Factors Associated with Psychological Distress among Filipinos during Coronavirus Disease-19 Pandemic Crisis

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Abstract

BACKGROUND: During the coronavirus disease 2019 (COVID-19) pandemic, psychological reactions of the population play a critical role in both the spread of the disease and the occurrence of emotional distress and social disorder.

AIM: This study aimed to measure the prevalence and severity of psychological distress to evaluate the current mental health burden on society that leads to the provision of a concrete basis for tailoring and implementing relevant mental health intervention policies to efficiently and effectively respond to the challenges brought by the pandemic.

METHODS: An anonymous, internet-based, cross-sectional survey was conducted from March to April 2020. In this regard, a structured online questionnaire was utilized to collect sociodemographic data and the COVID-19 Peritraumatic Distress Index (CPDI). Descriptive statistics were used to summarize the sociodemographic and prevalence of CPDI among respondents. Logistic regression analysis was performed to identify significant predictors of distress.

RESULTS: Most of the respondents did not feel distressed about COVID-19 (52.1%), whereas 39.5% and 8.4% had mild-to-moderate and severe distress. The regression analysis demonstrated that higher religion and faithfulness levels, lower levels of education, and living in Mindanao (unlike those living in the Visayas) were associated with lower levels of psychological distress among the Filipino respondents during the COVID-19 pandemic.

CONCLUSIONS: Policy-makers and practitioners in the in Filipino society need to consider key factors such as religion, education, and the region where they live in to reduce psychological distress among Filipinos.

Introduction

Coronavirus (CoV) disease 2019 (COVID-19), referred to as severe acute respiratory syndrome CoV 2 (SARS-CoV-2), started in Wuhan, China, and has spread rapidly across the world [1], [2]. The disease was declared a Public Health Emergency of International Concern by the WHO on January 30, 2020. As of May 27, 2020, the global statistics of SARS-CoV-2 infections have included five million positive cases and 300,000 deaths; Southeast Asian Region with 218,523 positive cases reported with 6359 deaths. In the Philippines, there have been 15,049 positive cases and 904 reported deaths since May 28, 2020 [2].

The emergence of COVID-19 in Wuhan has created a confused and rapidly evolving situation. As expected, the UK media has reported a substantial psychological impact of both the outbreak and the response. Residents have been comparing the situation to the "end of the world." Hospitals have been "overwhelmed," and there have been concerns about food shortage. "Panic in Wuhan" is a common refrain [3].

The COVID-19 pandemic represents complex events, that is, complexities in its origin, spread, effects, and consequences at multiple levels and fields, including tourism [4], medical, social, political, economic, religious, cultural, and civilizational [5]. Unfortunately, the effects of CoV on mental health have not been extensively and systematically studied; nevertheless, the COVID-19 may have a rippling effect, particularly based on current public and political reactions [6].

Fear caused by COVID-19, severe clinic picture and deadliness, a strict quarantine, curfew and legal punishment, mistrust of officials who mismanaged the outbreak, and overflowing social media with misinterpretation and theories of conspiracy all have taken their toll on mental health [5], [7].

During an outbreak of an infectious disease, the psychological reactions of a population play a critical role in shaping both the spread of the disease and the occurrence of emotional distress and social disorder (even after the outbreak). However, sufficient resources are typically not provided to manage or attenuate the effects of a pandemic on mental health and well-being [8]. This might be understandable in the

acute phase of an outbreak. When healthy systems prioritize testing, reducing transmission, and critical patient care, psychological and psychiatric needs should not be overlooked during any phase of pandemic management [8].

It is known that psychological factors play an important role in adherence to public health measures and how people cope with the threat of infection and consequent losses. Psychological reactions to pandemics include maladaptive behaviors, emotional distress, and defensive responses [8]. People at risk of psychological problems are vulnerable and may be affected by their mental health condition [8], [9], [10].

This study aims to identify the factors associated with psychological distress among Filipinos during the COVID-19 pandemic crisis. Furthermore, the prevalence and severity of psychological distress are measured and the current mental health burden is evaluated on society, which leads to the provision of a concrete basis for tailoring and implementing mental health intervention policies to cope with challenges efficiently and effectively.

Materials and Methods

Study setting and population

An anonymous, internet-based, cross-sectional survey was conducted from March to April 2020 at the time of movement restriction. The study population was Filipinos. Inclusion criteria were as follows: At least 18 years of age and naturally born Filipino. The only exclusion criterion was residence in the Philippines of less than 1 week when the COVID-19 pandemic announcement was issued by the WHO. The structured online questionnaires were conveniently distributed through email and some social media platforms throughout the Philippines. The respondents' social media accounts were identified and linked with all coresearchers and colleagues.

Instruments

Data were collected through a structured online questionnaire. The questionnaire has two parts: Sociodemographic data (stage, gender, age, education, marital status, and comorbidities); COVID-19 Peritraumatic Distress Index (CPDI), which was developed by Qiu *et al*. [9]. COVID-19 CPDI is a self-reported questionnaire with 24 questions based on a Likert scale (never, occasionally, sometimes, often, and always) for anxiety, depression, specific phobias, cognitive change, avoidance, compulsive behavior,

physical symptoms, and loss of social functioning in the past week. The questionnaire incorporated relevant diagnostic guidelines for specific phobias and stress disorders specified in the International Classification of Diseases (11th Ed.) and expert opinions from psychiatrists and psychologists. The total score ranges from 0 to 100; a score between 28 and 51 indicates mild-to-moderate distress; A score of ≥52 stands for severe distress [9]. After translating CPDI into Filipino, linguistic and content validation was conducted by the group of expert panel members, that is, psychiatrists, clinical psychologists, and public health professionals. A pilot study of 50 participants was used to assess the validity and internal consistency of the instrument. The Cronbach's alpha of 0.92 indicated that the questionnaire was an excellent internal consistency.

Data collection

Our study was an online survey with completely voluntary and anonymous participation. After obtaining the participants' consent, they could respond to the questions only once through a single account by setting the feature to prevent more than 1 response from the same history. The participants were asked to give a response based on their previous 1-week experience.

Statistical analysis

Data were analyzed using Stata 15.1. Descriptive statistics (using count and proportion) were employed to summarize the sociodemographic profile of survey respondents. Besides, the prevalence of the three-level CPDI was described for all respondents by sociodemographic profile. Logistic regression analysis was performed to identify significant predictors of

Table 1: Sociodemographic profile of the Filipino respondents (n = 407)

Variables	n	%
Age		
<30 years	200	49.1
30–45 years	152	37.3
>45 years	55	13.5
Gender		
Male	176	43.2
Female	231	56.8
Religion		
Non-Christian	33	8.1
Christianity	374	91.9
Education		
Primary	15	3.7
Secondary	43	10.6
Tertiary	349	85.7
Employment status		
Students	79	19.4
Unemployed	54	13.3
Employed	274	67.3
Monthly family income		
<Php 19,040	151	37.1
Php 19,041–66,640	211	88.9
>Php 66,641	45	11.1
Region		
Luzon	130	31.9
Visayas	120	29.5
Mindanao	157	38.6
Occupation		
Non-health care	358	88.0
Health care	49	12.0

distress on a two-level scale with model building through backward elimination. This downgrade from a three-level to two-level scale was due to the violation of the proportional odds assumption when ordinal logistic regression was used to identify significant predictors of distress on a three-level scale. Binomial logistic regression was preferred to multinomial logistic regression for the ease of interpretation.

Results

There were 407 Filipino survey participants with an average age of 32.0 years; almost half of them aged below 30 years (49.1%). Most respondents were female (56.8%), Christian (91.9%), degree holders (85.7%), non-health care workers (88.0%), and employed (67.3%) with monthly incomes within Php 19,041–Php 66,640 (88.9%). The majority of the respondents were living in Mindanao (38.6%), the South Philippines (Table 1).

Most of the respondents did not feel distressed about COVID-19 (52.1%), whereas 39.5% and 8.4% experienced mild-to-moderate and severe distress, respectively (Figure 1). Table 2 summarizes the prevalence of distress severity based on socioeconomic and demographic characteristics among Filipino respondents.
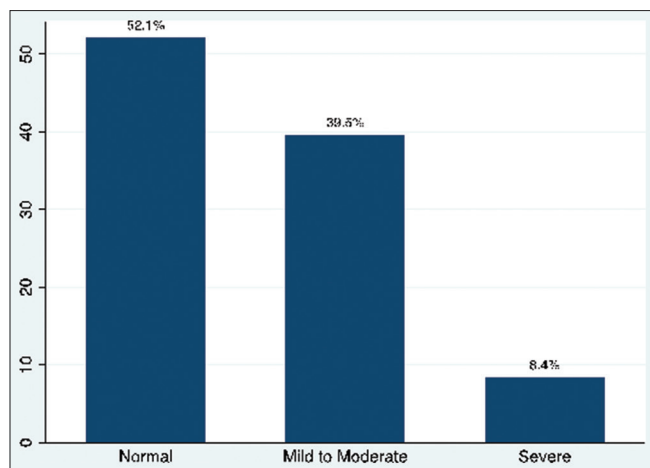

Figure 1: Prevalence of psychological distress due to COVID-19 among Filipino respondents (n = 407)

The key factors involved in distress among Filipino respondents due to COVID-19 included religion, education, and the region of residence (Table 3). Higher religion and faithfulness levels led to a decrease in the odds of being distressed by 50%. On the other hand, the status of completed secondary and tertiary education increased the odds of being distressed by 21% and 27%, respectively, compared to those who only finished primary education. Finally, respondents living in the Visayas showed greater odds of being distressed by 48% compared to those living in Luzon. Participants living in

Table 2: Prevalence of CPDI by socioeconomic and demographic characteristics among Filipino respondents (n = 407)

Variables	Normal or no distress n (%)	Mild-to-moderate distress n (%)	Severe distress n (%)
Age			
<30 years	104 (52.0)	83 (41.5)	13 (6.5)
30–45 years	80 (52.6)	65 (42.8)	7 (4.6)
>45 years	28 (50.9)	13 (23.6)	14 (25.5)
Sex			
Male	80 (45.5)	84 (47.7)	12 (6.8)
Female	132 (57.2)	77 (33.3)	22 (9.5)
Religion			
Non-Christian	12 (36.4)	16 (48.5)	5 (15.1)
Christianity	200 (53.4)	145 (38.8)	29 (7.8)
Education			
Primary	5 (60.0)	5 (13.3)	5 (26.7)
Secondary	14 (32.6)	21 (48.8)	8 (18.6)
Tertiary	189 (54.2)	138 (39.5)	22 (6.3)
Employment status			
Students	43 (54.4)	28 (35.4)	8 (10.2)
Unemployed	29 (53.7)	15 (27.8)	10 (18.5)
Employed	140 (51.1)	118 (43.1)	16 (5.8)
Monthly family income			
<PHP 19,040	82 (55.0)	47 (31.6)	20 (13.4)
Php 19,041–66,640	110 (51.7)	94 (44.1)	9 (4.2)
>Php 66,640	20 (44.4)	20 (44.4)	5 (11.2)
Region			
Luzon	84 (64.6)	38 (29.2)	8 (6.2)
Visayas	28 (23.3)	77 (64.2)	15 (12.5)
Mindanao	100 (63.7)	46 (29.3)	11 (7.0)
Occupation			
Non-health care	184 (51.4)	144 (40.2)	30 (8.4)
Health care	28 (57.1)	17 (34.7)	4 (8.2)

CPDI: Coronavirus disease-19 Peritraumatic Distress Index.

Mindanao indicated lower odds of being distressed by 14% compared to those living in Luzon.

Discussion

Although the majority of Filipino respondents did not experience distress induced by the current situation of the COVID-19 pandemic, several participants showed mild-to-moderate and severe distress, which may be due to a lot of factors. Among the different socioeconomic and demographic factors investigated in this study, religion, education, and region of residence were recognized as the significant predictors of distress due to COVID-19.

Religious participants were less likely to be distressed due to their strong faith in God. Most researches have indicated that a strong faith correlates with diminished depression [11], [12], [13], anxiety [14], and suicidal ideation [15], [16] as well as elevated self-esteem and overall well-being. Research has indicated that during a health crisis, many individuals turn to their religion for emotional comfort, strength, and hope. Spiritual beliefs and practices can provide a sense of meaning and purpose when facing negative health circumstances largely beyond one's control [17], [18]. The majority of the Philippines' population is Christian (90%), with 80% Roman Catholic and approximately 5% are Muslims [19].

The participants with at least the secondary level of education showed increased odds of distress compared to those with a lower educational level. This might be because people with higher educational

Table 3: Predictors of psychological distress for COVID-19 among Filipino respondents (n = 407)

Factors	Univariable analysis				Multivariable analysis			p-value
	OR	95% CI		p-value	Adj. OR	95% CI		
		Lower	Upper			Lower	Upper	
Age								
<30 years	reference							
30–45 years	0.98	0.64	1.49	0.906				
>45 years	1.04	0.58	1.9	0.886				
Sex								
Male	Reference							
Female	0.63	0.42	0.93	0.020				
Religion								
Non-Christian	Reference							
Christian	0.5	0.24	1.04	0.063	0.38	0.17	0.83	0.016
Education								
Primary	Reference							
Secondary	3.11	0.92	10.46	0.067	3.17	0.85	11.78	0.085
Tertiary	1.27	0.44	3.64	0.657	1.21	0.38	3.82	0.742
Employment status								
Students	Reference							
Unemployed	1.03	0.51	2.06	0.934				
Employed	1.14	0.69	1.89	0.601				
Monthly family income								
<Php 19,040	Reference							
Php 19,041–66,640	1.15	0.75	1.74	0.525				
>Php 66,640	1.53	0.78	2.99	0.214				
Region								
Luzon	Reference							
Visayas	6	3.44	10.45	<0.001	5.48	3.12	9.62	<0.001
Mindanao	1.04	0.64	1.69	0.871	0.86	0.52	1.43	0.559
Occupation								
Non-health care	Reference							
Health care	0.79	0.43	1.45	0.451				

attainment might be capable of comprehending the situation that they were experiencing in the pandemic. Furthermore, higher educational attainment is strongly associated with better mental health [20]. As further, higher levels of education are thought to generate additional economic resources, fewer chronic stressors, healthier lifestyles, more social support, and, ultimately, better mental health [21].

The Philippines is an archipelago of 7641 islands with three major islands: Luzon, Visayas, and Mindanao. Those living in the Visayas have shown greater odds of distress compared to those living in Luzon, which may be explained by relatively high fatality rate of COVID-19 (2.2%) in Central Visayas [22]. A paper in Iran [23] highlighted the role of unpredictability, uncertainty, seriousness of the disease, misinformation, and social isolation in stress and mental morbidity. Moreover, the welfare provision role of local to national government necessarily contributes to overcoming the COVID-19 pandemic [24]. Besides, Shigemura *et al*. [25] emphasized the economic impact of COVID-19 and its effects on well-being, as well as the possible high levels of fear and panic-related defensive behaviors such as hoarding and stockpiling of resources in the general population. It also identified populations at higher risk of adverse mental health outcomes, that is, patients with COVID-19 and their families, individuals with existing physical or psychiatric morbidity, and health care workers.

Limitations of the study

Although the participants were recruited from different regions of the Philippines, the respondents in this quantitative sample did not represent their regions of residence. Therefore, readers should be mindful that the findings of this study cannot be generalized to the entire archipelagic regions in the Philippines. Indicators used in the study are limited only to the factors associated with psychological distress during the COVID-19 pandemic crisis through the CPDI questionnaire. Future studies can employ qualitative methods to extend the current study.

Conclusions

This study aimed to examine factors associated with psychological distress among Filipinos during COVID-19 pandemic. The results revealed that demonstrated that more than half (52.1%) of Filipino respondents did not suffer psychological distress due to the COVID-19 pandemic. Among affected participants, 39.5% had moderate distress, and only 8.4% experienced severe distress. Having a strong faith and living in Mindanao led to lower odds of being distressed. Filipinos with higher education levels and those living in the Visayas showed higher odds of being distressed. Relevant mental health intervention policies must be directed to these groups to decrease the current mental health burden in Filipino society.

Acknowledgments

team from Shanghai Mental Health Center, Shanghai Jiaotong University School of Medicine, Shanghai, China, for sharing the CPDI questionnaire.

Authors' Contributions

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