ORIGINAL ARTICLE

A Comparison of Willingness to Report to Work, Psychological Distress, and Coping Strategies among Medical Interns in a COVID-referral Hospital in Metro Manila: A Cross-sectional Study

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ABSTRACT

Objectives. This cross-sectional study aimed to compare the levels of depression, anxiety, and stress, coping strategies, and willingness to go on duty in a COVID-referral hospital in Metro Manila among medical interns from March to April 2021.

Methods. The study comprised medical interns selected via stratified random sampling and was conducted to meet the research objectives. Data were obtained through the Willingness to Go on Duty questionnaire, the Depression, Anxiety, and Stress Scale-21 (DASS-21), and the Filipino Coping Strategies Scale. Descriptive and inferential analysis (chi-square test, Wilcoxon rank-sum test, Kruskal-Wallis test, and Spearman's correlation) of data was used in this study.

Results. 26.62%, 23.02%, and 13.67% of the 139 participants reported having severe to extremely severe depression, anxiety, and stress, respectively. Sociodemographic variables such as age, sex, internship classification, training/track, presence of comorbidities, and living arrangement were not associated with psychological distress, while the use of some coping strategies was associated with some of these variables. 85.61% of the medical students who participated in the study expressed willingness to go on duty in non-COVID areas, while only 43.88% were willing to go on duty in COVID areas. Most of the participants who are unwilling to report in non-COVID areas reported having symptoms of moderate to extremely severe depression based on their DASS-21 scores.

Conclusion. Coping strategies used by medical students in this tertiary COVID-19 hospital during the pandemic differed across demographic variables and may be a function of societal and cultural norms. The top reason for the willingness to go on duty regardless of area of assignment (COVID or non-COVID) is the need for clinical learning experience and skills development, while the main reason for their refusal is the fear of being exposed to or contracting COVID-19.

Keywords: return to work, psychological adaptation, psychological stress, anxiety, depression, medical students, COVID-19

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INTRODUCTION

With the imposition of the community quarantine in Metro Manila last March 2020 due to the COVID-19 pandemic, the training of medical students in this COVID-referral hospital in Manila was put on hold. In response, the hospital College of Medicine faculty prepared online modules which incorporated remote learning activities and paper discussions in lieu of physical hospital trainings. In the new internship program, a flexible training schedule was devised with hybrid face-to-face and online learning.[1]

Several studies have revealed that the COVID-19 pandemic caused significant psychological distress, such as depression and anxiety, among medical students across countries.[2-8] In a prospective longitudinal study conducted by Saraswathi et al. on 217 medical students in India before (December 2019) and during the COVID-19 outbreak (June 2020), results have revealed that although the prevalence and levels of depression among these students remain unchanged during the pandemic, significant increases in the prevalence of anxiety and stress were observed from the pre-pandemic baseline scores. The authors suggested that the deterioration of the mental health status of the participants may be attributed to factors relating to the COVID-19 pandemic.[9]

Ignacio identified frequently used coping mechanisms by Filipinos during times of disasters. Filipinos commonly use spirituality, family orientation, and the *bayanihan* spirit. They also cope through joy and humor, cognitive coping, and rest and recreational activities.[10]

Medical students around the world have varying levels of willingness to join the hospital workforce during the COVID-19 pandemic. In a university medical center in Germany, 90.5% of the surveyed 63 students in April 2020 wanted to contribute to the fight against the pandemic, although only 19.4% felt that they had been prepared to help in such situations by their medical school. 67.7% mentioned that they need further courses on preparation for crises and pandemics.[11]

With the upcoming hospital duty of medical interns, they may show varying types and levels of psychological distress and use different coping strategies to combat their stressors. Moreover, these factors may interplay against a background of varying levels of willingness to go on duty in a COVID-referral hospital.

Currently, however, there are no known studies exploring the relationship of psychological distress, coping strategies, and willingness to work in the context of a pandemic among medical students in the Philippines. This study, therefore, aims to compare the levels of depression, anxiety, and stress, coping strategies, and willingness to go on duty in a COVID-referral hospital in Metro Manila among medical interns from March to April 2021. Specifically, the researchers aim to (1) measure the levels of depression, anxiety, and stress of medical interns in the COVID-referral hospital in Manila using DASS-21, (2) identify the coping strategies of medical interns using the Filipino Coping Strategies Scale, (3) identify the level of willingness to go on duty among medical interns in the said COVID-referral hospital, and (4) illustrate and compare the relationship among the socio-demographic characteristics of medical interns, levels of depression, anxiety, and stress, coping strategies, and their willingness to go on duty in a COVID-referral hospital.

The data gathered from this study may be helpful in the program planning and execution of the hospital administration and the Department of Psychiatry of the institution. Specifically, this research may be used as a reference for the wellness programs for medical interns in the hospital. Lastly, this study can also serve as a basis for future research into the same concepts investigated.

METHODS

Study Design and Setting

The study, which employed a cross-sectional design, was conducted in a tertiary hospital in the Philippines a year after it was declared a COVID-referral center in Metro Manila. All 319 batch 2020-2021 medical interns were assigned to non-COVID areas of the clinical departments of the hospital. Those who consented to join this study were eligible to participate. To summarize, the inclusion and exclusion criteria are as follows:

Inclusion:

- Batch 2020-2021 medical interns, regardless of whether they are College of Medicine Interns (CMI) or are Post-graduate Interns (PGI)

Exclusion:

- On leave during the data collection period

The sample size for this survey was computed based on the following conditions: a combined population of 319 interns currently assigned to the institution, a prevalence of mild to moderate depressive symptoms at 60% and anxiety at 69% based on the study by Gonzales et al., a power set at 80%, and a two-tailed level of confidence at 95%.[12] The design effect was set at 1.10 to account for the sampling design, and an additional oversampling of 3% to account for non-response, leading to a need for 185 respondents using the software, G*Power 3.1.

Communication was sent to the medical school dean and the hospital director requesting permission to conduct the study on rotating medical interns in the 16 clinical departments. The researchers proceeded with data collection after the approvals of the dean and director had been secured. Specifically, the researchers communicated with the presidents of medical interns to help with the dissemination of the Google Forms link of the questionnaires to the block representatives. The latter, in turn, forwarded the link to the randomly chosen respondents by the researchers in their

respective blocks following the stratified random sampling. The self-administered questionnaires were designed to be completed within 20 to 30 minutes.

Data collection spanned two months. No research assistant was employed; the principal investigators solely collected the data through Google Forms.

Ethical Considerations

This study underwent a panel review by the Research Ethics Board before its implementation. Given that medical interns may be considered a vulnerable population, approval to conduct the study was first secured from the medical school dean and hospital director, as described in the previous section. Additionally, coordination was established with the presidents of the medical interns.

To ensure informed participation, the introductory page of the Google survey form explicitly stated that respondents had the right to decline participation or withdraw at any time without incurring any cost, loss of benefits, or negative consequences. It was also emphasized that their decision would not, in any way, affect their status or membership in any organization. Additionally, the survey form explicitly stated that participants could opt out by simply not pressing the "Submit" button if they had any concerns.

According to the National Ethical Guidelines for Health and Health-Related Research 2017, informed consent form documentation may be waived if the research presents no more than minimal risk and does not involve procedures (such as medical interventions) for which informed consent is normally required.[13] Since the study involved no more than minimal risk, the researchers requested an application for a waiver of informed consent documentation. Answered questionnaires received from the participants implied informed consent.

Possible risks in answering the questionnaires included resurfacing of negative emotions (i.e., anxiety and depressed mood). In the unlikely event of adverse reactions related to the completion of the survey, participants were advised to contact the researchers through the contact details provided on the introductory page of the questionnaire. The latter would assess the participant and provide appropriate intervention, such as psychotherapy and/or referral to the emergency room.

Anonymity and confidentiality were observed throughout the study. Filled-out questionnaires were sent to the Google Drive of the researchers made specifically for the study. Only the investigators were given access to the documents on password-protected computers.

There was no monetary compensation to the participants. However, they were informed that the information generated from the survey may be used in developing future interventions by relevant offices and departments.

Statistical Analysis

Data collected from the completed survey reports were manually entered into an electronic spreadsheet file, and subsequent data processing and analysis were then carried out using the statistical software Stata 13.

Descriptive statistics such as mean, median, standard deviation, and interquartile ranges were used for numerical variables such as age in years, years in service, DASS 21, and Filipino Coping Strategies Scale scores, whereas frequency and percentage were used for categorical variables such as sex, training classification, presence of medical conditions, and reasons for willingness.

The prevalence and severity of depression, anxiety, and stress among medical interns in this study were determined at 95% confidence interval estimate. Similarly, the prevalence of willingness and non-willingness to report on duty for both COVID and non-COVID areas was also computed.

A series of chi-square tests of association were used to compare the presence of perceived ratings for depression, anxiety, and stress using the DASS-21 tool across willingness to report for COVID and non-COVID areas. Likewise, the domain scores of Filipino coping strategies (i.e., cognitive reappraisal, social support, problem solving, religiosity, tolerance, emotional release, over-activity, relaxation/recreation, substance use) were also compared using the Wilcoxon rank-sum tests. These procedures were performed since it can be noted that the domains were not normally distributed.

A series of Fisher's exact and Kruskal-Wallis tests were performed to determine an association between living arrangement and internship track, in terms of ratings for depression, anxiety, and stress using the DASS-21 tool, and Filipino coping strategies.

Spearman's rho rank correlation coefficient was computed to determine the degree of association between DASS and Filipino Coping Strategies Scale scores across the age in years.

Additional exploratory analyses were conducted to further examine associations between individual demographic and clinical factors and willingness to report for duty. Specifically, univariate logistic regression was used to assess the association between individual demographic and clinical factors and willingness to go on duty. Variables with a p-value less than 0.25 in the univariable analysis were considered potential predictors and included in the multivariable logistic regression model. The final model was selected based on comparison of the Akaike Information Criterion (AIC), overall parsimony, and model fit.

The level of significance for all sets of analysis was set at a p-value less than 0.05 using two-tailed comparisons.

Depression-Anxiety-Stress 21 Scale (DASS-21)

This is a 21-item four-point Likert-type scale developed by Lovibond and Lovibond in 1995.[14] It is a self-administered questionnaire used to measure the domains of depression, anxiety, and stress, comprising seven items in each subscale. The scores per subscale were computed by summing up the relevant item scores and multiplying them by two. Higher scores indicate greater levels of psychological distress.

Antony et al. in 1998 established concurrent validity using clinical and community samples by correlating with the Beck Depression Inventory, Beck Anxiety Inventory, and the trait version of the State-Trait Anxiety Inventory.[15]

Filipino Coping Strategies Scale

This is a 37-item four-point Likert-type scale developed by Rilveria in 2018. This is a self-administered scale that aims to measure the use of nine culturally relevant Filipino coping strategies in the face of stress. Items were scored on a 4-point Likert scale, from 1 (never) to 4 (always). Subscale scores were computed by summing the responses within each domain, with higher scores indicating greater use of that specific coping strategy. Rilveria established the questionnaire's construct validity through the principal components analysis extraction method and the varimax rotation method.[16]

Willingness to Go on Duty Questionnaire

This is a 4-item questionnaire developed by the authors measuring medical interns' willingness (from very unwilling to very willing) to go on duty in non-COVID and COVID areas of the hospital, and the reasons affecting their level of willingness to go on duty. This was presented to four psychiatry consultants, who unanimously agreed on the face validity of the tool.

Demographics Questionnaire

This includes the age, sex, civil status, internship classification (hospital College of Medicine intern or intern from other schools rotating in the hospital), presence of children, presence of medical co-morbidities, and current living arrangement.

RESULTS

Participant Characteristics

A total of 139 medical interns consented and completed the survey, giving a response rate of 75.14%. 40.29% were from the hospital College of Medicine (CMI) (n=56), while 59.71% were interns from other schools rotating in the hospital (PGI) (n=83).

The different socio-demographic characteristics of the survey respondents are presented in Table 1. The age range is from 22 to 34 years old, with a mean age of 26 years. Most participants are single (99.28%), female (64.75%), without children (98.56%), living with their family (51.08%), and without co-morbidities (71.94%).

Willingness to Report for Duty in COVID and Non-COVID Areas

Table 2 summarizes the willingness of medical interns to report for duty in both non-COVID and COVID-designated hospital areas. Overall, a strong majority of respondents expressed readiness to work in non-COVID areas, with 85.61% reporting that they were either willing (38.85%) or very willing (46.76%) to go on duty. Only a small proportion were hesitant, with 10.79% indicating they were unwilling and 3.60% very unwilling to report in these areas.

In contrast, willingness to report for duty in COVID-designated areas was substantially lower. Less than half of the interns reported being either willing (32.37%) or very willing (11.51%) to work in COVID areas, amounting to 43.88% overall. A larger proportion expressed hesitancy or refusal, with 29.50% indicating they were unwilling and 26.62% very unwilling to go on duty. This shows a shift toward reluctance when the assignment involves a higher perceived risk of exposure to COVID-19.

Table 1. Baseline Socio-clinico-demographic Characteristics of the Participants

Characteristics	Summary Measures
Current age in years	25.74 ± 1.78
Classification	
College of Medicine Intern (CMI)	56 (40.29%)
Post-graduate Intern (PGI)	83 (59.71%)
Civil status	
Single	138 (99.28%)
Married	1 (0.72%)
Sex	
Male	49 (35.25%)
Female	90 (64.75%)
Presence of children	
With children	2 (1.44%)
Without children	137 (98.56%)
Presence of co-morbid conditions	
None	100 (71.94%)
Present	39 (28.06%)
Current living arrangement	
Living alone	37 (26.62%)
Living with family	71 (51.08%)
Living with classmates	28 (20.14%)
Other arrangement/s	3 (2.16%)

Table 2. Summary Measures for Willingness to Report in both COVID and Non-COVID Areas

Ratings	Summary Measures
Willingness to Report in Non-COVID areas	
Very unwilling to go on duty	5 (3.60%)
Unwilling to go on duty	15 (10.79%)
Willing to go on duty	54 (38.85%)
Very willing to go on duty	65 (46.76%)
Willingness to Report in COVID areas	
Very unwilling to go on duty	37 (26.62%)
Unwilling to go on duty	41 (29.50%)
Willing to go on duty	45 (32.37%)
Very willing to go on duty	16 (11.51%)

Psychosocial Responses of the Participants

Table 3 shows the overall distribution of participants across different depression, anxiety, and stress levels, as well as Filipino coping strategies. It also shows the frequency of participants based on their willingness to report in non-COVID areas.

The only psychological variable significantly associated with willingness to report in non-COVID areas was depression, specifically in the moderate range (p = 0.03). Moderate depressive symptoms were markedly more common among interns who were unwilling to report, with 40% of the unwilling group falling in this category compared with only 13.45% of those who were willing. Other depression categories—including mild, severe, and extremely severe—did not differ significantly, indicating that the association was most evident in the moderate range rather than across the full spectrum of depressive severity.

In contrast, anxiety and stress levels showed no significant associations with willingness, despite some numerical differences across categories. Anxiety had a p-value of 0.17, and stress had a p-value of 0.30, indicating that neither variable reliably differentiated interns who were willing or unwilling to report. While the unwilling group showed slightly higher proportions of moderate anxiety (35% vs. 18.49% in the willing group) and severe stress (20% vs. 13.45%), these variations did not reach statistical significance.

Among coping strategies, social support emerged as the only significant coping-related factor, with a higher mean score among interns willing to report (2.99) compared with those unwilling (2.67) (p = 0.04). This result indicates that interns who perceived stronger emotional or instrumental support from family, friends, or peers were more likely to volunteer for duty in non-COVID areas. All other coping domains—including cognitive reappraisal, problem-solving, religiosity, tolerance, emotional release, overactivity, relaxation and recreation, and substance use—showed no significant differences between groups.

Table 4 presents the interns' psychosocial responses and coping strategies across their level of willingness to go on duty in COVID areas. It was noted that no depression, anxiety, or stress category showed a statistically significant association with willingness to report for duty in COVID areas. Although some numerical trends were visible—such as higher proportions of moderate depression (20.51%) and

Table 3. Overall Psychosocial Responses of Interns in Comparison with their Willingness to Report in Non-COVID Areas

Ratings	Overall	Willing	Unwilling	*p*-value
DASS-21 Scale				
Depression				
Normal	61 (43.88%)	56 (47.06%)	5 (25%)	
Mild	17 (12.23%)	15 (12.61%)	2 (10%)	
Moderate	24 (17.27%)	16 (13.45%)	8 (40%)	0.03*
Severe	19 (13.67%)	18 (15.13%)	1 (5%)	
Extremely Severe	18 (12.95%)	14 (11.76%)	4 (20%)	
Anxiety				
Normal	63 (45.32%)	58 (48.74%)	5 (25%)	
Mild	13 (9.35%)	11 (9.24%)	2 (10%)	
Moderate	29 (20.86%)	22 (18.49%)	7 (35%)	0.17
Severe	24 (17.27%)	21 (17.65%)	3 (15%)	
Extremely Severe	10 (7.19%)	7 (5.88%)	3 (15%)	
Stress				
Normal	83 (59.71%)	74 (62.18%)	9 (45%)	
Mild	9 (6.47%)	6 (5.04%)	3 (15%)	
Moderate	24 (17.27%)	21 (17.65%)	3 (15%)	0.30
Severe	20 (14.39%)	16 (13.45%)	4 (20%)	
Extremely Severe	3 (2.16%)	2 (1.68%)	1 (5%)	
Filipino Coping Strategies Scale				
Cognitive Reappraisal	2.79 (0.65)	2.80 (0.65)	2.69 (0.67)	0.48
Social Support	2.95 (0.66)	2.99 (0.66)	2.67 (0.58)	0.04*
Problem-solving	3.18 (0.60)	3.18 (0.61)	3.13 (0.53)	0.68
Religiosity	2.72 (1.04)	2.78 (1.03)	2.40 (1.08)	0.14
Tolerance	2.89 (0.62)	2.89 (0.63)	2.90 (0.58)	0.93
Emotional Release	2.22 (0.61)	2.24 (0.60)	2.14 (0.65)	0.49
Over-activity	2.41 (0.61)	2.44 (0.60)	2.26 (0.70)	0.24
Relaxation/Recreation	3.28 (0.55)	3.29 (0.56)	3.25 (0.52)	0.76
Substance Use	1.28 (0.41)	1.27 (0.40)	1.33 (0.49)	0.55

Table 4. Psychosocial Responses of Interns across Willingness to Report in COVID Areas

Ratings	Overall	Willing	Not Willing	*p*-value
DASS-21 Scale				
Depression				
Normal	61 (43.88%)	31 (50.82%)	30 (38.46%)	
Mild	17 (12.23%)	5 (8.20%)	12 (15.38%)	
Moderate	24 (17.27%)	8 (13.11%)	16 (20.51%)	0.13
Severe	19 (13.67%)	6 (9.84%)	13 (16.67%)	
Extremely Severe	18 (12.95%)	11 (18.03%)	7 (8.97%)	
Anxiety				
Normal	63 (45.32%)	30 (49.18%)	33 (42.31%)	
Mild	13 (9.35%)	6 (9.84%)	7 (8.97%)	
Moderate	29 (20.86%)	11 (18.03%)	18 (23.08%)	0.48
Severe	24 (17.27%)	12 (19.67%)	12 (15.38%)	
Extremely Severe	10 (7.19%)	2 (3.28%)	8 (10.26%)	
Stress				
Normal	83 (59.71%)	35 (57.38%)	48 (61.54%)	
Mild	9 (6.47%)	4 (6.56%)	5 (6.41%)	
Moderate	24 (17.27%)	11 (18.03%)	13 (16.67%)	0.94
Severe	20 (14.39%)	9 (14.75%)	11 (14.10%)	
Extremely Severe	3 (2.16%)	2 (3.28%)	1 (1.28%)	
Filipino Coping Strategies Scale				
Cognitive Reappraisal	2.79 (0.65)	2.97 (0.71)	2.65 (0.58)	<0.01*
Social Support	2.95 (0.66)	3.01 (0.67)	2.90 (0.65)	0.32
Problem-solving	3.18 (0.60)	3.29 (0.63)	3.09 (0.55)	0.04 *
Religiosity	2.72 (1.04)	2.80 (1.00)	2.66 (1.08)	0.46
Tolerance	2.89 (0.62)	2.82 (0.58)	2.94 (0.64)	0.25
Emotional Release	2.22 (0.61)	2.22 (0.64)	2.23 (0.58)	0.90
Over-activity	2.41 (0.61)	2.40 (0.622)	2.42 (0.61)	0.91
Relaxation/Recreation	3.28 (0.55)	3.38 (0.56)	3.22 (0.54)	0.08
Substance Use	1.28 (0.41)	1.26 (0.45)	1.29 (0.39)	0.61

extremely severe anxiety (10.26%) among those unwilling to report—these differences did not reach statistical significance (depression p = 0.13; anxiety p = 0.48; stress p = 0.94).

By contrast, two coping strategies demonstrated significant associations with willingness to report. Cognitive reappraisal was significantly higher among interns willing to report (mean 2.97) compared to those unwilling (2.65), with p <0.01. This indicates that interns who actively reframed stressful situations and adopted more constructive interpretations were more likely to volunteer for COVID-related duty. Similarly, problem-solving coping was higher among those willing to report (mean 3.29) than among the unwilling group (3.09) (p = 0.04). Interns who approached challenges with solution-oriented thinking were therefore more inclined to accept duty in COVID units.

Other coping strategies—including social support, religiosity, tolerance, emotional release, overactivity, relaxation/recreation, and substance use—did not significantly differ between groups. Although some numerical differences were present (e.g., higher relaxation/recreation scores among the willing group), none met significance thresholds.

Psychological Responses and Socio-clinico-demographic Characteristics

Sex

Table 5 showed that sex was not significantly associated with willingness to report in either non-COVID or COVID areas (p = 0.14 and p = 0.59, respectively). Both males and females demonstrated similarly high willingness for non-COVID duty and equally mixed willingness for COVID duty.

Among the psychological variables, anxiety was the only DASS-21 domain that differed significantly between males and females, with females exhibiting substantially higher levels of severe anxiety (24.44%) compared with males (4.08%) (p = 0.03). Depression (p = 0.57) and stress (p = 0.34) did not show significant sex-based differences, with similar proportions across severity categories for both groups.

In the domain of coping strategies, emotional release was the only significant difference, with females showing higher mean scores (mean 2.37) than males (mean 1.95) (p <0.01).

Other coping mechanisms—including social support, cognitive reappraisal, problem-solving, religiosity, tolerance, overactivity, relaxation/recreation, and substance use—did not differ significantly by sex.

Table 5. Psychosocial Responses of Health Care Personnel across Sex

Ratings	Male	Female	*p*-value
Reporting to Non-COVID			
Willing	39 (79.59%)	80 (88.89%)	0.14
Not willing	10 (20.41%)	10 (11.11%)	
Reporting to COVID			
Willing	23 (46.94%)	38 (42.22%)	0.59
Not willing	26 (53.06%)	52 (57.78%)	
DASS-21 Scale			
Depression			
Normal	26 (53.06%)	35 (38.89%)	
Mild	5 (10.20%)	12 (13.33%)	
Moderate	6 (12.24%)	18 (20%)	0.57
Severe	6 (12.24%)	13 (14.44%)	
Extremely Severe	6 (12.24%)	12 (13.33%)	
Anxiety			
Normal	25 (51.02%)	35 (38.89%)	
Mild	5 (10.20%)	8 (8.89%)	
Moderate	14 (28.57%)	15 (16.67%)	0.03*
Severe	2 (4.08%)	22 (24.44%)	
Extremely Severe	3 (6.12%)	7 (7.78%)	
Stress			
Normal	31 (63.27%)	52 (57.78%)	
Mild	2 (4.08%)	7 (7.78%)	
Moderate	11 (22.45%)	13 (14.44%)	0.34
Severe	5 (10.20%)	15 (16.67%)	
Extremely Severe	0 (0%)	3 (3.33%)	
Filipino Coping Strategies			
Cognitive Reappraisal	2.87 (0.64)	2.74 (0.66)	0.30
Social Support	2.82 (0.66)	3.01 (0.65)	0.10
Problem-solving	3.25 (0.66)	3.14 (0.56)	0.28
Religiosity	2.67 (1.10)	2.75 (1.01)	0.69
Tolerance	2.99 (0.61)	2.83 (0.62)	0.15
Emotional Release	1.95 (0.59)	2.37 (0.57)	<0.01*
Over-activity	2.32 (0.65)	2.46 (0.59)	0.19
Relaxation/Recreation	3.34 (0.52)	3.26 (0.57)	0.40
Substance Use	1.33 (0.43)	1.25 (0.41)	0.28

Internship Classification

In Table 6, the only significant difference between CMIs and PGIs was observed in willingness to report for duty in non-COVID areas. A markedly higher proportion of PGIs (92.77%) were willing to report for duty compared with CMIs (75%) ($p < 0.01$). However, no significant difference in willingness was found for reporting to COVID areas ($p = 0.40$).

Among coping strategies, religiosity was the only domain that significantly differed between the two groups ($p < 0.01$). PGIs reported higher religiosity scores (mean 2.98) compared with CMIs (mean 2.34).

No significant differences were found across depression ($p = 0.66$), anxiety ($p = 0.37$), or stress ($p = 0.66$) between the two groups. This indicates that psychological distress profiles were essentially similar between PGIs and CMIs.

Presence of Co-morbidities

Table 7 showed that no significant associations emerged between the presence of medical comorbidities and willingness to report for duty in either non-COVID or COVID areas. Willingness in non-COVID areas was nearly identical between interns without comorbidities (86%) and those with comorbidities (84.62%) ($p = 0.83$). Likewise, willingness to report in COVID areas did not differ, with 42% willingness among those without comorbidities and 48.72% among those with comorbidities ($p = 0.47$).

Across psychological variables—depression ($p = 0.80$), anxiety ($p = 0.73$), and stress ($p = 0.54$)—no significant differences were found between those with and without comorbidities. Proportions within each severity category (e.g., moderate depression at 18% vs. 15.38%; moderate anxiety at 20% vs. 23.08%) were highly comparable.

Similarly, none of the Filipino coping strategies showed significant differences. All coping domain scores—

Table 6. Psychosocial Responses of Health Care Personnel across Internship Classification

Ratings	CMI	PGI	*p*-value
Reporting to Non-COVID			
Willing	42 (75%)	77 (92.77%)	<0.01*
Not willing	14 (25%)	6 (7.23%)	
Reporting to COVID			
Willing	27 (48.21%)	34 (40.96%)	0.40
Not willing	29 (51.79%)	49 (59.04%)	
DASS-21 Scale			
Depression			
Normal	21 (37.50%)	40 (48.19%)	
Mild	8 (14.29%)	9 (10.84%)	
Moderate	10 (17.86%)	14 (16.87%)	0.66
Severe	10 (17.86%)	9 (10.84%)	
Extremely Severe	7 (12.50%)	11 (13.25%)	
Anxiety			
Normal	28 (50.00%)	35 (42.17%)	
Mild	2 (3.57%)	11 (13.25%)	
Moderate	11 (19.64%)	18 (21.69%)	0.37
Severe	10 (17.86%)	14 (16.87%)	
Extremely Severe	5 (8.93%)	5 (6.02%)	
Stress			
Normal	33 (58.93%)	50 (60.24%)	
Mild	4 (7.14%)	5 (6.02%)	
Moderate	11 (19.64%)	13 (15.66%)	0.66
Severe	8 (14.29%)	12 (14.46%)	
Extremely Severe	0 (0%)	3 (3.61%)	
Filipino Coping Strategies			
Cognitive Reappraisal	2.71 (0.65)	2.84 (0.65)	0.28
Social Support	3.04 (0.58)	2.89 (0.71)	0.20
Problem-solving	3.17 (0.61)	3.18 (0.60)	0.92
Religiosity	2.34 (1.02)	2.98 (0.99	<0.01*
Tolerance	2.91 (0.59)	2.87 (0.64)	0.73
Emotional Release	2.25 (0.62)	2.21 (0.60)	0.74
Over-activity	2.44 (0.68)	2.39 (0.56)	0.65
Relaxation/Recreation	3.22 (0.52)	3.33 (0.55)	0.24
Substance Use	1.36 (0.47)	1.23 (0.37)	0.07

including cognitive reappraisal, social support, problem-solving, religiosity, tolerance, emotional release, overactivity, relaxation/recreation, and substance use—were statistically comparable, with p-values ranging from 0.14 to 0.98.

Living Arrangement

In Table 8, no significant associations were found between living arrangement and willingness to report for duty in either non-COVID or COVID areas. Willingness for non-COVID duty remained high across all groups—83.78% among those living alone, 88.73% among those living with family, and 80.65% among those in other arrangements (p = 0.60). Similarly, willingness to report in COVID areas did not differ significantly, with proportions ranging from 38.03% to 54.05% (p = 0.28).

Across psychological symptoms, none of the DASS-21 domains showed significant differences based on living arrangement. Depression (p = 0.88), anxiety (p = 0.26), and stress (p = 1.00) were distributed similarly across all living situations. For example, normal depression ranged from 38.71% to 51.35%, while severe anxiety ranged from 8.45% to 29.73%, but these variations were not statistically meaningful. This suggests that emotional distress levels were largely consistent regardless of whether interns lived alone, with family, or with others.

The only significant difference observed in Table 8 was found in the domain of social support, which varied across living arrangements (p = 0.04). Interns living with family reported the highest social support scores (mean 3.08), followed by those living alone (mean 2.85) and those in other arrangements (mean 2.75). All other coping strategies—including cognitive reappraisal, problem-solving, tolerance, religiosity, emotional release, overactivity, relaxation/recreation, and substance use—showed no significant variation across living arrangements.

Table 7. Psychosocial Responses of Health Care Personnel based on Presence of Co-morbidities

Ratings	Without	With co-morbidities	*p*-value
Willingness to Report in Non-COVID Area			
Willing	86 (86%)	33 (84.62%)	0.83
Not willing	14 (14%)	6 (15.38%)	
Willingness to Report in the COVID Area			
Willing	42 (42%)	19 (48.72%)	0.47
Not willing	58 (58%)	20 (51.28%)	
DASS-21 Scale			
Depression			
Normal	44 (44%)	17 (43.59%)	
Mild	12 (12%)	5 (12.82%)	
Moderate	18 (18%)	6 (15.38%)	0.80
Severe	15 (15%)	4 (10.26%)	
Extremely Severe	11 (11%)	7 (17.95%)	
Anxiety			
Normal	44 (44%)	19 (48.72%)	
Mild	9 (9%)	4 (10.26%)	
Moderate	20 (20%)	9 (23.08%)	0.73
Severe	18 (18%)	6 (15.38%)	
Extremely Severe	9 (9%)	1 (2.56%)	
Stress			
Normal	61 (61%)	22 (56.41%)	
Mild	7 (7%)	2 (5.13%)	
Moderate	14 (14%)	10 (25.64%)	0.54
Severe	16 (16%)	4 (10.26%)	
Extremely Severe	2 (2%)	1 (2.56%)	
Filipino Coping Strategies			
Cognitive Reappraisal	2.79 (0.61)	2.78 (0.77)	0.98
Social Support	2.91 (0.68)	3.05 (0.61)	0.25
Problem-solving	3.18 (0.58)	3.17 (0.65)	0.91
Religiosity	2.70 (1.03)	2.78 (1.08)	0.67
Tolerance	2.84 (0.58)	3.01 (0.69)	0.14
Emotional Release	2.18 (0.57)	2.33 (0.69)	0.19
Over-activity	2.39 (0.63)	2.45 (0.58)	0.62
Relaxation/Recreation	3.28 (0.53)	3.29 (0.62)	0.92
Substance Use	1.28 (0.40)	1.29 (0.44)	0.89

Age

Table 9 examines the relationship between age and psychosocial responses among health care personnel. Across the DASS-21 domains, age was not significantly associated with depression ($r = 0.0478$, $p = 0.58$), anxiety ($r = 0.0861$, $p = 0.31$), or stress ($r = 0.0108$, $p = 0.90$), indicating that psychological distress levels were comparable across age groups.

For Filipino coping strategies, most coping behaviors similarly showed no significant correlation with age, suggesting that older and younger personnel tended to use similar strategies for managing pandemic-related stress. Cognitive reappraisal, social support, problem-solving, religiosity, tolerance, overactivity, relaxation or recreation, and substance use all demonstrated nonsignificant associations.

The only coping strategy significantly related to age was emotional release ($r = –0.1801$, $p = 0.04$). The negative correlation indicates that younger participants tended to use emotional release more frequently than older participants.

Table 10 shows the logistic regression analysis of factors associated with willingness to report for duty in non-COVID areas. In the multivariable model, internship classification (PGI vs. CMI), extremely severe depression, extremely severe stress, and social support were independently associated with willingness to report.

PGIs had higher odds of willingness than CMIs in both analyses (univariable OR = 4.28, $p < 0.01$; adjusted OR = 14.80, $p < 0.01$). For psychological symptoms, moderate depression was associated with lower willingness in the univariable model (OR = 0.18, $p = 0.01$), while in the adjusted model, the significant depressive symptom category was extremely severe depression (AOR = 0.38, $p < 0.01$). For stress, none of the stress categories were significant in the univariable analysis (all $p > 0.05$); however, extremely severe stress became a significant negative predictor after adjustment (AOR = 0.06, $p = 0.01$).

Table 8. Psychosocial Responses of Health Care Personnel across Living Arrangements

Ratings	Alone	with Family	Others	*p*-value
Reporting to Non-COVID				
Willing	31 (83.78%)	63 (88.73%)	25 (80.65%)	0.60
Not willing	6 (16.22%)	8 (11.27%)	6 (19.35%)	
Reporting to COVID				
Willing	20 (54.05%)	27 (38.03%)	14 (45.16%)	0.28
Not willing	17 (45.95%)	44 (61.97%)	17 (54.84%)	
DASS-21 Scale				
Depression				
Normal	19 (51.35%)	30 (42.25%)	12 (38.71%)	
Mild	3 (8.11%)	10 (14.08%)	4 (12.90%)	
Moderate	5 (13.51%)	11 (15.49%)	8 (25.81%)	0.88
Severe	5 (13.51%)	11 (15.49%)	3 (9.68%)	
Extremely Severe	5 (13.51%)	9 (12.68%)	4 (12.90%)	
Anxiety				
Normal	16 (43.24%)	34 (47.89%)	13 (41.94%)	
Mild	2 (5.41%)	8 (11.27%)	3 (9.68%)	
Moderate	7 (18.92%)	16 (2.54%)	6 (19.35%)	0.26
Severe	11 (29.73%)	6 (8.45%)	7 (2.58%)	
Extremely Severe	1 (2.70%)	7 (9.86%)	2 (6.45%)	
Stress				
Normal	23 (62.16%)	41 (57.75%)	19 (61.29%)	
Mild	2 (5.41%)	5 (7.04%)	2 (6.45%)	
Moderate	5 (13.51%)	14 (19.72%)	5 (16.13%)	1.00
Severe	6 (16.2%)	10 (14.08%)	4 (12.90%)	
Extremely Severe	1 (2.70%)	1 (1.41%)	1 (3.23%)	
Filipino Coping Strategies				
Cognitive Reappraisal	2.90 (0.63)	2.72 (0.69)	2.8 (0.61)	0.39
Social Support	2.85 (0.63)	3.08 (0.66)	2.75 (0.65)	0.04*
Problem-solving	3.29 (0.63)	3.08 (0.63)	3.26 (0.45)	0.15
Religiosity	2.61 (1.09)	2.77 (1.04)	2.75 (1.01)	0.74
Tolerance	2.82 (0.68)	2.89 (0.56)	2.97 (0.68)	0.64
Emotional Release	2.19 (0.52)	2.24 (0.61)	2.23 (0.71)	0.92
Over-activity	2.39 (0.69)	2.43 (0.60)	2.38 (0.56)	0.92
Relaxation/Recreation	3.26 (0.59)	3.31 (0.53)	3.25 (0.59)	0.83
Substance Use	1.31 (0.34)	1.25 (0.40)	1.31 (0.53)	0.71

Among coping strategies, social support was positively associated with willingness (OR = 2.13, p = 0.04; AOR = 4.56, p = 0.01). Moderate anxiety showed a significant association only in the univariable analysis (OR = 0.27, p = 0.04) and was not significant after adjustment. Other covariates did not show statistically significant adjusted associations.

Table 11 shows the logistic regression analysis of factors associated with willingness to report for duty in COVID-designated areas. In the adjusted model, cognitive reappraisal was a positive predictor of willingness, while extremely severe depression was a negative predictor.

Higher cognitive reappraisal scores were associated with greater willingness in both analyses (OR = 2.23, p = 0.01; AOR = 2.12, p = 0.05), indicating that interns who more frequently reframe stressful situations were more likely to volunteer for COVID duty. Extremely severe depression was associated with lower willingness in the adjusted model (AOR = 0.33,

Table 9. Psychosocial Responses of Health Care Personnel across Age

Ratings	Correlation	*p*-value
DASS-21 Scale		
Depression	0.0478	0.58
Anxiety	0.0861	0.31
Stress	0.0108	0.90
Filipino Coping Strategies		
Cognitive Reappraisal	-0.0599	0.48
Social Support	-0.1216	0.15
Problem-solving	-0.0703	0.41
Religiosity	0.1191	0.16
Tolerance	0.0653	0.44
Emotional Release	-0.1801	0.04*
Over-activity	-0.0529	0.54
Relaxation/Recreation	0.1118	0.19
Substance Use	0.0240	0.78

Table 10. Logistic Regression Model of Factors Affecting Willingness to go on duty in Non-COVID Areas

Variable	Univariable Logistic Regression			Multivariable Logistic Regression		
	OR	SE	*p*-value	Adjusted OR	SE	*p*-value
Age	1.13	0.17	0.43			
Sex						
Female	2.05	1.00	0.14	2.66	1.82	0.15
Comorbidities						
Present	0.90	0.47	0.84			
Internship						
PGI	4.28	2.24	<0.01*	14.80	11.68	<0.01*
Depression (ref. normal)						
Mild	0.67	0.59	0.65	0.40	0.42	0.38
Moderate	0.18	0.11	0.01*	0.09	0.08	<0.01*
Severe	1.61	1.81	0.67	6.05	8.47	0.20.
Extremely Severe	0.31	0.23	0.11	0.65	0.77	0.72
Anxiety (ref. normal)						
Mild	0.47	0.43	0.41			
Moderate	0.27	0.17	0.04*			
Severe	0.60	0.47	0.51			
Extremely Severe	0.20	0.17	0.05			
Stress (ref. normal)						
Mild	0.24	0.19	0.07	0.12	0.14	0.06
Moderate	0.85	0.61	0.82	1.66	1.67	0.62
Severe	0.49	0.32	0.28	0.25	0.29	0.24
Extremely Severe	0.24	0.31	0.27	0.01	0.02	0.01*
Cognitive Reappraisal	1.30	0.48	0.47			
Social Support	2.13	0.80	0.04*	4.56	2.68	0.01*
Problem-solving	1.18	0.47	0.68			
Religiosity	1.40	0.32	0.14			
Tolerance	0.96	0.38	0.93			
Emotional Release	1.33	0.54	0.49			
Over-activity	1.63	0.67	0.24	2.42	1.37	0.12
Relaxation/Recreation	1.14	0.49	0.76			
Substance Use	0.73	0.39	0.55			

OR = Odds Ratio; SE = Standard Deviation; Ref = Reference category.

Results are from univariable and multivariable logistic regression models adjusted for all covariates listed.

p = 0.03), whereas mild, moderate, and severe depression categories were not statistically significant predictors.

Other variables (age, sex, comorbidities, internship classification, anxiety and stress categories, and the remaining coping strategies) were not statistically significant after adjustment. Problem-solving was borderline significant in the univariable analysis (OR = 1.83, p = 0.05) but did not remain significant in the multivariable model (AOR = 1.74, p = 0.20). Tolerance approached but did not reach statistical significance in the adjusted model (AOR = 0.55, p = 0.06).

Reasons Influencing the Participants' Willingness to Go on Duty in COVID and Non-COVID Areas

Among those unwilling to go on duty in non-COVID areas, most answered fear of being exposed to or contracting COVID (40%) and knowledge of high COVID cases (20%) as deterrents to their willingness to report for duty (Table 12).

Among those unwilling to go on duty in COVID areas, most answered fear of being exposed to and contracting COVID (46.15%), followed by fear of transmitting COVID to family and close contacts (35.90%), and the need for hospital support and benefits (14.10%) as reasons for their unwillingness (Table 13).

The need for clinical learning experience and skills development was cited by 68.07% as a factor contributing to their willingness to go on duty in non-COVID areas (Table 14). Other answers included the existence of hospital safety measures (12.61%) and the desire to help healthcare workers (7.56%).

Like those who are willing to go on duty in non-COVID areas, the need for clinical learning experience and skills development (34.43%) and the provision of proper hospital support (22.95%) were the most common reasons for participants' willingness to go on duty in COVID areas. Other reasons included the inevitability of handling COVID

Table 11. Logistic Regression Model of Factors Affecting Willingness to go on duty in COVID areas

Variable	Univariable Logistic Regression			Multivariable Logistic Regression		
	OR	SE	*p*-value	Adjusted OR	SE	*p*-value
Age	0.99	0.10	0.91			
Sex						
Female	0.83	0.29	0.59			
Comorbidities						
Present	1.31	0.50	0.47			
Internship						
PGI	0.75	0.26	0.40			
Depression (ref. normal)						
Mild	0.40	0.24	0.12	0.55	0.34	0.33
Moderate	0.48	0.24	0.15	0.82	0.45	0.73
Severe	0.45	0.25	0.15	0.77	0.48	0.67
Extremely Severe	1.52	0.83	0.44	4.47	3.10	0.03*
Anxiety (ref. normal)						
Mild	0.94	0.58	0.92			
Moderate	0.67	0.31	0.39			
Severe	1.10	0.53	0.84			
Extremely Severe	0.28	0.23	0.12			
Stress (ref. normal)						
Mild	1.10	0.78	0.90			
Moderate	1.16	0.54	0.75			
Severe	1.12	0.56	0.82			
Extremely Severe	2.74	3.41	0.42			
Cognitive Reappraisal	2.23	0.64	0.01*	2.12	0.83	0.05
Social Support	1.30	0.34	0.31			
Problem-solving	1.83	0.56	0.05*	1.74	0.75	0.20
Religiosity	1.13	0.19	0.46			
Tolerance	0.72	0.20	0.25	0.55	0.17	0.06
Emotional Release	0.96	0.27	0.90			
Over-activity	0.97	0.27	0.91			
Relaxation/Recreation	1.76	0.58	0.09			
Substance Use	0.81	0.34	0.61			

OR = Odds Ratio; SE = Standard Deviation; Ref = Reference category.

Results are from univariable and multivariable logistic regression models adjusted for all covariates listed.

cases in the future (18.03%) and the vaccinated status of interns (14.75%). (Table 15).

DISCUSSION

Socio-demographic Characteristics, Psychological Distress, and Coping Strategies of Medical Interns

Changes in medical training, such as increased online classes and decreased exposure to patients, compounded by other adjustments brought about by the pandemic, led to psychological distress among medical students globally. [2-4,6,7,9] This is consistent with the findings of the current study, which revealed that severe to extremely severe depression, anxiety, and stress are experienced by 26.62%, 23.02%, and 13.67% of the participants, respectively.

The current study also revealed that socio-demographics such as age, internship classification, presence of comorbidities, and living arrangement were not associated with psychological distress. However, coping strategies differed across some of these variables.

The greater use of emotional release among females as a coping mechanism suggests that they may be more likely to engage in emotion-expressive strategies, such as venting or crying. This contrasts with some literature suggesting that emotional release may be more socially acceptable among males, which may be partly explained by the concept of machismo within our society. Under this cultural framework, the expression of emotions such as anger and frustration may be more tolerated in males, alongside expectations for them to be assertive—traits often associated with their perceived role as protectors and providers of the family.[17-19] Furthermore, studies on the coping of students suggest that males may use more avoidant coping strategies, such as tolerance and the use of alcohol and drugs.[20]

The greater use of social support as a coping mechanism among participants living with their families emphasizes

Table 12. Distribution of Reasons for Non-willingness to Work in Non-COVID Areas

Reasons	Frequency (%)
Fear of contracting/being exposed to COVID	8 (40%)
High COVID cases	4 (20%)
Need for training/residency experience/continuing medical education	3 (15%)
Need for hospital support and benefits (PPEs, compensation, guarantee of treatment in case of COVID infection)	3 (15%)
Fear of transmitting COVID to family and close contacts	3 (15%)
Unspecified risk and benefits issues	3 (15%)
Low-yield previous duties between Dec 2020 and Feb 2021	2 (10%)
Want to be with family right now	1 (5%)
Lack of patients	1 (5%)
Rising number of COVID cases in HCWs	1 (5%)
Desire to help residents	1 (5%)

Table 13. Distribution of Reasons for Non-willingness to Work in COVID Areas

Reasons	Frequency (%)
Fear of contracting/being exposed to COVID	36 (46.15%)
Fear of transmitting COVID to family and close contacts	28 (35.90%)
Need for hospital support and benefits (lack of compensation, hazard pay, no guarantee of free treatment in case of getting COVID)	11 (14.10%)
Safety and health concern	7 (8.97%)
Interns are not classified as HCW yet (as per APMC/ Student status)	6 (7.69%)
Incomplete vaccination status	5 (6.41%)
Financial problem in case one is infected with COVID (i.e., Renting room for self-isolation, medical treatment)	4 (5.13%)
Mental and emotional stress caused by the pandemic	2 (2.56%)
Logistical issues (in case one gets infected with COVID and there is a need for self-isolation; residential situation not amenable to going to COVID work)	2 (2.56%)
Need for clinical experience/training/learning/skills development	1 (1.28%)
Policy not allowing interns to handle COVID patients	1 (1.28%)
Relatives may become worried about the intern's safety	1 (1.28%)
Having medical complications due to COVID	1 (1.28%)
Completion of internship requirements	1 (1.28%)
Lack of knowledge about COVID-19 cases	1 (1.28%)

Table 14. Distribution of Reasons for Willingness to Work in Non-COVID Areas

Reasons	Frequency (%)
Need for clinical experience/training/learning/skills development	81 (68.07%)
Hospital safety measures are in place (presence of protocol, provision of PPE, assurance that patients are COVID-negative upon ward admission, reasonable tasks, testing)	15 (12.61%)
Fear of contracting/being exposed to COVID	9 (7.56%)
Desire to help HCW and patients	9 (7.56%)
Completion of internship requirements	5 (4.20%)
Boredom	4 (3.36%)
Fear of transmitting COVID to family and close contacts	4 (3.36%)
Higher yield of FTF learning versus remote learning	3 (2.52%)
High COVID cases	3 (2.52%)
Less likely to get exposed to COVID in non-COVID areas	3 (2.52%)
Unspecified risk and benefits issues	2 (1.68%)
Increasing COVID infection among HCW in non-COVID areas	2 (1.68%)
Complete vaccination status	2 (1.68%)
Inconsistent implementation of infection control policies	2 (1.68%)
Desire for patient interaction	2 (1.68%)
Inevitability of handling COVID cases eventually as licensed physicians	2 (1.68%)
Frequent modification of hospital internship duties	1 (0.84%)
Exposure to COVID in non-COVID areas (Instances where COVID-negative patients turn out to be positive in non-COVID areas)	1 (0.84%)
Logistical issues (i.e., in case one gets infected with COVID, self-isolation)	1 (0.84%)
Able to secure accommodation near PGH	1 (0.84%)
Part of the job description as an intern	1 (0.84%)

the strong family ties of Filipinos and that having a healthy family relationship may be one of the best ways students cope with the COVID-19 situation in the country.[21]

Although there was no relationship between age and psychological distress, younger students used emotional release as a coping strategy more than older participants. This may be due to greater maturity by older students, who can focus more on their cognitive ability rather than emotional coping strategies.[22]

Willingness of Medical Students to Go on Duty

The majority (85.61%) of the medical students who participated in the study expressed willingness to go on duty in non-COVID areas, while less than half (43.88%) were willing to go on duty in COVID areas. Results are similar to a study on medical students in a tertiary care hospital in India, which revealed that 75.3% are willing to volunteer

Table 15. Distribution of Reasons for Willingness to Work in COVID Areas

Reasons	Frequency (%)
Need for clinical experience/training/learning/skills development	21 (34.43%)
Willing if provided with proper hospital support (PPE, swab test, hospital fee/coverage in case of COVID infection, reasonable working hours)	14 (22.95%)
Inevitability of handling COVID cases eventually as licensed physicians	11 (18.03%)
Vaccinated status	9 (14.75%)
Completion of internship requirements	4 (6.56%)
Fear of contracting/being exposed to COVID	3 (4.92%)
Logistical issues (in case someone gets sick of COVID, living arrangement not very permitting to go on COVID duty, can move to a condo where one is living alone)	3 (4.92%)
Lack of compensation, signed safeguards, or insurance to cover COVID-related expenses	3 (4.92%)
Safety risks	2 (3.28%)
Desire to help	2 (3.28%)
Confidence that PPE works	2 (3.28%)
Implementation of hospital protocols (Wearing of proper PPE and following COVID precautions makes exposure low risk)	2 (3.28%)
Fear of transmitting COVID to family and close contacts	1 (1.64%)
Not afraid of dying from COVID	1 (1.64%)
Low risk of developing the disease	1 (1.64%)
High cases of COVID at present	1 (1.64%)

their services during the pandemic. However, willingness to work was highest in non-patient care-related areas (62.3%). Only 47.6% were willing to provide direct patient care.[23] This may be due to the perception of increased risk of infection in providing direct patient care, more so with COVID-positive patients, thus causing undue distress to medical students. In the current study, psychological distress was not associated with the willingness (or unwillingness) of the participants to report in COVID areas. However, most of the participants who are unwilling to report in non-COVID areas have moderate to extremely severe depression compared to their willing colleagues. This shows that having direct patient care per se may result in a greater risk of developing distress among medical students, and not just handling patients confirmed to have the virus.

The top reason cited by those who are unwilling to go on hospital duty regardless of area of assignment is the same – the fear of being exposed to or contracting COVID-19. This may be due to the participants' perceived inevitability of contracting the virus in the community setting due to high COVID cases in the country.

Similarly, the main motivator of medical students to go on duty in COVID or non-COVID areas is the same – the need for clinical learning experience and skills development. Changes in the medical curriculum brought about by the pandemic caused a decrease in hospital exposure and interaction with actual patients, causing a decline in their clinical skills.[24]

Also, the desire of the participants to help fellow healthcare workers and patients is cited by the participants as a factor influencing their willingness to go on duty in non-COVID areas. This commitment is shared by medical students from across nations, provided that they are given dedicated courses on pandemics, as they feel that they were not prepared by medical school to manage crises and pandemics.[11,25]

Beyond the descriptive findings, the regression analyses provide further insight into factors associated with willingness to report for duty. For non-COVID assignments, willingness was significantly associated with internship status and higher perceived social support, while extremely severe depression and stress were associated with reduced willingness. This suggests that readiness for clinical engagement among interns is influenced not only by perceived risk but also by mental well-being and the availability of supportive social structures.

For COVID-designated assignments, cognitive reappraisal emerged as the strongest predictor of willingness. Cognitive reappraisal is an adaptive coping strategy that enables individuals to reinterpret stressful situations more constructively. This finding is consistent with previous studies demonstrating that adaptive cognitive coping mechanisms reduce perceived threat and enhance engagement during public health emergencies.[26] In contrast, extremely severe depression was associated with lower willingness to report for duty, consistent with findings from the MERS-CoV outbreak, where elevated stress levels were linked to reduced willingness to participate in learning activities.[27]

Fear of infection, identified as a primary barrier in this study, has been consistently reported among health professions students.[26,28] High community transmission and excess mortality during the study period may have amplified this fear, reinforcing the perception that exposure was unavoidable even outside designated COVID areas.[29]

Across both groups, the need for clinical learning opportunities strongly influenced willingness to report for duty. This finding parallels reports from multiple countries indicating that students feared long-term deficits in clinical competence due to reduced bedside teaching and curtailed clinical experiences.[24,28] Ensuring safe, structured, and supervised clinical exposure, even during public health crises, may therefore be critical in maintaining medical students' confidence and skill development.

CONCLUSION

Medical students, like physicians and nurses, are not spared from mental health issues, especially during the COVID-19 pandemic. The study has shown that coping strategies among medical interns in this tertiary COVID-

referral hospital differed across demographic variables and may be a function of societal or cultural norms.

Furthermore, the majority of medical students expressed willingness to go on duty in non-COVID areas, while less than half were willing to go on duty in COVID areas. Most of the participants who are unwilling to report in non-COVID areas have moderate to extremely severe depression compared to those who are willing. The top reason for their willingness to go on duty is the need for clinical learning experience and skills development. The fear of being exposed to or contracting COVID-19 is the main deterrent to going on hospital duty, regardless of the area of assignment. Beyond these descriptive findings, willingness to report for duty was further influenced by internship status, perceived social support, severity of psychological distress, and the use of adaptive coping strategies such as cognitive reappraisal.

Limitations

The cross-sectional nature of the study does not give information on the causality of variables and only provides a picture of the phenomena in a period of time. It also does not provide information on the psychological distress, coping strategies, and willingness to work of the medical students on various phases (i.e., surge and plateauing of cases) of the pandemic.

Also, since the study is conducted in a tertiary COVID-referral hospital, only one institution, findings may not be generalizable to other healthcare facilities in the country. Generalizability may also be influenced by the reasons non-responders failed to submit the survey, such as lack of internet access or presence of medical conditions during the survey period, which the authors were not able to identify. Given the voluntary nature of participation, the study is subject to potential non-response bias. Differences between respondents and non-respondents may potentially limit the generalizability of the findings.

Recommendations

A follow-up study may be conducted on medical students in the different phases of the pandemic and/or when changes in the way medical training is conducted to determine the effects of these phenomena on their mental status and willingness to report to hospital duty.

Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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