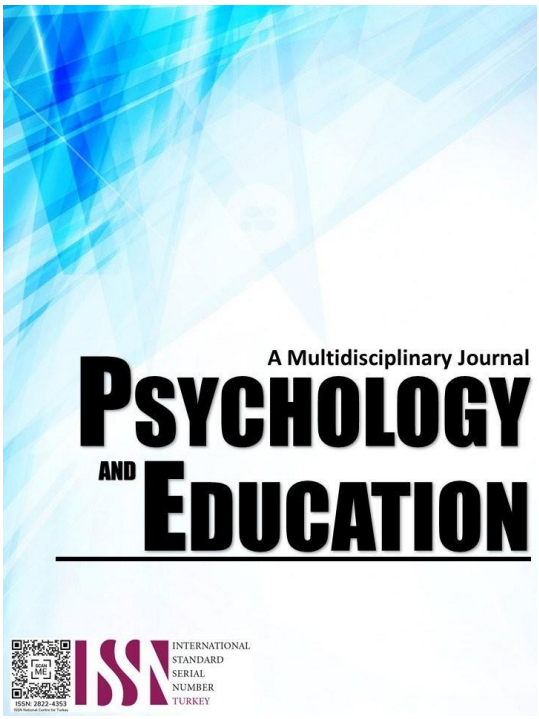
HEALTH-SEEKING BEHAVIOR, KNOWLEDGE, SOCIAL STIGMA, AND ADHERENCE TO PROTOCOLS FOR COVID-19: A CAUSAL MODEL



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Research Article

Health-Seeking Behavior, Knowledge, Social Stigma, and Adherence to Protocols for COVID-19: A Causal Model

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Abstract

The worldwide pandemic caused by COVID-19, also known as SARS-CoV-2, has caused considerable disruption. Despite the government's attempts to manage the virus, there remains an ongoing increase in the number of cases, and is unclear how successfully people are following the prescribed policies, including being vaccinated. As of August 16, 2022, the DOH Dashboard reported that Region X, Philippines booster shot rate is very low of about 14.84 percent (DOH, 2022b). This study aimed to develop a causal model on adherence to the COVID-19 protocols. This study was anchored on the Theory of Health Belief Model, Health Behavior and Health, Social Cognitive Theory, Protection Motivation Theory, the Theory of Planned Behavior, and the Theory of Reasoned Action. This was conducted in a primary and secondary-level public medical facility utilizing the descriptive correlational and causal-comparative research designs to 302 participants. Clients exhibit high health-seeking behaviors, in terms of perceived susceptibility, perceived severity, perceived benefits, perceived self-efficacy, social stigma in labeling stereotype, knowledge about COVID-19, especially awareness, and adherence to COVID-19 protocols, in terms of preventive, regulatory measures, and vaccination but moderately high health seeking behavior in perceived barriers. moderately high knowledge on prevention and treatment and management, and moderately high level of social stigma among clients, in terms of separation and discrimination. There is a significant relationship between adherence to COVID-19 protocols and clients' health-seeking behavior, knowledge, and social stigma. Knowledge of COVID-19, in terms of awareness and prevention, alongside social stigma related to separation, significantly influence adherence to protocols. The best fit model is Causal Model 3 anchored on knowledge and social stigma known as Macabaya's Model on Adherence to COVID-19 Protocols.

Keywords: *social stigma, adherence to protocol, knowledge, health seeking behavior, self-efficacy*

Introduction

The COVID-19 pandemic has undeniably altered the fabric of global health, economy, and societal norms (Zhang et al., 2020a). Amidst the evolving landscape of this crisis, understanding the intricate interplay between health-seeking behavior, knowledge dissemination, social stigma, and adherence to preventive protocols becomes imperative. This dissertation aims to delve into the causal pathways underlying individuals' responses to the COVID-19 pandemic, exploring how various factors interact and influence public health outcomes.

Health-seeking behavior, the cornerstone of effective disease management, encompasses individuals' actions in seeking health information, accessing healthcare services, and adhering to prescribed protocols. However, this behavior is profoundly influenced by individuals' knowledge of the disease, its transmission dynamics, and available preventive measures. The dissemination and comprehension of accurate information play a pivotal role in shaping public perceptions and responses.

Furthermore, the emergence of COVID-19 has not only exacerbated health concerns but also sparked waves of social stigma and discrimination (Ocampo & Yamagishi, 2020). Understanding the origins and manifestations of stigma surrounding COVID-19 is crucial, as it can significantly impact individuals' willingness to seek care, disclose symptoms, and adhere to preventive measures. Addressing and mitigating social stigma is essential for fostering a supportive and inclusive environment conducive to effective pandemic management.

The study by Ramaci, Barattucci, and Rapisarda (2020) investigated the impacts of stigma, job demands, and self-esteem on individuals employed as "frontline care providers" for patients infected with the coronavirus (COVID-19). The statistics indicate that stigma significantly affects worker outcomes. Healthcare professionals' compliance with and management of pandemic risk communication could be impacted by stigma.

In conclusion, the evidence indicates that stigma affects employment results. Additionally, some workplace characteristics (perceived job demands) and individual variables (self-efficacy) may play a mediating or moderating role in the relationship between stigma and results. Perceived stigma, rising prejudice, and fear of COVID-19 could all be impacted by self-efficacy. As antecedents to HCW outcomes, stigma, job expectations, and self-efficacy all contribute to workers' perceptions of their own abilities on the job.

Moreover, adherence to preventive protocols, such as mask-wearing, social distancing, and vaccination, is paramount in curbing the spread of COVID-19. However, adherence rates vary widely among populations, influenced by a myriad of factors, including socio-economic status, cultural beliefs, and perceived risk. Exploring the causal pathways between these factors and adherence behaviors can illuminate strategies for enhancing public compliance and promoting collective health.

By constructing a causal model, this dissertation endeavors to elucidate the intricate relationships between health-seeking behavior, knowledge dissemination, social stigma, and adherence to COVID-19 protocols. Through empirical analysis and theoretical synthesis, it seeks to contribute to the growing body of knowledge aimed at optimizing public health interventions amidst the ongoing pandemic. Ultimately, by unraveling the underlying mechanisms driving individual and collective responses to COVID-19, this research aspires to inform evidence-based strategies for mitigating the impact of the pandemic and safeguarding global health.

Given the great efficacy of COVID-19 transmission and its potential to result in fatalities among adults with pre-existing medical issues (World Health Organization, 2023a), there is a significant threat to the well-being of humanity. Individuals' reactions to the perceived threat exhibit considerable variation. Concurrent psychological challenges, including stress, despair, sleep disturbances, denial, rage, and overall terror further amplified the perceived risk to one's physical well-being (Ocampo & Yamagishi, 2020). The assessment of whether these factors produce comparable outcomes throughout the region is crucial for effective intervention and preparedness in anticipation of future pandemics.

Methodology

Research Design

The study utilized the descriptive correlational research design, causal-comparative, and Structural Equation Model. The descriptive-correlation design to determine the relationship between adherence to protocols for COVID-19 and health-seeking behavior, knowledge, and social stigma among patients of J.R. Borja General Hospital, St. Paul Hospital, Bukidnon Provincial Medical Center, and Bukidnon Provincial Hospital of Maramag.

The study also utilized causal-comparative research, a methodology used to identify cause-effect relationships between independent and dependent variables. Researchers can study cause and effect in retrospect. This can help determine the consequences or causes of differences already existing among or between different groups of people.

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs (Mueller & Hancock, 2019).

Respondents

The study involved the patients of J.R. Borja General Hospital, St. Paul Hospital, Bukidnon Provincial Medical Center, and Bukidnon Provincial Hospital of Maramag as participants. The sample size was determined based on the total bed capacity of all hospitals using a stratified sampling method. The computation of the total sample was done using the Raosoft.com Calculator, sample size calculator application with a margin of error of about four-point nine percent (4.9%), confidence level of ninety-five percent (99%), and a response distribution of about 50 percent (50%). Since the total bed capacity of all hospitals is 533 patients, the total sample size is 302.To compute the distribution of respondents at each hospital, the sample size was multiplied by the percentage share of the total sample size. Therefore, 100 respondents were taken from the J.R. Borja General Hospital, 15 from St. Paul Hospital, 109 respondents were taken from the Bukidnon Provincial Medical Center, and 72 respondents from the Bukidnon Provincial Hospital of Maramag, with a total of 302 respondents.

The selection of participants for the focus group discussion on qualitative data, as an introductory interaction was determined by the respondents' voluntary decision to engage in the upcoming activity. Participants were requested to indicate their willingness to be contacted following the analysis of the gathered quantitative data in order to participate in the focus group discussion for additional validation and information.

Instrument

The study utilized a validated survey questionnaire to determine the respondents' health-seeking behavior adopted from Alagili and Bamashmous (2021), Tong et. al (2020), and Wong et. al (2020), knowledge as adopted from Tuppal et. al (2021) and Lau et. al (2020), social stigma from the study of Wilandika et al. (2022), and adherence to COVID-19 protocols from the study of Lee et. al (2021). The first part of the instrument is the demographic profile of the participants including age, address, gender, monthly income, occupation, and educational attainment.

The researcher used the 5 constructs of the health belief model to determine their health-seeking behavior namely: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and perceived self-efficacy. Knowledge was measured according to awareness of the COVID-19 disease process, prevention, treatment, and management.

The degree of social stigma was measured according to the following: separation, discrimination, and labelling and stereotype. Adherence to COVID-19 protocols was measured in terms of preventive measures, regulatory measures, and vaccination acceptance.

An adapted and modified questionnaire was utilized for each construct. A five-point (5) Likert-like type scale determined the scores for each item with five (5) as the highest and one (1) as the lowest.

Scoring Procedure

The scoring of each of the variables depended upon the adapted survey questionnaires which used the 5 Likert-like type scale ranging from 1- 5 with 1 as strongly disagree or in strong disagreement to the statement and 5 as strongly agree or in strong agreement to the statement The information gathered using the survey questionnaires was then consolidated and tabulated.

Validity and Reliability of the Instruments

The survey questionnaire used was adapted and modified from prior research endeavors. Adjustments were implemented to certain elements in the questionnaire to ensure they were in line with the study's objectives. Consultation with three experts was done regarding the adjustments and validity of the instrument. A certification was then issued to the researcher to attest that the research instrument has passed a careful examination and is substantially useful for her dissertation.

Following the assessment of content validity for the modified version of the instrument, a pilot test was conducted on 20 participants who were not involved in the study. Cronbach's Alpha was used to evaluate the reliability and consistency of the system. The certification for reliability test issued showed that the instrument is good and reliable.

There were about three (3) items removed from the instrument due to a correlation value of less than 0.3 (< 0.3), indicating a weak positive correlation.

Procedure

There were two components to the data collection: the survey questionnaire and the focus group discussion. The survey questionnaires were initially distributed to willing participants. Each participant was asked to check the appropriate items according to their responses as Strongly Agree, Agree, Undecided, Disagree, or Strongly Disagree.

During the course of the data collection process, the researcher obtained the consent of every respondent who was taking part in the study. A thorough explanation of the procedure was provided by the researcher, who also made sure to educate those who responded about their rights as participants. Participants are given the assurance that their responses will be kept confidential.

The participants were asked about their willingness to engage in the upcoming series of activities for the focus group discussion. Approximately ten (10) individuals were chosen from a sample population of 302 for this exercise, with nine (9) of them engaging in the focus group discussion. The participants were notified via phone by the researcher after the consolidation of the quantitative data. The focus group discussion was held online using Google Meet owing to members' conflicting schedules.

Data Analysis

The quantitative data was analyzed using the statistical software Statistical Package for Social Sciences (SPSS).

In determining the levels of health-seeking behavior (Problem 1, Problem 2 level of knowledge, Problems 3 and 4, which are the levels of social stigma and adherence to protocols, the researcher used descriptive statistics, particularly mean and standard deviation.

Multiple regression was used to determine which variable/variables best influence the adherence to the protocol for COVID-19 (Problem 6). Structural Equation Modelling was utilized to identify the model that best describes the motivation to adhere to protocols for COVID-19 (Problem 7) through the use of IBM AMOS.

Results and Discussion

The study utilized the Descriptive Correlational research design, causal-comparative, and Structural Equation Modeling. The descriptive-correlation design determined the relationship between adherence to protocols for COVID-19 and health-seeking behavior, knowledge, and social stigma among patients of J.R. Borja General Hospital, St. Paul Hospital, Bukidnon Provincial Medical Center, and Bukidnon Provincial Hospital of Maramag. The study also utilized Causal-comparative research methodology to identify cause-effect relationships between independent and dependent variables. The distribution of respondents at each hospital was 100 respondents taken from the J.R. Borja General Hospital, 15 from St. Paul Hospital, 109 respondents from the Bukidnon Provincial Medical Center, and 72 respondents from the Bukidnon Provincial Hospital of Maramag, with a total of 302 respondents. The collected data was presented and examined.

Level of Health-Seeking Behavior. The findings reveal that patients generally agree with health-seeking behaviors related to perceived susceptibility, severity, benefits, and self-efficacy. The mean scores for these components range between 3.89 and 4.23, with standard deviations indicating agreement with the statements. However, responses to perceived barriers indicate an undecided stance, with a mean of 3.37 and a higher standard deviation, suggesting that patients encounter some uncertainty or obstacles in accessing health care.

Level of Knowledge of Patients. The data indicate that patients have a high level of awareness regarding COVID-19, with a mean score of 4.12, reflecting strong agreement. However, patients show indecision when it comes to knowledge of prevention and treatment/management, with mean scores of 3.10 and 3.34, respectively, which suggests gaps in understanding in these specific areas.

Level of Social Stigma. In terms of social stigma, patients report an undecided position on experiences of separation and discrimination,

with mean scores of 3.33 and 3.07, respectively. However, they show agreement regarding experiences of labeling and stereotypes, with a mean score of 3.84. This suggests that labeling and stereotyping are more prominently perceived forms of stigma among patients.

Level of Adherence to COVID-19 Protocols. The findings show that patients generally adhere to COVID-19 protocols, agreeing with preventive, regulatory, and vaccination measures. The mean scores for these components range from 3.86 to 4.09, indicating that patients largely comply with the recommended COVID-19 protocols. Relationship Between Adherence and Health-Seeking Behavior, Knowledge, and Social Stigma.

There is a notable correlation between adherence to COVID-19 protocols and the variables of health-seeking behavior, knowledge, and social stigma. The study finds significant relationships between adherence and each of these factors, leading to the rejection of the null hypothesis. This implies that higher levels of health-seeking behavior, knowledge, and reduced stigma are associated with better adherence to protocols.

Variables Influencing Adherence to Protocols. The analysis identifies knowledge of COVID-19 (specifically in terms of awareness and prevention) and social stigma (particularly separation) as significant predictors of adherence to protocols, explaining approximately 46.2% of the variance in adherence. With an F-value of 23.543 and a probability value of 0.000, the regression model is statistically significant, indicating that these factors play a meaningful role in predicting adherence.

Best-Fitting Model for Adherence to Protocols. The third hypothesized model is identified as the best fit, highlighting the importance of effective communication strategies for enhancing public awareness and combating disinformation. This model suggests that health-seeking behavior, knowledge, and social stigma collectively impact adherence to COVID-19 protocols. The model's fit indices, including chi-square, NFI, GFI, CFI, RMR, and RMSEA, meet acceptable thresholds, supporting its validity. The structural equation modeling reveals that adherence to protocols is largely driven by knowledge, with health-seeking behavior and social stigma acting as significant contributing factors. Knowledge serves as a mediator, accounting for 89% of the variation in adherence, while 19% of social stigma is explained by separation, discrimination, and labeling/stereotyping.

Best Fit Model of the Study

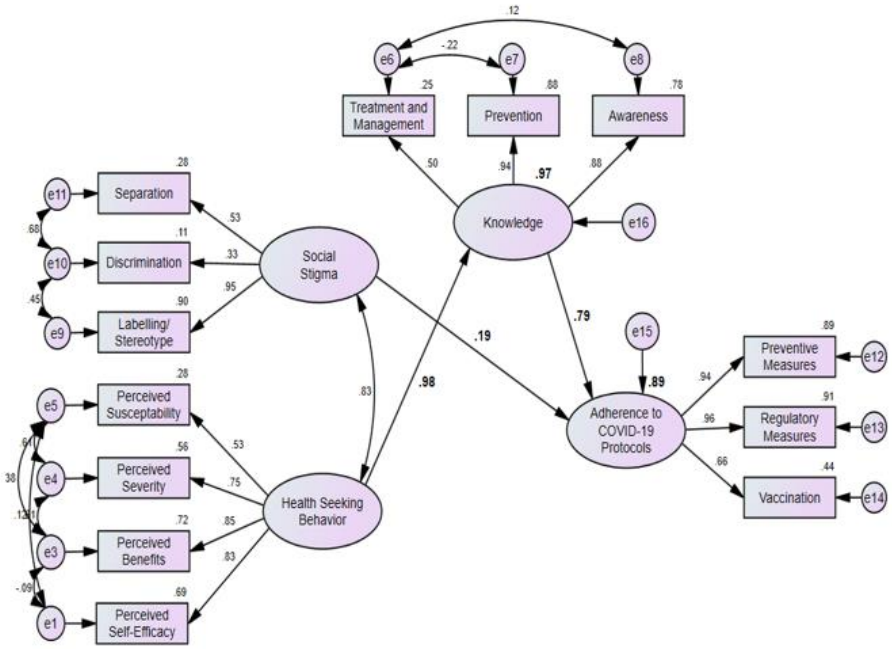

Figure 1. *Hypothesized Model 3*

Conclusions

The study's findings lead to the following conclusions:

Patients generally exhibit High health-seeking behaviors, particularly in terms of perceived susceptibility, perceived severity, perceived benefits, and high in perceived self-efficacy. But only Moderately high health-seeking behavior in perceived barriers. This suggests that while patients are aware of preventive practices, overcoming barriers to comprehensive health-seeking behavior, such as vaccination, is crucial for improved adherence to COVID-19 protocols.

The patients possess a high level of knowledge about COVID-19, especially regarding its awareness, and moderately high knowledge on prevention and treatment and management. However, gaps in knowledge exist in the areas of prevention and treatment. These

findings indicate that while awareness is high, there is a need for better education on effective prevention and management strategies to mitigate the spread of COVID-19.

A moderately high level of social stigma among patients, particularly in terms of separation and discrimination, and High social Stigma in labeling /stereotype. The belief that COVID-19 is a deadly disease was prevalent, yet there was some hesitancy regarding the need to isolate families of COVID-19 sufferers. Additionally, attitudes toward discrimination against healthcare workers were undecided, revealing an underlying uncertainty about how to balance public safety with compassion for those affected by the virus.

Patients demonstrate a high level of adherence to COVID-19 protocols, particularly in terms of preventive, regulatory measures, and vaccination. Patients were most compliant with practices such as using sanitizers and keeping a distance from symptomatic individuals. However, adherence to vaccination protocols, particularly receiving booster shots, lagged behind with a mean of 3.26, highlighting the need for enhanced efforts to promote full vaccination compliance.

There is a significant correlation between adherence to COVID-19 protocols and patients' health-seeking behavior, knowledge, and social stigma. This implies that as patients' knowledge of the virus increases and stigma decreases, adherence to recommended preventive measures improves. This rejects the null hypothesis, affirming that these factors are interconnected and crucial in influencing compliance with health guidelines.

Knowledge of COVID-19, especially in terms of awareness and prevention, alongside social stigma related to separation, significantly influence adherence to protocols.. Knowledge of prevention measures emerges as the strongest predictor, underlining the importance of education in enhancing protocol compliance.

The hypothesized model 3 is the best-fitting model for predicting adherence to COVID-19 protocols. This model demonstrates that health-seeking behavior, knowledge (especially in awareness, prevention, and treatment), and social stigma play a critical role in influencing compliance with preventive, regulatory, and vaccination measures. Adherence to protocols can be predicted by knowledge and health-seeking behavior, with social stigma also contributing significantly to this adherence.

The following recommendations are proposed in consideration of the study's importance and findings:

The Department of Health may focus on increasing public awareness and education efforts regarding the benefits of full COVID-19 vaccination, including booster shots, to address vaccination hesitancy. Enhanced communication strategies that emphasize the importance of preventive measures and address perceived barriers will improve overall health-seeking behavior and adherence to protocols.

Health educators may design targeted educational programs that focus on bridging knowledge gaps, particularly in the areas of COVID-19 prevention and treatment. By emphasizing the importance of consistent practices like social distancing and the benefits of vaccines, educators can foster a more informed public that actively participates in health-seeking behaviors.

Health practitioners need to reinforce preventive health behaviors by providing clear, accessible guidance on COVID-19 protocols during patient interactions. They should also address patient concerns about perceived barriers, such as vaccination hesitancy, to ensure more comprehensive health-seeking behaviors among patients.

Hospital administrators may implement training programs for staff that enhance their ability to address social stigma and discrimination related to COVID-19, particularly in handling patients with sensitivity and care. This will help reduce stigma and ensure a supportive environment for both patients and healthcare workers.

Future researchers may explore further the relationship between specific health-seeking behaviors and adherence to protocols in diverse populations. Additionally, examining the long-term effects of public health campaigns on mitigating social stigma related to infectious diseases could offer valuable insights for improving public health responses.

References

Alagili, D. E., & Bamashmous, M. (2021). The Health Belief Model as an explanatory framework for COVID-19 prevention practices. Journal of Infection and Public Health, 14(10), 1398–1403. https://doi.org/10.1016/j.jiph.2021.08.024

DOH. (2022b). National COVID-19 Vaccination Dashboard. DOH. https://doh.gov.ph/covid19-vaccination-dashboard

LaMorte, W. W. (2019a). Behavioral Change Models : The Theory of Planned Behavior. Boston University School of Public Health, 2–3. http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories3.html

Lau, L. L., Hung, N., Go, D. J., Ferma, J., Choi, M., Dodd, W., & Wei, X. (2020). Knowledge, attitudes and practices of COVID-19 among income-poor households in the Philippines: A cross-sectional study. Journal of Global Health, 10(1). https://doi.org/10.7189/JOGH.10.011007

Lee, M., Kang, B. A., & You, M. (2021). Knowledge, attitudes, and practices (KAP) toward COVID-19: a cross-sectional study in South Korea. BMC Public Health, 21(1). https://doi.org/10.1186/s12889-021-10285-y

Mueller, R. O., & Hancock, G. R. (2019). Structural equation modeling. In G. R. Hancock, L. M. Stapleton, & R. O. Mueller (Eds.), The reviewer's guide to quantitative methods in the social sciences (2nd ed., pp. 445–456). Routledge/Taylor & Francis Group. https://doi.org/10.4324/9781315755649-33

Oberoi, S., Chaudhary, N., Patnaik, S., & Singh, A. (2016a). Understanding health seeking behavior. Journal of Family Medicine and Primary Care, 5(2), 463.

https://doi.org/10.4103/2249-4863.192376

Ocampo, L., & Yamagishi, K. (2020). Modeling the lockdown relaxation protocols of the Philippine government in response to the COVID-19 pandemic: An intuitionistic fuzzy DEMATEL analysis. Socio-Economic Planning Sciences, 72. https://doi.org/10.1016/j.seps.2020.100911.

Plotnikoff, R. C., & Trinh, L. (2010). Protection motivation theory: Is this a worthwhile theory for physical activity promotion? Exercise and Sport Sciences Reviews, 38(2), 91–98. https://doi.org/10.1097/JES.0b013e3181d49612

Ramaci, T., Barattucci, M., Ledda, C., & Rapisarda, V. (2020). Social Stigma during COVID-19 and its Impact on HCWs Outcomes. Sustainability, 12(9), Article 9. https://doi.org/10.3390/su12093834

Tong, K. K., Chen, J. H., Yu, E. W. yat, & Wu, A. M. S. (2020). Adherence to COVID-19 Precautionary Measures: Applying the Health Belief Model and Generalised Social Beliefs to a Probability Community Sample. Applied Psychology: Health and Well-Being, 12(4), 1205–1223. https://doi.org/10.1111/aphw.12230

Tuppal, C. P., Ninobla, M. M. G., Ruiz, M. G. D., Loresco, R. D., Tuppal, S. M. P., Panes, I. I., Oducado, R. M. F., Prudencio, D. A. M., Vega, P. D., Eribal, M. J. E., Real, D. V. P., & Roa, M. N. T. (2021). Knowledge, attitude, and practice toward covid-19 among healthy population in the philippines. In Nurse Media Journal of Nursing (Vol. 11, Issue 1, pp. 61–70). Diponegoro University-Department of Nursing, Faculty of Medicine. https://doi.org/10.14710/NMJN.V11I1.36067

Wilandika, A., Gartika, N., & Salami, S. (2023). Social stigma against individuals with COVID-19: scale development and validation. Health Psychology and Behavioral Medicine, 11(1). https://doi.org/10.1080/21642850.2022.2155166

Wong, L. P., Alias, H., Wong, P. F., Lee, H. Y., & AbuBakar, S. (2020). The use of the health belief model to assess predictors of intent to receive the COVID-19 vaccine and willingness to pay. Human Vaccines and Immunotherapeutics, 16(9), 2204–2214. https://doi.org/10.1080/21645515.2020.1790279

World Health Organization. (2023a). Coronavirus Disease (COVID-19). World Health Organization. https://www.who.int/health-topics/coronavirus#tab=tab_1

Zhang, Y., Xu, J., Li, H., & Cao, B. (2020a). A Novel Coronavirus (COVID-19) Outbreak: A Call for Action. Chest, 157(4), e99–e101. https://doi.org/10.1016/j.chest.2020.02.014

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