



INTERNAL VALIDITY TEST AND THE RELIABILITY OF THE PSYCHOSOMATIC QUESTIONNAIRE

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Abstract

Background: The majority of research on the coronavirus pandemic has focused on the clinical manifestations of the COVID-19 infection. However, other facets of the pandemic's health, most notably the psychosomatic, receive less attention. The purpose of this study was to assess the validity and reliability of a psychosomatic questionnaire developed specifically for screening psychosomatic symptoms during the Covid-19 era. **Method and Material:** The present study is a cross-sectional study designed to establish a baseline for future research. The data collection instrument for this study is an online survey powered by Google Forms. The population of this study is entirely composed of productive groups. The variables in this study were a Likert scale-based psychosomatic symptom questionnaire and laboratory test results indicating the presence or absence of Covid-19. Prior to conducting sensitivity, specificity, and external validation tests on a questionnaire, it is necessary to ascertain its feasibility for use. The internal validity test is analyzed using the Pearson Product Moment method, with valid questions defined as those with a correlation coefficient rho (r) greater than 0.3. When the Cronbach coefficient is less than 0.6, the reliability test is analyzed using the Cronbach test method. This is a pilot study that will be followed by the next phase of research. **Results:** 37 respondents met the inclusion criteria. The Pearson Product Moment or Pearson Correlation tests revealed that the rho (r) value for all questions was greater than 0.3. The Cronbach's alpha value for reliability is 0.940. **Finally,** The Psychosomatic Questionnaire developed during the Covid-19 era established its validity and reliability. External validation is necessary for improved validation.

Keywords: Psychosomatic Questionnaire; Covid-19; validity test; reliability test

1. INTRODUCTION

Since December 2019, a series of unexplained pneumonia cases has been reported in Wuhan City, China. The Chinese government and researchers have acted swiftly to contain the epidemic and investigate the mysterious pneumonia's etiology. The World Health Organization (WHO) designated the new virus as Novel Coronavirus 2019 on January 12, 2020. (2019-nCoV). On January 30, 2020, the WHO announced the status of the 2019-nCoV infection epidemic, warning that it had become a public health emergency and had developed into a serious international problem. On February 11, 2020, the World Health Organization (WHO) officially designated abnormalities caused by 2019-nCoV as Corona Virus Disease 2019. (COVID-19). Simultaneously, the Coronavirus Study Group

(CSG), which is affiliated with the International Committee on Virus Taxonomy, classified 2019-nCoV as a Coronavirus 2 Severe Acute Respiratory Syndrome (SARS-CoV-2). SARS-COV-2 infection cases have infected 119,603,761 people worldwide, resulting in the death of 2,649,722 people. The United States, with 52,969,629 cases, Europe, with 41,185,704 cases, Southeast Asia, with 13,917,115 cases, the Eastern Mediterranean, with 6,897,198 cases, and Africa, with 2,952,556 cases, have the highest rates of SARS-COV infection. On March 15, 2021, Indonesia, a Southeast Asian country, reported 1,425,044 confirmed cases and 38,573 deaths (CFR: 4.4 percent). (AHC Media, 2020; Kemenkes RI, 2020; World Health Organization, 2020)

During the coronavirus pandemic, current research revealed a profound and wide range of

psychosocial impacts on individuals, communities, and internationally. Individually, people experienced anxiety, depression and stress; they were worried about their family members contracting COVID-19, fearless for no apparent reason and were easily upset, angry or panicked; they also felt anxiety and grief. Wang et al. included 1210 Chinese respondents in their study and found that 53.8% rated the psychological impact of coronavirus pandemic as moderate or severe. Moreover, the prevalence of post-traumatic stress symptoms (PTSS) in China's worst-hit areas a month after the COVID-19 outbreak was about 7%. In addition, a previous study conducted during the SARS-CoV-2 pandemic showed that quarantined people had a higher prevalence of posttraumatic stress disorder (PTSD) symptoms (28.9%) and depression (31.2%) and a longer duration of quarantine was associated with increased prevalence of PTSD symptoms. (Sun et al., 2020; Torales et al., 2020; C. Wang, Pan, Wan, Tan, Xu, Ho, et al., 2020; C. Wang, Pan, Wan, Tan, Xu, McIntyre, et al., 2020; Y. Wang et al., 2021; Zidkova et al., 2021)

Stress caused by the current situation may, as mentioned above, not only result in psychological changes, but also affect the physiological (somatic) function and psychosomatic symptoms. A wide range of research has demonstrated significant links between perceived stress and psychosomatic complaints. The pandemic and related actions in the fight against coronavirus may lead to high levels of stress in people who can affect the prevalence of individual psychosomatic symptoms.(Zidkova et al., 2021) This paper describes the validity and reliability test of a psychosomatic questionnaire which was specifically used to screen for psychosomatic symptoms in the Covid-19 era.

2. METHOD AND MATERIAL

This is a cross-sectional study that serves as a baseline for future research. This study collects data via an online survey powered by Google Forms. This study's population consists entirely of productive groups. The research sample is composed of individuals who meet the study's inclusion criteria. The study's inclusion criteria were productive age, i.e., between the ages of 18 and 54 years. Exclusion criteria in this study included respondents who refused to participate, respondents who completed questionnaires in an incomplete manner, respondents who were illiterate, and respondents who did not have access to telecommunications media. According to the Slovin's Formula, the minimum sample size for the preliminary study is twenty respondents. Total sampling was used to collect data. The variables in this study were a psychosomatic symptom questionnaire administered on a Likert scale and laboratory test results indicating the presence or absence of Covid-19. Prior to conducting sensitivity, specificity, and external validation tests on a questionnaire, the initial step is to determine whether it is feasible to use. The Pearson Product Moment method is used to analyze the internal validity test, with the questions deemed valid if the correlation coefficient rho (r) is greater than 0.3. When the Cronbach coefficient is less than 0.6, the reliability test is analyzed using the Cronbach test method with a reliable interpretation. This is a preliminary study before moving on to the next phase of research.

3. RESULTS

This preliminary study included 37 respondents who met the inclusion criteria. All demographic characteristics of the respondents are presented in Table 1.

Table 1. Characteristics of Research Respondents

Variable	N (%)	Mean (SD)	Med (Min-Max)
Age		26,57 (4,39)	25 (22 – 45)
Jenis Kelamin			
• Male	17(45,9%)		
• Female	20 (54,1%)		
Profession			
• Health Worker	11 (29,7%)		

• Housewife	1 (2,7%)
• Employees	14 (37,8%)
• Student	6 (16,2%)
• Entrepreneur	5 (14,5%)
Education	
• Elementary	1 (2,7%)
• High School	1 (2,7%)
• Diploma	1 (2,7%)
• Bachelor	34 (91,9%)
Commorbid	
• Hypertension	1 (2,7%)
• Hypertiroid	1 (2,7%)
• Hypercholesterol	1 (2,7%)
PCR Test	
• Positive	3 (8,1%)
• Negative	34 (91,9%)

Respondents answered all questions with a median score of 0, with a range of 0 to 4. The Pearson Product Moment or Pearson Correlation tests revealed that the rho (r) value for all questions was greater than 0.3. The Cronbach test result is 0.940, with a Cronbach's Alpha if Item Deleted value in each item being less than the Cronbach value. The results of this reliability test indicate that the questionnaire's reliability is quite good, with a Cronbach's alpha value of between 0.8 and 1.00.

Table 2. Results of Internal Validation and Psychosomatic Questionnaire Reliability

No	Question	Mean (n = 37)	Standar Deviation (SD)	Corrected Item Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha (Standarized Items)
1	How much do you suspect that the symptoms of HEADACHE that you have experienced before are symptoms of Covid-19?	0.9189	1.13965	0.710	0.936	
2	How much do you suspect that the symptoms of MUSCLE PAIN that you have experienced before are symptoms of Covid-19?	0.8378	1.01416	0.683	0.936	
3	How much do you suspect that the symptoms of FEVER that you have experienced before are symptoms of Covid-19?	1.4595	1.40623	0.547	0.939	
4	How much do you suspect that the QUICK TIRED symptoms you have experienced before are symptoms of Covid-19?	1.0000	1.17851	0.729	0.935	
5	How much do you suspect that the RED EYE symptoms you have experienced before are symptoms of Covid-19?	0.4595	.76720	0.675	0.937	
6	How much do you suspect that the INFLUENZA symptoms you have experienced previously are Covid-19 symptoms?	2.1622	1.25860	0.507	0.940	
7	How much do you suspect that the ANOSMIA that you have experienced is a symptom of Covid-19?	0.6757	1.39551	0.386	0.943	
8	How much do you suspect that the SIDED NOSE symptoms you have experienced previously are symptoms of Covid-19?	1.4324	1.23694	0.520	0.939	
9	How much do you suspect that the DRY COUGH symptom you have experienced before is a symptom of Covid-19?	1.4324	1.34455	0.721	0.935	0.940
10	How much do you suspect that the symptoms of SORE THROAT / SWALLOWING PAIN that you have experienced in the past are symptoms of Covid-19?	1.5946	1.32202	0.703	0.936	
11	How much do you suspect that the symptom of COUGHING IN PHLEGM that you had previously experienced was a symptom of Covid-19?	1.0000	1.22474	0.771	0.934	
12	How much do you suspect that the symptoms of CHEST PAIN that you have experienced before are symptoms of Covid-19?	0.8378	1.16699	0.753	0.935	
13	How much do you suspect that the TACHYCARDIA symptoms you have experienced before are symptoms of Covid-19?	0.7568	1.14031	0.833	0.933	
14	How big are your symptoms of STOMACH PAIN OR HEARTBURN that you have experienced as symptoms of Covid-19?	0.6757	1.00150	0.752	0.935	
15	How much do you suspect that the DIARRHEA symptoms you have experienced before are symptoms of Covid-19?	0.9459	.99850	0.616	0.937	
16	How much do you suspect that the symptoms of OUT OF BREATH that you have experienced previously are symptoms of Covid-19?	1.0270	1.23573	0.569	0.938	

17	How much do you suspect that the symptoms of RUSH AT SKIN that you have experienced previously are symptoms of Covid-19?	0.5405	1.12038	0.559	0.938
18	How much do you suspect that the symptoms of BACK PAIN that you have experienced before are symptoms of Covid-19?	0.5405	1.01638	0.779	0.935
19	How much do you suspect that the symptoms of SLEEPING DIFFICULTY have ever been a symptom of Covid-19?	0.8108	1.19810	0.785	0.934

4. DISCUSSION

Psychosomatic illness is a physical disorder caused by psychological and social emotional factors that accumulate and can result in shocks in a person. If left untreated, these shocks can result in feelings of depression, anxiety, loneliness, and boredom, all of which can have a negative effect on their physical health. Additionally, certain physical ailments can be aggravated by psychological factors such as stress and anxiety. Psychosomatics, according to the theory of somatic weakness, can occur when organs are biologically sensitive / weak. This means that psychosomatic disorders will frequently occur/attack Indonesian society as a result of the development of information and a lack of knowledge on the subject, particularly if the affected individual has weakened biological organs. This psychosomatic tendency associated with COVID-19 is reinforced by Prawiharjo's opinion, who states that one type of psychosomatic system is the respiratory system (psychosomatic which frequently attacks the respiratory tract). Given that COVID-19 also attacks the human respiratory system, it is clear that individuals who experience sudden shortness of breath are not always experiencing Covid-19. (G. A. Fava & Sonino, 2010; Giovanni A. Fava, 1992; Giovanni A. Fava & Sonino, 2000; Satsangi & Brugnoli, 2018; Wise & Balon, n.d.; Yusfarani, 2021)

Psychosomatics, according to the theory of somatic weakness, can occur when organs are biologically sensitive / weak. This means that psychosomatic disorders will frequently occur or attack Indonesian society as a result of the development of information and a lack of knowledge, even more so if the individual experiencing them has weakened biological organs. The psychosomatic tendency associated with COVID-19. One type of psychosomatic system is the respiratory system (psychosomatically attacks the respiratory tract). Given that COVID-19 also attacks the human

respiratory system, it is clear that individuals experiencing sudden shortness of breath is not always a symptom of COVID-19 infection. On this basis, it is hoped that each individual will maintain their composure in the face of this situation. Because COVID-19 also attacks the body's immune system, if a person is excessively anxious and experiences psychosomatic symptoms and then responds with panic and negative thinking, it is possible that COVID-19 will attack him due to his immunity. afflicted. Positive behaviors such as always washing hands and wearing masks can help alleviate anxiety, and it is preferable to maintain social isolation for a time until the outbreak subsides. (Yusfarani, 2021) (Kirmayer & Gómez-Carrillo, 2019; Landa et al., 2012; Okur Güney et al., 2019; Zeng et al., 2016)

The number of papers addressing the impact of the coronavirus pandemic on mental and physical health is steadily increasing. The first studies are from China (the center of the COVID-19 disease outbreak). Wang et al. concentrated their research on the psychological impact, mental health status (such as stress, depression, and anxiety), and identifying risk and protective factors that contribute to psychological stress in the general population. As a result, they expanded their research to include a longitudinal study. Several other studies on the psychological effects of COVID-19 have also been conducted. Along with mental health, the impact on physical health, specifically psychosomatic symptoms, was evaluated less frequently and was typically limited to sleep. (C. Wang, Pan, Wan, Tan, Xu, Ho, et al., 2020; C. Wang, Pan, Wan, Tan, Xu, McIntyre, et al., 2020; Y. Wang et al., 2021)

According to the literature, social and physical isolation will result in the emergence of a phenomenon known as Cabin Fever. Cabin fever is a psychological phenomenon that refers to changes in irritability and anxiety when an individual is isolated and separated from the outside world for

extended periods of time. In general, more than eight weeks or 56 days is considered sufficient time. The symptoms of Cabin Fever Phenomenon are diverse, including depression, anxiety, insomnia, suicidal ideation, obsessive-compulsive disorder, addiction and addiction, and worsening of pre-existing primary psychiatric symptoms. However, it is extremely difficult to discuss all aspects of Cabin Fever or Psychiatric Symptoms that may arise when using online survey research. In this case, the author only assesses three symptoms that are indeed frequent and common in the community, as well as the availability of simple research instruments for self-assessment of specific psychiatric symptoms such as insomnia, depression, and anxiety. (Firmansyah, Su, et al., 2020) (Firmansyah, Hendsun, et al., 2020)

5. CONCLUSION AND SUGGESTION

The validity and reliability of the Psychosomatic Questionnaire, which was developed during the Covid-19 era, were established. For improved validation, external validation is required.

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