

ORIGINAL ARTICLE

COVID-19 Anxiety, Perceived Social Support, and Self-efficacy of Health Protocol Implementation: A Cross-Sectional Study among University Staffs

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ABSTRACT

Introduction: Self-efficacy has been proven to be an important part of health promotion activities to improve compliance in the implementation of health protocols (COVID-19 preventive behavior). This study was aimed to analyze the correlation of anxiety toward coronavirus disease 2019 (COVID-19), perceived social support, and self-efficacy in implementing health protocols among university staffs. **Methods:** A cross-sectional study was carried out to analyze self-efficacy of the implementation of health protocols among university staffs in a public university in Yogyakarta. A pre-tested questionnaire was used to collect data through Google form in May–June 2021. Data were analyzed using chi-square and logistic regression ($p < 0.05$). **Results:** From the 230 participants, 61.74% had low self-efficacy in implementing health protocols. COVID-19 related anxiety ($p = 0.002$) and perceived social support ($p = 0.001$) were associated with self-efficacy in implementing health protocols. The results of the binary logistic regression indicated that these two factors affected self-efficacy by 10.1%, while other influences were 89.9%. **Conclusion:** Respondents with low-perceived social support were 3.7 times less likely to have low self-efficacy in implementing health protocols. The results highlight the importance of social support to enhance self-efficacy in the implementation of health protocols among university staffs.

Keywords: Self-Efficacy; anxiety; social support; health protocol; COVID-19

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INTRODUCTION

As coronavirus disease 2019 (COVID-19) pandemic progresses rapidly, understanding public behavior and determinants of preventive practice are crucial. The response of community acceptance to adjust to the new normal period needs to be seen further to find out the barriers and support, so they can provide appropriate intervention planning and communication (1). On this note, communities must have a voice, be informed, be involved, and be participative in this phase of transition. This paper reviews a phased approach to implementing new habit adaptations. In this connection, the importance of increasing resilience and self-efficacy, was one of the points conveyed. The amount of disturbing information leads people to take inappropriate actions, resulting in non-compliance. However, this can be reduced by

emphasizing self-efficacy (2). The latter is a positive and significant predictor of behavior change (3). It further influences how people felt, think, and act about risk-taking behavior (4). Previous research reported significant association between self-efficacy and well-being (5). Research shows that support from workplace can reduce anxiety and increase self-efficacy, which leads to encouragement, courage, and a sense of professional achievement in individuals (6).

Higher education institutions are preparing to carry out a blended learning system in mid-2021. Readiness of human resources plays a critical role. This crucial role is expected from university staffs. University staffs are community members who are appointed to support the implementation of higher education (7). A preliminary study was conducted by interviewing one university staff. Participant felt anxious about working in office because of significant increase in COVID-19 cases. One study found that there was an inverse relationship between anxiety and self-efficacy. Furthermore, anxiety

is indirectly related to performance and directly related to perceptions of self-efficacy (8). The participant assessed that the infrastructure for health protocols was well provided by the university, but policies or strategies to ensure physical distance between employees need to be employed. One of the biggest factors that contribute to the success in creating safe conditions in the workplace is effective cooperation among employees and mutual support. Truly, support from workplace can reduce anxiety and stress and increase self-efficacy that lead to persons' courage and sense of accomplishment (6). On the one hand, self-efficacy results in increased self-confidence to carry out a recommendation well. Also, with social support, individuals may become more optimistic and able to cope when under pressure (9).

Previously, the university where the research was conducted had vaccinated all lecturers and university staffs. However, behavioral changes in fully vaccinated individuals may occur, resulting in reduced adherence to health protocol (e.g., physical distancing, handwashing, and wearing masks) (10). Improving self-efficacy is considered to be an effective way to change health behavior toward positive results. A preliminary study has found several problems that have not been evaluated. To fill this evidence gap, the current study aimed to explore association between COVID-19 related anxiety and perceived social support with self-efficacy in the implementation of health protocols among university staffs.

MATERIALS AND METHODS

Design and Participants

A descriptive cross-sectional study was carried out among university staffs using snowball sampling. This study was focused on the university staffs since they have to work from office in turns during pandemic COVID-19. In addition, the learning process was mostly online, and most of lecturers were work from their home. Sampling was conducted based on voluntary involvement. Data were collected from May to June 2021, while the second wave of COVID-19 was happened in Yogyakarta, Indonesia. Participants of the study included librarian, administrative staff, laboratory assistants, technicians, and IT engineer. All university staffs who aged ≥ 18 years old are welcomed to participate in this study. One faculty was excluded from the study to conduct validity and reliability of the questionnaire. By the end of the study, only 15 of 19 faculties ($n = 228$) and University Headquarters staffs ($n = 2$) responded. Four faculties had excluded from this survey since they did not give any response until the data collection period ended. Hence, participants who did not fully complete the questionnaire were excluded.

Ethical Consideration

The Ethics Committee of the Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada (KE/

FK/0419/EC/2021) approved the research protocol of this study. All and participants read the consent form and confirmed their interest in participating before starting the survey. Confidentiality of the participants' identities was maintained throughout the study. First 100 participants received reimbursement for their time.

Research Tools

The internal consistency of the study questionnaire was assessed by calculating Cronbach's alpha. The values were 0.872, 0.776, and 0.951 for self-efficacy, COVID-19 related anxiety, and perceived social support, respectively.

(I) Self-efficacy section: The questionnaire consists of thirteen statements, which is a modification of a previous study by Tabernero et al. (11). There is no specific measure to assess self-efficacy. Measurements are adjusted in the assessment of a specific topic (12). The statement in the questionnaire includes several recommendations for preventing the transmission of COVID-19 issued by the Ministry of Health (Indonesia). These include social distancing, wearing masks, and washing hands. Measurement score used four-point Likert scale, as follows: Very Confident (4), Confident (3), Not Confident (2), and Not Confident at All (1).

(II) The anxiety section: COVID-19 Anxiety Syndrome Scale from Nikčević and Spada was used. This included ten items assessing anxiety symptoms described in psychopathology research maladaptive forms of coping such as avoiding, checking, worrying, and monitoring threats (13). Responses were recorded on a four-point Likert scale as follows: Never (1), Rarely (2), Often (3), and Always (4).

(III) Perceived social support section: Self-constructed questionnaires included twelve items based on House (1985) theory and adapted to the context, especially looking at the support from the university to employees (14). The questions measure participant's perceived adequacy of social support across four domains: instrumental, emotional, information, and appraisal support. Responses were recorded on a four-point Likert scale as follows: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1).

Data Collection

To avoid physical contact, an online data collection was used. A Google form was created, and participants were invited to complete the form and submit. A survey link was shared to online work group chat shared by university's health personnel in charge in each faculty.

Statistical Analysis

Once all necessary data were checked for completeness, they were coded and analyzed using STATA 14. Binary logistic regression was utilized to identify the factors associated with self-efficacy in implementing health

protocols. A p-value of <0.05 was considered statistically significant. Chi square and logistic regression test was applied in this study.

RESULTS

Notably, the University performed an admirable job in handling the pandemic. In fact, University's COVID-19 response team was formed to ensure that employees have access to reliable health information and adequate support through Health-Promoting University (HPU). The team work on making various efforts such as developing protocols, overseeing the development of COVID-19 at the university, monitoring case developments, directing, and receiving case reports. Also, HPU assisted the distribution of this survey.

There were 230 university staffs who completed the survey. Majority of the respondents (86.96%) were in the age group of >30 years old. Among those participants, 55.22% were males, and 67.39% obtained a college diploma and above. In summary, the mean score of self-efficacy in implementing health protocols was 36.356 (SD = 4.87). Self-efficacy score categorized using cut-off level of ≤36.356 was indicated as low self-efficacy. Among the participants, 61.74% had low self-efficacy in implementing health protocols. Reportedly, the overall sum of COVID-19 related anxiety score showed that the mean score was 25.813 (SD = 4.866). The overall score categorized as ≥25.813 indicates high levels of anxiety. Approximately 49.57% (n = 114) of the participants had high levels of anxiety. The overall score of perceived social support categorized using median ≤39 was labeled low-perceived social support. For instance, 119 (51.74%) participants had low-perceived social support (Table I).

Table I: Distribution of respondents' characteristics, COVID-19 anxiety, perceived social support, and their self-efficacy in health protocol implementation (n = 230).

| Variables | n (%) |
|--|-------------|
| Age (years) | |
| >30 | 200 (86.96) |
| ≤30 | 30 (13.04) |
| Sex | |
| Male | 103 (44.78) |
| Female | 127 (55.22) |
| Education | |
| College diploma and above | 155 (67.39) |
| High School diploma and under | 75 (32.61) |
| Self-efficacy in implementing health protocols | |
| Low self-efficacy | 142 (61.74) |
| High self-efficacy | 88 (38.26) |
| COVID-19 related anxiety | |
| High levels of anxiety | 114 (49.57) |
| Lower levels of anxiety | 116 (50.43) |
| Perceived social support | |
| Low-perceived social support | 119 (51.74) |
| High-perceived social support | 111 (48.26) |

Table II shows that majority of the participants (83 or 71.55%) with low self-efficacy also had low levels of COVID-19 related anxiety and 92 (77.31%) participants had a lack of social support. Chi-square test results showed that there was a relationship between COVID-19 related anxiety (p = 0.002) and perceived social support (p = 0.001) with self-efficacy in health protocol implementation. The authors performed binary logistic regression analysis to measure the correlations between dependent and independent variables (Table III). Participants with low-perceived social support were 3.7 times less likely to have low self-efficacy in implementing health protocols (OR = 3.7, 95% CI 2.12–6.74, p = 0.001).

TABLE II: Relationship between COVID-19 anxiety and perceived social support with participants' self-efficacy in health protocol implementation (n = 230).

| Variables | Self-efficacy in implementing health protocols | | Total | p |
|--------------------------|--|------------|-----------|-------|
| | Low n (%) | High n (%) | | |
| COVID-19 related anxiety | | | | |
| High | 59(51.75) | 55 (48.25) | 114 (100) | 0.002 |
| Low | 83(71.55) | 33 (28.45) | 116 (100) | |
| Perceived social support | | | | |
| Low | 92 (77.31) | 27 (22.69) | 119 (100) | 0.001 |
| High | 50 (45.05) | 61 (54.95) | 111 (100) | |

*p-value of <0.05 denotes statistical significance.

TABLE III: Binary logistic regression of factors that contributed participants' self-efficacy in health protocol implementation (n = 230).

| Variables | OR | CI 95% | Z | p | R ² |
|--------------------------|-------|-------------|-------|-------|----------------|
| COVID-19 related anxiety | 0.511 | 0.288–0.909 | -2.28 | 0.002 | 0.101 |
| Perceived social support | 3.782 | 2.121–6.742 | 4.51 | 0.001 | |

DISCUSSION

This study found that there was a relationship between COVID-19 related anxiety and self-efficacy in implementing health protocols (p = 0.002). The prevalence of psychiatric symptoms has increased during the worldwide pandemic. According to the US Census Bureau, one in three adults screened positive for one or both types of mental disorders compared with those screened before the pandemic (survey in early 2019) (15). Increased stress, depression, and anxiety are very likely to be experienced by those who are more afraid of COVID-19 (16). Moreover, high levels of anxiety were associated with disruptive behavior, such as over-interpretation of mild symptoms (psychopathology) (17,18). In one literature review, anxiety can reduce vaccine efficacy (16). Self-efficacy influences protective behavior. In addition, the effect of moderate anxiety among individuals with good self-efficacy will create opportunities for worry-free compliance (19).

An experimental study using direct threat simulations highlighted that self-efficacy can result in compliance if the perceived fear is low (20). Contrary to this study, low anxiety leads to low self-efficacy. In this study, 55.22% of respondents were males. A survey found that women were considered more careful whereas men were less interested in participating in COVID-19 prevention efforts (21). Thus, anxiety appears as a manifestation of the existence of neuroticism (22). Individuals with high neuroticism experience more negative influences and higher affective variability in their daily lives. Individuals with high neuroticism who pay more attention to COVID-19-related information and are more concerned about the consequences of the pandemic experience negative impacts during this critical situation (23).

To achieve a high level of satisfaction at work in terms of organizational productivity and efficiency, organization must provide supportive working conditions to help employees adapt to the work environment and solve their problems (24). The study's results showed that there was a relationship between perceived social support and self-efficacy in implementing health protocols ($p = 0.001$). Supported by previous research, social support can protect individuals from psychological problems (25). Research showed that groups most at risk for psychological health disorders are those who are more worried about COVID-19 and have lower perceptions of social support (26).

Receiving and providing support through online interactions and connections can improve psychological well-being (27). Apparently, technology is a great source of information, two-way communication, and a more appropriate tool for today's conditions in order to generate empathy and establish connections (28). The University itself has psychosocial support services initiated by HPU in collaboration with the Center for Public Mental Health from the Faculty of Psychology. This service can be accessed by the entire academic community, but researchers did not have information if the university staffs took advantage of this facility.

The study indicate that the perceived social support was very important factor of the self-efficacy to implement health protocols during COVID-19 pandemic. Furthermore, social responsibility of the university staffs, students, lecturers, faculties leaders, as well as university's leaders are needed to improve the social support and strengthen the coping mechanism of university staffs. The social responsibility and coping mechanism need to be address for the future study.

The implications for public health in this study are the roles of health promotion support through providing important and reliable information to increase self-efficacy. The information conveyed should reduce anxiety and accessible by the whole society. This study points to the gap in self-efficacy in health

protocol implementation. Certainly, information can influence compliance behavior through knowledge. In addition, occupational safety and health play a role in planning guidance for work during pandemic. Facility and resources need to be well prepared, because organizational supports lead to greater productivity.

Limitations exist in the current study. First, the use of the non-probability sampling with snowball could not determine the probability of sampling error and generalize from sample to population. Second, this study was a self-reported online survey. Therefore, responses might be subjected to potential bias. Online surveys may only be responded by participants who are biased enough to be interested in the topic.

CONCLUSION

This study provides a cross-sectional insight to analyze self-efficacy in implementing health protocols. The results indicated that COVID-19 related anxiety and perceived social support affected self-efficacy in implementing health protocols by 10.1%, while the influence of other factors impacted self-efficacy by 89.9%. Participants with low-perceived social support were 3.7 times less likely to have low self-efficacy in implementing health protocols. Social support is particularly important for university staffs during pandemic. Given the results of this study, it is important to address social support through policy and upgrading existing infrastructure to be more optimal in order to increase the participation of the university staffs in the implementation of health protocols.

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