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Article Review

Recovery From Covid-19 Is A Valuable Experience: A Systematic Review

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ABSTRACT

COVID-19 is a global health problem that affects the physiological and psychological of patients even though they have passed through an acute period. The recovery process from COVID-19 is also still limited. This study aims to examine the physiological and psychological health problems of COVID-19 survivors. Methods: A systematic search was conducted through five databases (Proquest, Science Direct, Web of Science, PubMed, and Scopus) using qualitative research criteria with interviews and limited article searches from January 2020 to January 2022. The data search used the keywords recovery, rehabilitation, experience, COVID-19 or coronavirus, qualitative. Dissemination and review of the use of the JBI Guidelines to assess research quality. Systematic analysis using the Prisma checklist guide. Title, abstract, full text, and methodology used to access the location. Researchers perform data tabulation and narrative analysis of the findings. Results: Seven studies met the inclusion criteria. The results of the study are divided into two themes in the recovery of COVID-19. Factors that affect physiological (n=2), psychological (n=3) and affect both (n=2). An average of 176 participants from all studies discussed physiological and psychological factors in COVID-19 recovery. Results: Physiological problems in the form of fatigue, shortness of breath, sleep disturbances, decreased appetite, and cough. Psychological problems in the form of fear, depression, anxiety, and stress. Conclusion: Survivors of COVID-19 have different physiological and psychological health problems in recovery or rehabilitation, so they are need support from other people or health workers and a good environment for a prosperous life.

Keywords : Covid-19, Physiological, Psychological, Recovery.

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INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is an infectious disease that has spread throughout the world. On March 11, 2020, WHO declared COVID-19 to be pandemic because of its very fast spread throughout the country[1]. Based on research on COVID-19 and post-COVID-19 patients, it shows that they experience physical and psychological disorders[2,3]. Fatigue, shortness of breath, and cognitive dysfunction are three symptoms that are often complained of. 89% of respondents said that doing excessive physical activity showed symptoms of malaise after activity[4]. 96.2% of post COVID-19 patients experience psychological disorders so that interventions are needed to improve their well-being[2].

The number of COVID-19 cases in the world increased 5% on January 17-23 2022. The number of new cases reported exceeded 21 million cases which is the highest weekly number of cases since the start of the pandemic[5]. In Indonesia, there were 18,891 (0.44%) active cases in the last week of January 2022 with the number of positive cases increasing by 2,925 cases. Social distancing has been implemented by the Indonesian government to reduce the spread of the virus. However, there are still many people who come out of the red zone which causes the virus to spread to other areas[6].

The effect of respiratory problems from Coronavirus 2 (SARS-CoV 2) is different for

each individual ranging from showing no symptoms despite of infected to experiencing respiratory failure and even multiorgan failure[7]. Findings from MRI examination showed that 70% of "low risk" COVID-19 positive patients showed one or more organ damage within 4 months of initial symptoms[8]. In a recent study, fatigue, shortness of breath, and cognitive dysfunction were characterized as the three symptoms of COVID-19 that make people weak. As many as 89% of the survey of respondents reported that excessive physical and mental activity causes malaise after doing activities[4]. Exercise and physical activity as the rehabilitation of post COVID-19 patients are still being carried out because there are several neurological, cardiac, musculoskeletal and respiratory symptoms that can interfere with the patient's activities[9].

Psychological distress can affect the severity and recurrence of respiratory tract infections[10]. Patients who experience stress in their lives can affect the activity of the hypothalamus, pituitary, adrenals and also the autonomic nervous system[11]. Elevated levels of stress hormones can interfere with the inflammatory response by suppressing the hormonal and cellular immune systems and altering the balance of proinflammatory cytokines[12]. Therefore, in addition to paying attention to the physical complaints, the patient's psychological factors also need to be considered to improve the welfare of the patient's welfare.

The clinical and treatment characteristics of COVID-19 patients have been studied extensively, but knowledge regarding the recovery process from COVID-19 is still limited. Physiological and psychological problems are health problems that are often felt by survivors. An understanding the recovery process of COVID-19 patients is necessary to plan post treatment follow-up and prevent new health problems from occurring in the community[13]. However, there are still limited research articles that examine the physiological and psychological health problems of COVID-19 survivors in the general population in Indonesia.

This study aims to explore the physiological and psychological experiences of patients after recovering from COVID-19.

METHOD

A systematic review was carried out comprehensively and synthesized from studies relevant to the health problem of COVID-19 patients from physiological and psychological factors. Dissemination and the Joanna Briggs Institute Guidline for assessing research quality. Evaluation of the Systematic Review using the PRISMA checklist, all items were recorded and included when reporting and analyzing a systematic review[14].

Search strategy

The databases used in the search process are Proquest, Science Direct, Web of Science, Pubmed and Scopus. Database search was conducted in January 2020-January 2022 to review relevant studies. The PICOS format was used to formulate research questions (table 1). The boundaries of the questions reviewed were defined through the development of inclusion and exclusion criteria using the PICOS format. Studies were included for review if they met the following inclusion criteria: (a) all types of qualitative research conducted during the COVID-19 pandemic; (b) Researching the physiological and or physiological health problem of post COVID-19 patients.

The search strategy is carried out by trying to find suitable keywords to improve the quality of research and consulting with lecturers and other researchers in a systematic review strategy. The literature search used five keyword groups based on Medical Subject Heading (MesH) and combined using Boolean OR. The search strategy set is recovery, rehabilitation, experience, COVID-19 or coronavirus, qualitative. The search results were limited to qualitative designs and reviews using English.

Study Options

The search was conducted through five databases and found 413 publications (figure 1), obtained 9 duplicate publications and removed from the results, and obtained 404 publications. Researchers assessed and filtered titles (n=404), obtained abstracts (n=22) and full text (n=7) from each publication that did not meet the inclusion criteria (table 1). We found seven full text articles to qualify for a systematic review. During the literature screening process, the researcher provided a general definition of the

reasons for the exclusion criteria, namely the type of research was irrelevant and there was no explanation of the recovery experience affecting the physiological and psychological effects of post COVID-19 patients and the gray literature.

Assessment of Study Quality and Risk of Bias

JBI's critical assessment for qualitative studies was used to analyze the methodological quality and risk of bias of each study (n=7). The list to examine the study has several assessment criteria, given a score of "yes", "no", "unclear", or "not applicable". Criteria with a score of "yes" are given a score of one point and in the sum after each assessment item is filled in and the score for each study is calculated. Critical assessment is carried out by researchers to assess studies that meet the requirements. The critical rating limit agreed upon by the two researchers was 50% for the study to be included in the review. There were seven studies that achieved a score of more than 50% and were ready for data synthesis.

Data extraction and analysis

Relevant data extracted included author, year, country, research objectives, research design, sample size, sampling method, participant description, data collection process, interview results and research conclusions. Conducting a qualitative review aims to dig up information on patient experiences post COVID-19 physiologically and psychologically so that information or themes can be obtained to synthesize data in a systematic review.

RESULTS

Study Characteristics

Seven articles were found from five databases, there were 86 journals from Proquest, 105 journals from Science Direct, 154 journals from Web of Science, 59 journals from PubMed and 9 journals from Scopus that met the inclusion criteria (table 1). The results of the study are divided into two themes in the recovery of COVID-19. Factors that affect physiological (n=2), psychological (n=3) and affect both (n=2). An average of 176 participants from all studies discussed physiological and psychological factors in COVID-19 recovery. Studies according to this systematic review were conducted in China with 3 studies[13,15,16], in the UK with 3 studies[17–19] and in Iran with 1 study[20].

Data collection used a qualitative design with various interview techniques, ranging from 18 to 74 years of age. The majority of interviews were conducted using telephone and video calls (using the wechat application, zoom), there were also interviews conducted directly at the hospital. Interviews were conducted for 40 to 60 minutes.

Physiological Problem

Physical symptoms

Physiological health problems by COVID-19 survivors are very diverse because they depend on the health status of each individual. Some respondents had complaints of health problems there are fatigue, shortness of breath, sleep disturbances, decreased appetite, chest pain and cough[13,20]. Decreased strength in carrying out physical activities greatly interferes with work. Feeling tired and excessively tired so that he adjusts to doing small jobs such as sweeping, gardening, taking care of children and shopping so that he can do activities well[18,19].

Guidance for Rehabilitation

Some respondents complained that they did not know how to contact health care staff to find out how their physical condition was after COVID-19 and how to improve their health status[13,17,18]. There is no effective treatment to return the physical condition to normal[15]. Various activities were carried out to improve their physical condition, such as going to the park, jogging and doing yoga independently without guidance from health workers. Running, cycling, walking uphill and swimming are activities that are still not actively carried out in increasing physical strength, although there are some respondents who carry out these activities but not maximally[19].

Psychological Problem

Afraid

The spread of wrong information makes respondents afraid to leave the house, they are afraid that they will be re-infected or will infect a loved family member. Therefore they hope to get information from health care staff who have experience about COVID-19 disease and have authoritative information rather than information from the internet[13,17]. Some respondents are afraid of death if they are repeatedly infected with COVID-19 because of poor health care outcomes[16,20]. Not all respondents received support from health workers so that some of them carried out a series of self-examinations because they were afraid of their current health condition. They are also worried and afraid to dir if there are symptoms that suddenly appeare when they were in a place far from health services[17].

Depression

They have infected COVID-19 despite not doing outside activities compared to people who often leave the house makes patients angry, sad and feel unfair about the situation. This is also the case for some patients who have lost loved ones to their loved ones because of their illness[13].

Anxiety

Anxiety will have further impacts from COVID-19, including decreased physical strength, uncertain prognosis, fear of family members being infected, and the negative stigma obtained from other people[13,16,20].

Stress

The stigmatization of the people around is one of the actions that the survivors think about. Because they are considered as carriers of viruses that can infect anyone[15,16]. Fear of re-infection which makes survivors stressed in carrying out activities[20]. Respondents who returned to work experienced a decreased ability to concentrate on doing work and were unable to do work as quickly as before being exposed to COVID-19[18,19].

Tabel 1. PICOS Format of Research

Criteria	Inclusion	Exclusion
Population	Post COVID-19 patients or experiencing long COVID-19 symptoms after being discharged from the hospital	Not diagnosed with COVID-19 or still undergoing treatment at the hospital
Intervention	Intervention of physiological factors and psychological factors	There is no intervention of physiological factors and psychological factors
Comparators	No comparison	No comparison
Outcomes	Analysis of physiological factors and psychological factors post COVID-19	Does not explain the analysis of physiological factors and psychological factors post COVID-19
Study design and publication type	Qualitative design, semi-structured interviews, interpersonal interviews	Other interviews
Publication years	1 January 2000 – 31 January 2020	Post 31 January 2022

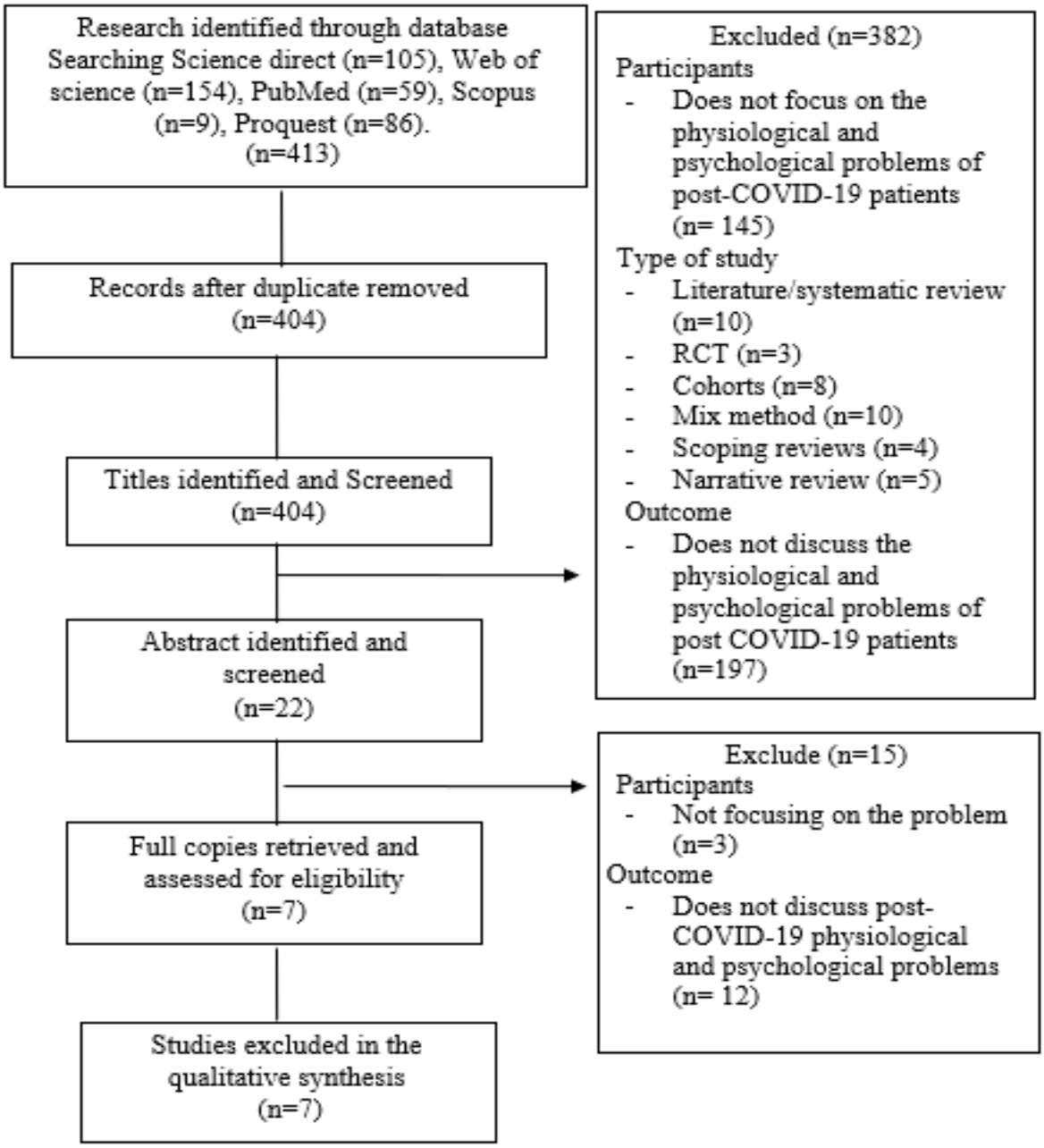

Figure 1. Flow Chart Of Literature Search Adopted From PRISMA 2009 Flow Diagram

DISCUSSION

Complaints after recovering from COVID-19 have an impact on several patient's health problems. Physiological problems are about the state of the body or physical and psychological problems are about mental status[13,18]. The long-standing physical and psychological impacts of COVID-19 are intertwined. The inability of the body physically will create unexpected emotional implications such as decreased self-esteem, frustration and guilt for not being able to meet daily needs which will eventually trigger stress[18].

Physiological problems experienced by post-COVID-19 patients have some remaining physical symptoms including fatigue, shortness of breath, sleep disturbances, decreased appetite, chest pain and cough[13]. A person's inability to maintain an ADLs as it was before COVID-19 is a problem for some survivors. The uncertainty of physical recovery makes

some survivors unable to perform ADL activities consistently. Adaptation in carrying out ADL activities gradually is one way for survivors to carry out activities as before. Support from other people, including family and a supportive environment, are needed to recover they physical condition[13,18]. Rehabilitation by professional health workers or medical personnel can also be carried out because there they can discuss the difficulties they faced so that there are ways of handling post-COVID-19 health recovery. Doing sports starting from walking, running, cycling can be a further alternative in improving the physical quality of COVID-19 survivors because there are no specific recommendations on activities or sports for individuals who are recovering from COVID-19[19]. Diet is also an alternative to increase endurance so that with balanced nutrition it is expected to meet the body's needs after illness[16,18,19].

In the recovery phase, there are some clients who immediately return to their usual activities such as returning to work, but they still have concerns about their status as survivors because of the negative health prognosis and community response to the survivors[16]. Concerns about the prognosis of the disease, the transmission that can occur to other family members are some of the psychological problems experienced by patients after COVID-19. They are afraid and worried about the recurrence of the COVID-19 disease they suffer and also the permanent organ damage caused by the disease, moreover there is too much information about the COVID-19 disease which ultimately makes the survivors of COVID-19 become stressed, anxious. even depression[13]. The level of knowledge can also allow them to get right and wrong information, so that fear and anxiety can be minimized[21]. Family and friends can be important sources of social support to help COVID-19 survivors cope with the anxiety they are still experiencing[19].

Building a holistic nursing model is one of the efforts to overcome the physical and physiological problems of COVID-19 survivors[19]. The presenting symptoms, severity, frequency and duration of COVID-19 present new challenges, requiring spesific recommendations regarding the individual's health status and the need for medical care by specialists[18]. A limitation of this review is the potential for publication bias. Gray literature searches was not conducted and published only, review articles in English were included only. Another limitation related to methodological accuracy among the included studies is that the qualitative study were conducted by interview, whereas observations were not included. Identification studies were not carried out in all countries, but only in three major countries. Aspects related to the specific context should be reconsidered during interventions planning in culturally meaningful interviews.

CONCLUSION

The transition to recovery after COVID-19 will go through physiological and psychological problems. Physiological problems include fatigue, shortness of breath, sleep disturbances, decreased appetite, chest pain and cough. Psychological problems include fear, depression, anxiety, and stress where people will gradually accept the details of new situations about the changes taking place. Based on the experience of COVID-19 survivors, they must have good coping and adaptive responses. Recovery or rehabilitation requires support from other people or health workers and a good environment for a prosperous life. Further research is highly recommended to understand the phenomenon so as to improve intervention strategies among post-COVID-19 people

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CONFLICTS OF INTEREST

The authors report no conflict of interest whatsoever.

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