients using therapeutic tools for helping people manage stress through the physical act of squeezing, rolling, or tossing a ball.

5. Instruments

The measuring instrument used is the Pregnant-ton Anxiety Rating Scale to measure the level of anxiety before and after being given stress ball therapy.

6. Data Analysis

Mann-Whitney test was used to examine the effect of stress ball therapy on anxiety levels in COVID-19 patients.

RESULTS

1. Sample Characteristics

Table 1 shows that the intervention group was dominated by males (60.7%), and the average age of the subjects was 37-48 years (50%), with the most occupations as laborers/ private sector (46.4%).

Table 1. The characteristics of the intervention group (dichotomous data) are based on gender, age, and occupation.

Variable	Total (n)	Percentage (%)
Gender		
Male	17	60.7
Female	11	39.3
Age		
12-25 years	7	25
25-36 years	7	25
37-48 years	14	50
Job		
Farmer	2	7.1
Labor/private	13	46.4
Trader	3	10.7
Government Employee/Police/Military	4	14.3
Others	6	21.4

Table 2. Characteristics of the control group sample (dichotomous data) based on gender, age, and occupation.

Variable	Total (n)	Percentage (%)
Gender		
Male	15	53.6
Female	13	46.4
Age		
12-25 years	5	17.9
25-36 years	11	39.3
37-48 years	12	42.9
Job		
Farmer	2	7.1
Labor/private	11	39.3
Trader	6	21.4
Government Employee/Police/Military	4	14.3
Others	5	17.9

Table 2 shows that in the control group, more patients were males (53.6%), and most of the subjects were 37-48 years old (42.9%), with the most work in the labor/private sector (39.3%)

Table 3. Frequency distribution of anxiety levels in the intervention group (stress ball therapy)

Variable	Pre		Post	
	n	%	n	%
Anxiety Level				
No Anxiety	0	0	19	67.9
Mild Anxiety	1	3.6	9	32.1
Moderate Anxiety	26	92.9	0	0
Severe Anxiety	1	3.6	0	0

Table 3 shows that most of the subjects had moderate levels of anxiety before being given the stress ball therapy intervention, namely as many as 26 subjects (92.9%), and after being given the stress ball therapy intervention, on average, they had no anxiety, as many as 19 subjects (67.9%).

Table 4. Frequency distribution of anxiety levels in the control group

Variable	Pre		Post	
	n	%	n	%
Anxiety Level				
No Anxiety	0	0	0	0
Mild Anxiety	0	0	0	0
Moderate Anxiety	27	96.4	28	100
Severe Anxiety	1	3.6	0	0

Table 4 shows that most of the subjects in the pre-control group had moderate anxiety levels, as many as 27 subjects (96.4%). All subjects had moderate anxiety levels (100%).

2. Bivariate Analysis

The difference in stress levels in the intervention group (Mean= 14.17; SD= 4.36) and the control group (Mean= 19.93; SD= 0.62) and this is statistically significant (Table 5).

Table 5. Mean difference of stress level between control and treatment group

Variable	n	Mean	SD	p
Experiment	28	14.17	4.36	<0.001
Control	28	19.93	0.62	

DISCUSSION

The results showed the level of anxiety in the treatment group before being given Stress Ball Therapy, data obtained from research subjects with mild anxiety as many as 1 person (3.6%), moderate anxiety as many as 26 people. (92.9%) and severe anxiety (3.6%).

Based on the results found in the data, it was obtained that the majority of respondents experienced moderate levels of anxiety with a percentage of 92.9%. At the beginning of data collection, it was clear that most respondents looked very anxious and still had many complaints regarding their condition when they experienced self-isolation. Respondents admitted that they were worried about the decision that required them to undergo self-isolation. In addition, the respondents panicked and felt stressed with the amount of information with unclear sources related to COVID-19.

The results of Aula's research (2020) showed if someone continues to be under pressure, that person will increase their anxiety. One thing that can be done when anxiety arises in someone is to create a more conducive atmosphere, where there is education and guidance for that person to provide broader insight and is expected to reduce the anxiety rate of that person (Aula, 2020).

Based on table data 8 levels of anxiety in the post-stress ball therapy treatment group, data was found from 28 respondents; 19 respondents (67.9%) did not experience anxiety, and 9 respondents with mild anxiety (32.1%).

Based on the data above, it is clear that there was a decrease in anxiety in respondents compared to before being given the stress ball therapy intervention, where most respondents did not experience anxiety with a percentage of 67.9%. The intervention in stress ball therapy was given as a distraction technique to overcome respondents' anxiety.

The results of Salman's research (2020) show that distraction techniques can be interpreted by providing a pleasant stimulus to release endorphins naturally, which can reduce anxiety in a person due to anxious impulses being transferred to the brain. Only a little. One of the distraction techniques that can be done to reduce anxiety is to provide play therapy, such as stress ball therapy. Whatever media play treatment is, it effectively diverts the patient's anxiety (Salman et al., 2020).

Based on the table of anxiety levels in the pre-control group, data

obtained from 28 subjects showed 27 subjects with moderate levels of anxiety (96.4%) and 1 subject experiencing severe anxiety (3.6%).

From the data above, it can be seen that the majority experience moderate anxiety levels (96.4%). Budi (2016) state that a moderate level of anxiety is a condition in which the individual focuses only on the thoughts that are his concern. The individual's perception field becomes narrower and requires the direction of others in doing an activity.

Respondents with moderate anxiety can be seen from several characteristics that appear, such as the emergence of anxiety, dependent or dependent behavior, and expressing worry and fear of something (Jeffrey 2013 in Anissa, 2016).

Based on table 10 data on anxiety levels in the post-control group, data obtained from 28 respondents, the majority of all respondents experienced moderate anxiety levels, namely 28 people (100%).

Based on the research results above, it is evident that the majority of all respondents still experience moderate levels of anxiety while undergoing self-isolation. Many factors can influence a person to experience anxiety. As explained by Iyus in Saifudin & Kholidin (2015) many factors influence anxiety in a person, including age and developmental stages, environment, knowledge and experience factors, and support or family roles.

Based on the result of this study, it can be concluded that the administration of Stress Ball Therapy has proven to be quite effective in reducing the level of anxiety in respondents.

Giving stress ball therapy is one of the non-pharmacological actions in traction techniques in overcoming anxiety. Kusumayanti (2018) explained that the distraction technique is a method to eliminate anxiety by diverting attention to certain things so that patients will forget the anxiety they are experiencing. As a result of a pleasant sensory stimulus will cause the release of endorphins, which can inhibit the anxious stimulation in transmitting the anxious stimulus to the brain to be less.

Stress ball therapy is a modification of distraction therapy in overcoming anxiety. The goal is, of course, to divert respondents' attention to reduce the level of respondents' anxiety. The method of giving stress ball therapy in this study was by providing a rubber ball squeezing game to COVID-19 patients undergoing self-isolation. The intervention of providing stress ball therapy to COVID-19 patients has proven to be quite effective in reducing patient anxiety.

This is reinforced by Nasution's (2020) opinion, which explains that there is a good influence in providing stress ball therapy in reducing anxiety levels in pre sectio caesarea patients. Because anxiety in the face of surgery will be diverted, the patient's anxiety will also be reduced. Another study from Arianna, 2018 also confirmed that giving stress ball therapy can significantly reduce a little anxiety level in patients with preoperative excision of the neck and head skin cancer.

Based on the study results above, it was explained that the control group

was not given an intervention, so there was no difference between pre and post-control. Many factors can cause anxiety in respondents in this control group. According to Ifdil 2016, several factors can influence anxiety in subjects, including the level of knowledge possessed in responding to a threatening situation and knowing how to control oneself in dealing with this anxiety.

In addition, the anxiety level arises due to past bad experiences and irrational thoughts in individuals so that excessive anxiety can occur. Anxiety is a feeling of extreme worry that a person feels, like panic and helplessness (Stuart, 2016).

Ghufron and Risanawita (2014) in Fadli (2020) explain that panic and fear are considered part of the emotional aspect. At the same time, the components that come from mental or cognitive aspects include disturbances in thinking, worry, irregularity in thought, and feelings of confusion.

The study results also explain the effectiveness of giving stress ball therapy to COVID-19 patients on the anxiety level of COVID-19 patients. With the emergence of the COVID-19 disease, many people are starting to worry about the news that appears in the community. Symptoms that begin to appear in Covid-19 patients include cough, fever, difficulty breathing, sore throat, and anosmia (Chen et al., 2020; Huang et al., 2020).

Of course, these complaints also impact the emotional and mental aspects of the patient, so various levels of anxiety arise. The results of Dewi and Fauziah's research (2018) explain that anxiety is a natural feeling for someone; when people feel anxious, they will realize and remember things that are dangerous or make them anxious. However, if this normal anxiety is excessive and uncontrollable, it will interfere with daily activities. The cause of anxiety itself is usually due to obtaining extreme or harmful information.

Anissa et al. (2018) stated that each individual has a different level of anxiety, which is influenced by how the individual adjusts and copes with situations that trigger anxiety. When faced with unpleasant situations, this anxiety also often appears in individuals (Suraatmaja and Wulandari, 2020).

The benefits of playing ball therapy, especially stress ball therapy, include reducing panic levels, stimulating the nerves in the hands to divert attention, and improving feelings. Based on applying this stress ball therapy intervention in the field, the researchers also found similarities with the existing theory. After being given this stress ball therapy game, respondents became more enthusiastic and looked calm and cheerful than before being given this intervention.

AUTHOR CONTRIBUTION

Sukesih, the lead researcher, related to research permits at the Soewondo Pati Hospital, providing intervention actions to patients. Tri Suwarto, a research member, helped the lead researcher take action on the patient. Pratiwi Susilosari, a research member, allows the lead researcher to take action on the patient.

CONFLICT OF INTEREST

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