



COVID-19 phobia, loneliness, and dropout intention among nursing students: the mediating role of social support and coping

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Abstract

The coronavirus outbreak led to many students' experiencing tremendous fear, resulting in numerous psychological and mental health issues, and potentially impacting academic outcomes. The purpose of this study was to examine the mediating role of coping and social support on the relationships between COVID-19 phobia, loneliness, and the intention to abandon nursing education in students. An online survey using a cross-sectional research design was used. A total of 301 full-time student nurses from the Philippines who were currently registered in a nursing programme were included. Nearly half 40.8% ($n=127$) of the nursing students were found to experience COVID-19 phobia. COVID-19 phobia had direct positive effects on loneliness ($\beta=0.210, p<.001$) and intention to abandon nursing education ($\beta=0.293, p<.001$). Social support and coping had partial mediating effects on the association between COVID-19 phobia and loneliness and the intention to abandon nursing education. COVID-19 phobia was associated with increased loneliness and greater desires to abandon nursing studies in students. However, by providing adequate social support and coping, the negative effects of the pandemic on nursing students' outcome were reduced, resulting in decreased loneliness and improved student retention.

Keywords Coronaphobia · Loneliness · Nursing · Students · COVID-19 pandemic · Social support · Coping

Introduction

The coronavirus outbreak has negatively affected educational systems globally, forcing many academic institutions to close abruptly and transition to online learning. Among the different education sectors, nursing education was among those most heavily impacted by the pandemic, with many nursing schools forced to discontinue both the classroom and the clinical component of their programmes to protect the health and safety of the students (Agu et al., 2021). However, despite these measures, the pandemic created apprehension and fear among students and significantly affected their psychological and mental health status, resulting in various mental health concerns (Savitsky et al., 2020; Batra et al., 2021; Lasheras et al., 2020), and potentially negative academic outcomes (Clark et al., 2021).

COVID-19 phobia is defined as a 'dysfunctional anxiety or persistent or uncontrollable fear that interferes with daily life and causes disruptions to behaviour and psychological well-being due to the coronavirus pandemic' (Leng et al., 2020). It was recorded at the highest level across all ages during the early surge of the outbreak. The prevalence of COVID-19 phobia among college students and young adults (39.4%) makes it the most prevalent health issue associated with the pandemic, followed by post-traumatic disorder (29.8%), depression (31.2%), and psychological distress (26%) (Li et al., 2021; Batra et al., 2021; Lasheras et al., 2020). In nursing students, coronaphobia (41%) and depression (52%) were the two mental health issues with the highest prevalence rates (Mulyadi et al., 2021). The fear of being infected and transmitting the virus to their loved ones was identified as the main source of coronaphobia in nursing students. However, other infectious disease control measures, such as physical distancing protocols, regular use of face masks, and lockdown measures, have significantly contributed to this occurrence (Lovric et al., 2020; Savitsky et al., 2020). Previous evidence has strongly cited the fear of the coronavirus as a strong precursor of increased mental health deterioration among student nurses during the

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pandemic (Sugawara et al., 2021; Karawekpanyawong et al., 2021). If this issue is not addressed, this may affect students' academic success and provoke them to abandon their nursing studies.

Among the various mental health issues that emerged during the pandemic, social and emotional loneliness have been of great concern among young adults, considering the vital role social interaction plays in the development of their professional and personal identity, social growth, and in the promotion of well-being (Jose et al., 2012). Loneliness has been defined as 'an emotional state arising from the subjective perception that one's social relationships are deficient either in quantitative or in qualitative ways' (Perlman & Peplau, 1981). Feelings of loneliness may have arisen for some individuals during the pandemic due to the numerous restrictions in place that limit social interaction and disrupts social activities (Labrague & De los Santos, 2021; Zhang et al., 2021). During the height of the coronavirus outbreak, young adults were observed to be far more affected by loneliness than older adults, with an estimate showing that nearly half of young adults experienced severe levels of loneliness during the outbreak of the coronavirus (Bu et al., 2020). Several negative outcomes have been attributed to this loneliness, including increased psychological distress, anxiety, depression, other medical issues such as hypertension and stroke (Valtorta et al., 2016), and somatic issues such as muscle pains and headaches (Majumdar et al., 2020). However, interestingly, COVID-19 phobia as a precursor of loneliness among young adults has not been investigated. Therefore, in the current study, it is hypothesised that:

Hypothesis 1 COVID-19 phobia is directly associated with loneliness in student nurses.

While many studies involving nursing students were conducted during the pandemic, only a handful assessed the students' intention to abandon their studies. Nonetheless, in most of the studies that did report students' intention to abandon their studies, only less than 10% reported their desire to discontinue their studies and search for other educational opportunities (Shengxiao et al., 2021; De los Santos & Labrague 2021). However, in one study, the majority of the students reported considering abandoning their studies due to fear of the virus along with financial issues (Dos Santos, 2020). Many studies during the pandemic have found a greater commitment in student nurses to complete their degrees, with a higher proportion of students showing an increased readiness to volunteer during the contagion, despite the threats and risks posed by the virus (Gómez-Ibáñez et al., 2020). Student nurses who had lower professional identity (Gómez-Ibáñez et al., 2020) and those who

received less support during their clinical placement during the pandemic reported a greater intent to drop out from school (Duprez et al., 2021).

Prior evidence has shown that an increased desire to abandon studies in student nurses is highly associated with an eventual dropout from nursing education, and this may have a negative implication for the nursing workforce in the future (Samuel & Burger, 2020). Therefore, it is essential to determine the factors that influence students' intention to leave nursing education during the pandemic. Based on the available literature, the role of COVID-19 phobia in relation to student nurses' intention to abandon their studies is under-explored. Hence, in the current study, it is hypothesised that:

Hypothesis 2 COVID-19 phobia is directly related to student nurses' intention to abandon their studies.

Social support and coping skills are considered important personal resources to mitigate the psychological and mental health impacts of stressful situations, calamity, disasters, and disease contagion (Labrague, 2021; Dąbkowska et al., 2021). Evidence has shown that when an individual is equipped with positive coping skills and provided with abundant social support systems, their mental health is sustained (Ye et al., 2020). Numerous research, both prior to and during the pandemic, has strongly supported the value of these personal resources to protect an individuals' mental health when faced with adversity and stressful events (Moore & Lucas, 2021; Hussong et al., 2021). In addition, social support has been found to effectively buffer the negative consequences of the coronavirus on the mental health of young adults, resulting in reduced levels of anxiety, emotional distress, and post-traumatic symptoms (Dąbkowska et al., 2021; Labrague et al., 2021). Greater use of positive coping has been associated with reduced post-traumatic stress, irritability, fatigue, and sleep impairment (Orgiles et al., 2021). In some studies, social support and coping were found to be significantly correlated with increased academic motivation (Camacho et al., 2021).

Based on the literature, it is logical to assume that social support and coping may also act as mediators in the relationship between coronaphobia and student outcomes. However, no previous studies were found that assessed the direct and indirect effects of COVID-19 phobia on students' loneliness and intention to abandon studies via the intermediary roles of social support and coping. Hence, in the current study, it was hypothesised that:

Hypothesis 3 Social support will mediate the relationship between (a) COVID-19 phobia and loneliness and (b) COVID-19 phobia and intention to abandon nursing studies.

Hypothesis 4 Coping will mediate the relationship between (a) COVID-19 phobia and loneliness and (b) COVID-19 phobia and intention to abandon nursing studies.

Methods

Research design

A descriptive research design using an online questionnaire was employed to gather data from student nurses.

Samples and settings

The study participants were full-time student nurses from the Philippines currently registered in a nursing programme. Based on a modest effect size of 0.05, 80% statistical power, and an alpha of 0.05, the necessary sample size was calculated using an online sample calculator (Soper, 2021). Based on this calculation, a sample of 261 students was required. A total of 350 students were invited to participate in the study. Over the 1-month period of data collection, 301 students responded, an 86% response rate.

Instruments

COVID-19 phobia was examined using the COVID-19 Anxiety Scale (Lee et al. 2020). The scale was comprised of 5 items that captured the symptomatology of dysfunctional anxiety in students during the coronavirus outbreak. Students indicated the frequency each symptom occurred recently on a 4-point Likert scale, where 0 indicated 'not at all' and 4 indicated 'nearly every day'. To discriminate normal anxiety from coronaphobia, a cut off score of >9 was set (Lee et al., 2020). The scale used has been identified as having excellent reliability and validity and has previously been validated for use in college students (Serpas & Ignacio, 2021). Earlier reports identified the Cronbach's alpha of the scale to range from 0.87 to 0.93 (Lee et al., 2020; Serpas & Ignacio 2021).

Loneliness was examined using the Loneliness Scale, designed by Gierveld and Tilburg (2006). The scale contained questions, which were answered with 'yes', 'more or less', or 'no'. A score of 1 was assigned to 'yes' and 'more or less' responses, while a score of 0 was assigned to 'no' responses. Higher overall scores represented higher loneliness levels. Previous reports have identified the criterion

validity of the scale and the internal consistency values, which range from 0.77–0.87 (Gierveld & Tilburg, 2006).

The coping capacity of the students was examined using a modified version of the Coping Behavior Questionnaire (COPE; Savitsky et al., 2020). The scale, which was comprised of 8 items and 4 dimensions ('humour', 'consultation and seeking information', 'spiritual and sources of support', and 'mental disengagement') was completed by the students using a 5-point Likert scale, where 1 indicated 'strongly disagree' and 5 indicated 'strongly agree'. Earlier studies have found the scale to be highly valid, with an acceptable internal consistency value of 0.87 (Savitsky et al., 2020).

Social support was examined using the PSSQ (Lin et al., 2019). The scale consisted of 6 items that captured the degree of support student nurses received from others during stressful events. Students indicated their responses in the scale using 5-point Likert-type scale, where 1 indicated 'strongly disagree' and 5 indicated 'strongly agree'. Studies, both prior to and during the pandemic, have consistently demonstrated that the PSSQ has excellent psychometric properties, with an internal consistency value of 0.90 (Lin et al., 2019).

Students' intention to abandon their nursing studies was examined using a single-item measure ('Given the current pandemic, I am thinking of abandoning my nursing studies'), which was answered using a 5-point Likert scale, where 1 indicated 'strongly disagree' and 5 indicated 'strongly agree'. Based on earlier studies, this measure was valid and reliable (De los Santos & Labrague 2021).

Data collection and ethical clearance

The ethical permit of the study was obtained from the Research Review Committee of the University. The questionnaires were disseminated to the participants using an online platform, Google Form, through their email addresses and social media accounts. The cover page of the online questionnaire described the objective of the study and the risks and benefits involved. A short letter asking for the students' consent followed the cover page. Students who indicated their consent to participate in the study were asked to press the 'proceed' button, while those who did not want to partake in the study were asked to press the 'exit button'. Weekly reminder emails were sent to the students.

Data analysis

Bivariate analyses were conducted using an analysis of variance, t-test, and Pearson *r* correlation coefficient. A multi-stage regression analysis was performed to examine the direct and indirect effects of COVID-19 phobia on students' experience of loneliness and their intention to abandon

Table 1 Students' characteristics ($n = 301$)

Characteristics	Categories	N	%
Age (18–35)			
Gender	Male	65	21.59
	Female	236	78.41
Year Level	1	75	24.92
	2	122	40.53
	3	73	24.25
	4	31	10.30
Type of Nursing School	Private	98	32.56
	Public	203	67.44
Location of Nursing School	Urban	204	67.77
	Rural	97	32.23
Readiness to care for COVID-19 patients	Unprepared	51	16.94
	Somewhat unprepared	124	41.20
	Somewhat prepared	102	33.89
	Prepared	24	7.97
Willingness to care for COVID-19 patients	Absolutely not	17	5.65
	Probably not	41	13.62
	Unsure	124	41.20
	Probably yes	87	28.90
	Absolutely yes	32	10.63
Intention to abandon nursing studies	Strongly disagree	118	39.20
	Disagree	82	27.24
	Sometimes	57	18.94
	Agree	26	8.64
	Strongly agree	18	5.98
COVID-19 phobia (cut off score of >9)	>9	127	42.2
	<9	174	57.8

nursing studies. First, the independent variable, COVID-19 phobia, was regressed on the mediators, coping and social support. Then, COVID-19 phobia was regressed on the dependent variables, loneliness, and intention to abandon nursing studies. Finally, the mediators were regressed on the outcome variables while controlling for the independent variables.

Table 2 Correlations between key study variables

Variables	Mean	SD	1	2	3	4
1. COVID-19 phobia	8.68	4.06	1			
2. Loneliness	3.66	1.63	0.210**	1		
3. Social support	3.93	0.72	-0.047*	-0.496**	1	
4. Coping	3.82	0.37	-0.177**	-0.390**	0.333**	1
5. Intention to abandon nursing studies	2.09	1.16	0.293**	0.214**	-0.129*	-0.325**

** $p < .001$

* $p < .05$

Results

During the data collection period, 301 students participated in the study. More than half were female (78.41%), in their first (24.92%) and second level (40.53) of nursing education. Some were currently enrolled in public schools (67.44%), while some were in urban areas (67.77%). Based on the cut-off score of >9, 40.8% ($n = 127$) of nursing students were found to experience COVID-19 phobia (Table 1).

Bivariate tests were conducted to examine the relationships between key study variables (Table 2). As expected, COVID-19 phobia was positively and significantly correlated with loneliness ($r = .210$, $p < .001$) and the intention to abandon nursing education ($r = .293$, $p < .001$). COVID-19 phobia also had a significant, albeit negative association with social support ($r = -.047$, $p < .05$) and coping ($r = -.177$, $p < .001$). Both social support and coping had a significant negative association with loneliness ($r = -.496$, $p < .001$; $r = -.390$, $p < .001$) and intention to abandon nursing education ($r = -.129$, $p < .05$; $r = -.325$, $p < .001$). Students' characteristics had no correlation with COVID-19 phobia, loneliness, and dropout intention.

Three-stage regression analyses were performed to test the direct and indirect effects of COVID-19 phobia on students' outcomes (Table 3). COVID-19 phobia had direct positive effects on loneliness ($\beta = 0.210$, $p < .001$) and intention to abandon nursing education ($\beta = 0.293$, $p < .001$). Social support had direct negative effects on loneliness ($\beta = -0.496$, $p < .001$) and intention to abandon nursing education ($\beta = -0.325$, $p < .001$). Similarly, coping had direct negative effects on loneliness ($\beta = -0.390$, $p < .001$) and intention to abandon nursing education ($\beta = -0.325$, $p < .001$). Via the influence of social support, COVID-19 phobia had indirect positive effects on loneliness ($\beta = 0.187$, $p < .001$) and intention to abandon nursing education ($\beta = 0.288$, $p < .001$). Coping partially mediated the association between COVID-19 phobia and loneliness ($\beta = 0.146$, $p = .012$) and COVID-19 phobia and intention to abandon nursing education ($\beta = 0.243$, $p < .001$).

Table 3 Direct and Indirect Effects Estimate

Structural Paths	B	SE	β	<i>t</i>	<i>p</i>	95% CI	
						Lower Bound	Upper Bound
Step 1							
COVID-19 phobia → loneliness	0.085	0.024	0.210	3.463	0.001	0.037	0.133
COVID-19 phobia → social support	-0.008	0.011	-0.047	-0.765	0.445	-0.029	0.013
COVID-19 phobia → intention to abandon nursing studies	0.084	0.017	0.293	4.939	0.001	0.051	0.118
COVID-19 phobia → coping	-0.016	0.006	-0.177	-2.898	0.004	-0.027	-0.005
Step 2							
Social support → loneliness	-1.155	0.126	-0.496	-9.198	0.001	-1.403	-0.908
Coping → loneliness	-1.715	0.251	-0.390	-6.825	0.001	-2.210	-1.220
Social support → intention to abandon nursing studies	-0.214	0.102	-0.129	-2.092	0.037	-0.416	-0.013
Coping → intention to abandon nursing studies	-1.019	0.184	-0.325	-5.535	0.001	-1.382	-0.657
Step 3							
COVID-19 phobia → social support → loneliness	0.075	0.021	0.187	3.543	0.001	0.033	0.117
COVID-19 phobia → coping → loneliness	0.059	0.023	0.146	2.533	0.012	0.013	0.104
COVID-19 phobia → social support → intention to abandon nursing studies	0.083	0.017	0.288	4.867	0.001	0.049	0.116
COVID-19 phobia → coping → intention to abandon nursing studies	0.070	0.017	0.243	4.206	0.001	0.037	0.103

Discussion

Based on the cut-off score of >9, 40.8% ($n=127$) of nursing students were found to experience COVID-19 phobia. Based on the extensive literature review, the current study was the first to assess the presence of COVID-19 phobia in student nurses. However, a wide range of reports examining the presence of coronavirus-related anxiety in student nurses have been conducted since the beginning of the outbreak (Lovric et al., 2020; Savitsky et al., 2020). Nevertheless, the proportion of students who experienced coronaphobia or dysfunctional anxiety in this study was in accordance with earlier studies involving healthcare profession students (Mulyadi et al., 2021). However, the prevalence was higher than in studies involving non-nursing students (Sugawara et al., 2021; Karawekpanyawong et al., 2021) and the general public (Dąbkowska et al., 2021). Concerning student nurses' intention to abandon their nursing studies, 14.62% ($n=44$) of students reported their desire to leave nursing education and pursue other educational programmes. This result is interesting given that in many studies conducted in other countries, the percentage of students who conveyed their intent to quit their studies was fewer than 10%, with a greater percentage expressing their desires to complete the nursing programme (Shengxiao et al., 2021; Duprez et al., 2021). For instance, in one study, only 6% of students expressed their desire to quit the nursing programme; however, about 15% were actively exploring other programmes (Duprez et al., 2021). Interestingly, the current study found a higher percentage (14%) of students reported their desire to leave their studies compared to that reported by De los Santos and Labrague (2021), where, despite the increased

threat of the virus, only a small percentage of Filipino student nurses reported their desires to permanently abandon their nursing studies. It is important to note that the data in the present study was collected during the time where COVID-19 was at its peak due to the resurgence of the Delta variant. During this time, many hospitals were experiencing increased admission, and many healthcare workers were being infected. These circumstances may ultimately have contributed to the mental and psychological pressure on students, which, in turn, could increase academic failure and dropout rates (Van Hoek et al., 2019).

In this study, students who experienced dysfunctional anxiety due to the virus tended to experience higher levels of social and emotional loneliness. Since the emergence of the virus, the Philippine government has imposed mobility restrictions among young adults aged 20 and below, including college students, which has prevented them from leaving their households (Department of Health, 2020). These restrictions, in turn, restricted their socialisation and interaction with other people in their community, eventually leading to social isolation and emotional loneliness. Furthermore, ongoing social distancing measures may have further worsened the emotional issues being experienced by students, leading to increased feelings of loneliness (Bu et al., 2020). A myriad of reports involving students from non-nursing programmes have reported a significant increase in the percentage of students experiencing emotional loneliness since the start of the pandemic, primarily due to social distancing protocols and lockdown measures implemented in many nations globally in an effort to halt the transmission of the virus (Labrague et al., 2021; Zhang et al., 2021). In young adults, social interaction is vital for the formation of their personal identities and in the achievement of

their social and emotional health and well-being (Jose et al., 2012). Therefore, measures to foster social connectedness through innovative ways should be offered. A higher score on the COVID-19 phobia scale was directly and positively associated with an increased intention to abandon nursing studies among students. This result provided additional support to the small amount of pre-existing evidence, which linked coronavirus-induced anxiety to a higher intention to leave nursing studies among pre-licensure students (De los Santos & Labrague 2021; Gómez-Ibáñez et al., 2020). In a study of graduating nursing students, students who experienced greater fear of the virus more frequently reported an increased intention to leave their nursing education (De los Santos & Labrague 2021). This result further confirmed previous reports involving non-nursing students, in which coronavirus-associated anxiety was attributed to an increased intention to leave their studies (Chi et al., 2020) and poorer mental health (Deng et al., 2021; Batra et al., 2021). The direct effect of coronaphobia on students' intention to abandon their studies underscores the necessity of implementing theory-driven approaches to reduce the fear experienced by students during the coronavirus outbreak and consequently enhance retention.

One of the key findings of the current study was the partial intermediary effect of coping on the relationship between COVID-19 phobia and loneliness, and COVID-19 phobia and the intention to abandon nursing education. In other words, the negative effects of COVID-19 phobia on students' outcomes are reduced when they are equipped with adequate coping skills. These results suggest that when students are equipped with desirable coping skills, they are able to effectively manage the impact of the pandemic, resulting in reduced feelings of loneliness and a greater intention to complete their studies.

Coping has long been identified as an important personal resource for an individual when faced with adversity, challenges, and frightening circumstances (Folkman & Moskowitz, 2004). A wide range of research prior to the onset of the pandemic has been conducted, confirming the positive role coping plays in safeguarding the mental health of an individual (Dąbkowska et al., 2021). Research during the coronavirus pandemic also demonstrated that adequate coping skills were strongly linked to reduced anxiety, stress, burnout, and loneliness and an overall improvement in the mental health of young and adult individuals (Moore & Lucas, 2021). Conversely, the utilisation of negative coping skills in young adults has been attributed to heightened mental and psychological health impairment (Hussong et al., 2021). Utilisation of these negative coping skills could, therefore, negatively impact a students' decision to complete their nursing studies (Kim & Yang, 2017). While it is not specified in the current study, the type of positive coping

strategies that exert the greatest impact on students' coronaphobia coping abilities includes resilience and the utilisation of humour; the use of both have been attributed to lower levels of anxiety (Savitsky et al., 2020). Furthermore, involvement in school activities has been associated with reduced academic dropouts rates (Hess & Copeland, 2001) and increased school completion (Devonport & Lane, 2006). Considering this result, nurse educators should consider building students' coping capacities as a viable strategy to reduce loneliness during the pandemic and improve retention. Given the current restrictions due to the coronavirus, the use of technology in the provision of coping-enhancing interventions (e.g., coping skills training and stress management techniques) should be explored.

Finally, social support partially mediated the association between COVID-19 phobia and loneliness, and COVID-19 phobia and the intention to abandon nursing education. This result suggests that when students are provided with adequate social support, the negative consequences of coronaphobia are reduced, leading to decreased loneliness and a reduced intention to abandon their studies. Research prior to the pandemic has consistently cited social support, derived from family, friends, peers, or communities, as an important precursor to heightened emotional, mental, and psychological health in individuals across ages (Dąbkowska et al., 2021; Labrague et al., 2021). In the context of the pandemic and other situations, such as during an emergency, calamity, or disaster, healthcare workers and students, including nursing students, who were provided with adequate social support were found to more effectively deal with the mental and psychological burden associated with the situation (Moore & Lucas, 2021; Hussong et al., 2021). Further, adequate social support has been associated with a significant reduction in levels of anxiety, stress, burnout, loneliness, and fatigue in student nurses (Lisitsa et al., 2020), which may increase their satisfaction with their studies and enhance academic success. Earlier reports have shown a lower level of emotional exhaustion and greater academic success and achievement in students who were provided adequate support from their family and friends compared to those who lacked social support systems (de la Iglesia et al., 2014; Li et al., 2018).

The partial mediating effects of social support and coping on the relationship between COVID-19 phobia and loneliness and the intention to abandon nursing education indicate that other factors may not have been fully accounted for in this study. Personal factors including a sense of coherence, optimism, resilience, self-efficacy, self-care abilities, and personal health and well-being are potential mediators that could affect outcomes in student nurses. Moreover, the level of social interaction, social skills, and social contact or connection might also explain the mechanism underlying

the relationship between COVID-19 phobia and students' loneliness and intention to abandon nursing studies. These factors should be taken into consideration in future research.

Conclusion

The findings showed that COVID-19 phobia is a common phenomenon among student nurses during the coronavirus pandemic. Further, students who experienced COVID-19 phobia were more likely to experience loneliness and report increased desires to leave their nursing studies. However, with adequate social support and coping skills, the negative consequences of COVID-19 phobia on student outcomes are significantly reduced, resulting in decreased loneliness and academic dropout rates.

Nursing school administrators and educators should develop measures to enhance social support and build positive coping skills in student nurses to reduce the negative impact of the current pandemic on students' mental health and improve their academic retention. These measures should be part of organisational strategies to improve the well-being of students, reduce dropout rates, and improve academic success during the pandemic. Given the current restrictions due to the coronavirus, the use of technology and other internet-based approaches to maintain social connectedness in the provision of coping-enhancing interventions (e.g., coping skills training and stress management techniques) should be explored.

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Authors Contribution L.J.L. conceived and designed the study, collected and analyzed the data, prepared the first draft and the final version of the manuscript.

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Data Availability The data that support the findings of this study are available from the corresponding author, [author initials], upon reasonable request.

Declarations

Ethics approval and consent to participate Prior to data collection, the research protocol was submitted to the Visayas State University-College of Nursing Ethics Review Committee and has a code, RES-CON-01

Informed consent was obtained from all individual participants included in the study.

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