

Assessing Sources of Stress towards the Mental Well-Being in Vaccine Administration Centres (VACs) Volunteers

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ABSTRACT

COVID-19 has sparked a surge in volunteering in society. Volunteering offers a chance for people to support and contribute to society during the pandemic. It is crucial to study the impact of volunteering on mental health and well-being. Thus, this paper aims to investigate the influence of perceived stressors on mental well-being among VACs volunteers. An anonymous online survey was conducted among volunteers at VACs in Selangor regarding their perceived stress, mental health, and well-being symptoms during their initial volunteering months of the COVID-19 pandemic. Both descriptive statistics and multiple regression analyses were conducted. Participants were 226 volunteers (58% female; 42% male); nearly half were aged between 35 and 44 years (46.5%), 65% were from a non-academic background, and 60.6% were part-time non-clinical who completed the survey questionnaire. Regression results indicate that workload & environment and dealing with vaccine recipients significantly predict psychological distress, physical discomfort, and mental stress in volunteers during the current pandemic. Meanwhile, knowledge and skills are only significantly influenced by physical discomfort. The findings will assist policymakers and all stakeholders in managing the necessary measures to prevent mental health problems during the upcoming pandemic, guide future potential volunteering processes in emergencies and enhance community volunteering programs.

Keywords: Mental health, Stressors; Workload & Environment; Organizer & Colleague; Knowledge & Skills; Volunteers.

1 Introduction

The World Health Organization has declared the COVID-19 coronavirus outbreak to be a Public Health Emergency of International Concern in January 2020 (WHO, 2020). As one of the strategies to combat the pandemic, the Malaysian government has launched the National COVID-19 Immunization Program by mobilizing volunteers to assist frontliners. The *Pusat Pemberian Vaksin* (PPV), also known as Vaccine Administration Centres (VACs), is the Malaysian government's initiative to carry out this program. Malaysia Vaccine Support Volunteers (MyVAC) is a platform established in collaboration with the Ministry of Health (MOH), the Ministry of Science, Technology & Innovation (MOSTI), the Ministry of Youth and Sports (KBS), the Ministry of Higher Education (KPT) and Malaysian Red Crescent Society (MRCS). Throughout Malaysia, there are 605 VACs that have been established in the selected community centres, government agencies' offices, community halls, sports centres, stadiums, and assembly halls. To facilitate the process, all willing individuals over the age of 18 years old were encouraged to join the volunteer initiative program as non-healthcare volunteers or healthcare volunteers.

Generally, healthcare volunteers are assigned to do a variety of tasks, including administering vaccinations, monitoring the sick or emergency bay, and offering COVID-19 Vaccine Counselling. The non-medical volunteers were tasked with handling the waiting room, scheduling appointments, registering patients, as well as taking temperature readings and symptom checks. In Malaysia, the Ministry of Health indicated that more than 1000 retired nurses and 2300 volunteers had joined the frontline workers during COVID-19 (Zainul, 2020). As of August

2021, it was reported that 311,241 individuals had signed up to be part of the volunteering program (Unit Komunikasi Korporat KBS Malaysia, 2021). Kpanake et al. (2019) stated that, from a social perspective, volunteering was viewed as an opportunity to gain personal growth and community recognition. Thus, the rise in the number of volunteers during the pandemic is understandable.

Previous studies have shown that mental health issues among health workers who are involved with COVID-19 have been widely documented (Batra et al., 2020; Adibi et al., 2021). Unfortunately, the evidence is scarce in terms of assessing mental health status among volunteers. Therefore, the objective of this study is to investigate the mental health and perceived stressors among PPV volunteers in the Klang Valley, Malaysia. The findings will assist policymakers and all stakeholders in managing the necessary measures to prevent mental health problems during the upcoming pandemic.

2 Literature Review

2.1 Mental Health

Even before COVID-19 hit all nations globally, mental health has always been among the most prioritized issues in Malaysia. The Third National Health and Morbidity Survey (NHMS) reported that 29.2% of Malaysian adults aged over 16 years experienced a mental problem, and surprisingly, at least one out of three workers sustained emotional distress (Ministry of Health Malaysia, 2015). Meanwhile, 2.3% of Malaysian adults, according to a similar study conducted in 2019, were reported to have depression (Institute for Public Health, 2020).

When the COVID-19 outbreak occurred, millions of people from all facets of the population were impacted. WHO (2019) indicates that nearly all people affected by disasters and emergencies will experience psychological trauma. As stated by Druss (2020), the COVID-19 pandemic was expected to present an unprecedented stressor to patients and health care system across the globe in which disasters disproportionately affect poor and vulnerable populations. It is understood that individuals, such as the patients who have been hospitalized and who are undergoing self-isolation, will be the most impacted by the COVID-19 pandemic. In addition to those who have been infected with COVID-19 specifically, the pandemic also affects caretakers and healthcare professionals in general. Previous research has demonstrated that health professionals associated with COVID-19 have also experienced some sort of mental health difficulties. Many researchers reported that in general, health workers perceived stress, expressed anxiety and depression (Vindegaard and Benros, 2020; Zhang et al., 2021). Some of the symptoms that can deteriorate their mental and physical well-being include burnout, depression, anxiety, stress, and fragility. Compared to non-medical health workers, healthcare workers were more likely to experience insomnia, anxiety, and depression (Zhang et al., 2020). Other concerns regarding COVID-19 among health workers include the worry of contracting the disease and the avoidance of relatives and friends out of prejudice or fear. Gómez-Durán et al. (2020) reported that discrimination and stigmatization have been previously reported targeting healthcare professionals. Nienhaus and Hod (2020) also reported that health workers in Malaysia generally feel discrimination since they are seen as "infected" because they work in hospitals or health centres.

2.2 Mental Health Problems among Healthcare Voluntarily Workers

Volunteering refers to the process whereby individuals connect and engage with other people, groups, or organizations in order to address specific community needs on an unpaid basis (McAllum, 2017). There is also an alarming issue regarding mental health among the healthcare and non-healthcare personnel who participated in the volunteer program. Previous research has shown that voluntarily employed healthcare workers suffer mental health consequences during health crises. For instance, Gershon et al. (2016) wrote that the healthcare workers who volunteered in West Africa during the 2013–2016 Ebola epidemic reported symptoms of isolation, depression, stigmatization, and extreme stress after they returned home. According to a survey among undergraduate medical students who participated in healthcare-related volunteering tasks in Spain, there was a substantial level of perceived stress and increased levels of anxiety and depression experienced by them during the pandemic (Gómez-Durán et al., 2022).

2.3 Mental Health Stressors

During the period of deployment, healthcare workers were generally exposed to many stressors within their work. In this study, however, the researchers focused on a few mental health stressors among the volunteers in PPV namely workload & environment, organizer & colleague, dealing with recipients, and knowledge & skills.

As stated by Nasirizad et al. (2019), mental workload increases when an individual is in a complex working environment, unfamiliar with the task, faces a highly technical task, and works for a long time. Additionally, Rossi et al. (2020) write that an overwhelming workload due to a shortage of staff or insufficient personal protective equipment challenged their mental health. Likewise, a study by Powell et al. (2022) reported that working as many as 70 hours a week or more significantly increased workers' risks of burnout and stress-related symptoms. All health care workers or non-health care workers serving in health centres were exposed to COVID-19 since they were volunteering at the front lines. Thus, their mental health was impacted by working in this demanding and challenging environment.

Another issue that healthcare workers face while providing care will be the challenge of managing instructions given by the organizer and their colleagues. During the COVID-19 pandemic, healthcare organizations have increased their complexity (Koffman et al., 2020). Evidence shows that strong and effective leadership has a positive impact on workers' mental health and well-being (Mullen & Kelloway, 2011). On top of that, colleague readiness to cope with the COVID-19 outbreak (Galanis et al., 2021) was among the main risk factors that increased health workers' mental health. Yet, colleagues and friends at work who can support each other will be an important part of maintaining good well-being and camaraderie during the pandemic (Brooks et al., 2020).

Similar to many health communication topics, vaccination is both technically challenging and culturally sensitive (Greyson, 2021). VACs personnel should be able to display professional attributes while dealing with people's attitudes and behaviour. According to WHO (2018), front-line workers are seen as influencers. Therefore, health workers can be perceived as trusted sources of information (UNICEF, 2019). Lack of clarity on how to deal with COVID-19 patients is among the causes of stress recorded in Hassan et al.'s (2022) study.

To guarantee the administration of the vaccine is both safe and effective, all personnel involved in the COVID-19 vaccination program must possess the necessary knowledge and skills. Perceived insufficient medical knowledge and skills have been pointed out as a major concern regarding volunteering (Gouda et al., 2020). In addition, Galanis et al. (2021) state that technical skill competency, medical knowledge, and lack of training were among the barriers. This demonstrates that uncertainty will raise stress among healthcare workers. Qureshi et al. (2005) showed that appropriate training is a mandatory tool for health care professionals during periods of pandemics. This will improve health workers' understanding in order to boost their confidence in administering the vaccination program.

Based on the above discussion, this current study attempts to explore the factors contributing to mental well-being and to understand the general concerns about COVID-19 among PPV volunteers in Klang Valley, Malaysia. The research hypotheses have been formulated as below:

H₁ There is a significant relationship between workload & environment stressors and psychological distress.

H₂ There is a significant relationship between organizer & colleague stressors and psychological distress.

H₃ There is a significant relationship between dealing with recipients' stressor and psychological distress.

H₄ There is a significant relationship between knowledge & skills stressors and psychological distress.

H₅ There is a significant relationship between workload and environment stressor and mental illness.

H₆ There is a significant relationship between organizer and colleague stressors and mental illness.

H₇ There is a significant relationship between dealing with recipients' stressors and mental illness.

H₈ There is a significant relationship between knowledge & skills stressors and mental illness.

H₉ There is a significant relationship between workload and environment stressor and physical illness.

H₁₀ There is a significant relationship between organizer and colleague stressors and physical illness.

H₁₁ There is a significant relationship between dealing with recipients' stressors and physical illness.

H₁₂ There is a significant relationship between knowledge & skills stressors and physical illness.

3 Methodology/Materials

3.1 Research Design

A cross-sectional correlation research design was employed to examine the formulated research objectives. Data was collected within 4-months starting from November 2021 to February 2022 through an online survey via Google form that was randomly sent to the respective respondents. An email was used to follow up with the respondents. The respondents' characteristics in this study included PPV volunteers in Klang Valley, Malaysia who did not receive any volunteer allowance or incentive from the government and were limited to non-clinical volunteers only.

3.2 Ethical Approval

This study was approved by the UiTM Research Ethics Committee (REC/11/2021 (MR/885) in November 2021. An authorization letter from the committee was issued to permit the investigator to perform the data collection. The researchers assured participants of informed consent, confidentiality, and privacy of the study.

3.3 Data collection and Procedures

There were five parts to the questionnaire in this study. Section A consists of questions on the respondent's demographic information such as gender, job category, type and place of volunteering and personality type. Section B focuses on general concerns about COVID-19 among volunteers using a 10-point ranking scale (1-least concern, 10-most concern) adapted from Petersen et al. (2021) and Roncone et al. (2021). Section C asked the respondents about sources of stress perceived by volunteers, such as stress from dealing with vaccination recipients; stress from the PPV organizer and colleagues; stress from workload or tasks; stress from lack of knowledge and skills; and stress from the environment. The questions were taken from a study by Wu et al. (2021) using a 5-point Likert scale (1-never, 5-always). Measuring the respondents' mental well-being, including psychological distress, physical illness, and mental illness, was adapted from the Self-Reporting Questionnaire (SRQ) by Coffey et al. (2021) and Beusenberg and Orley (1994) in Section D. Section E asked about the coping strategies used by the respondents. Coping strategies refer to the techniques or actions taken when facing stressful situations. The coping styles, including rational, avoidant, detached, and emotional, were adapted from Folkman and Lazarus (1985), while religious and spiritual coping styles were adapted from Pargament, Feuille, and Burdzy (2011). The questionnaire scale used for sections D and E was the 5-point Likert scale (ranging from 1-for strongly disagree to 5-for strongly agree).

3.4 Data Analysis

The collected data was analyzed using the statistical software, i.e., SPSS Version 26. Both descriptive statistics (like mean and standard deviation) and inferential statistics (like a multiple regression analysis) were used in the study.

4 Findings and Findings

4.1 Profile of Respondents

The demographic profile of respondents is intended to examine data distribution. From the descriptive analysis as shown in Table 1, among the participants involved in the study, 95 respondents (42%) were male, and 131 respondents (58%) were female. Regarding the participants' age range, most of them (46.5%) were 35–44 years old, 22.1% were 25–34 years old, and 19.9% were 45–54 years old. A minority of them, 9.3%, were under 25, and only 2.2% of them were 55 and above. Upon discovering the respondent's marital status, the majority of them (68.1%) were married; 29.6% were still single; and only 2.2% were divorced. Exploring the sampling distribution by job category, most of the respondents (65%) were administrative workers (non-academic staff), 18.6% of them were academicians, 8% of them were university students, and 8.4% were from other job categories.

Regarding the type of volunteer, 137 (60.4%) of them were part-time volunteers (working at least 4 hours a day and at least 2 days a week), while 89 (39.4%) were full-time volunteers. For the place of work/volunteering, the majority of the respondents (73.9%) worked at the PPV Dewan Berlian UiTM Puncak Alam and Hospital UiTM Puncak Alam. 4.9% of respondents worked at PPV AEON MALL Bukit Raja and 4.4% of them worked at PPV UiTM Shah Alam. The rest of the respondents (16.3%) worked at other PPVs such as Hospital UiTM Sungai Buloh, PPV IDCC, PPV KLCC, and PPV UCSI.

In the context of the personality possessed by the respondents, 37.2% were categorized as having high agreeableness (trust, morality, altruism, cooperation, modesty, sympathy), 29.6% as conscientiousness (self-efficacy, orderliness, dutifulness, achievement striving, self-discipline, cautiousness) 17.2% of them were extraverted (friendliness,

gregariousness, assertiveness, activity level, excitement seeking, cheerfulness), 15% scored high on openness (imagination, artistic interest, emotionality, adventurousness, intellect, liberalism), and only 0.4% were categorized under neuroticism (anxiety, anger, depression, self-consciousness, immoderation, vulnerability).

Table1: Respondents' Profile (n=226)

Variables	Description	Frequency	Percentage
Gender	Male	95	42.0
	Female	131	58.0
Age	Below 25	21	9.3
	25 - 34 years old	50	22.1
	35 - 44 years old	105	46.5
	45 - 54 years old	45	19.9
	55 years old and above	5	2.2
Marital Status	Single	67	29.6
	Married	154	68.1
	Divorced	5	2.2
Job Category	Academician	42	18.6
	Non-academician	147	65.0
	Alumni	4	1.8
	Student	18	8.0
	Others	15	6.6
Type of Volunteer	Full-time non-clinical	89	39.4
	Part-time non-clinical	137	60.6
	PPV Dewan Berlian, UiTM Puncak Alam	88	38.9
Place of volunteering	Hospital UiTM Puncak Alam	79	35.0
	PPV UiTM Shah Alam	10	4.4
	Hospital UiTM Sungai Buloh	2	.9
	PPV IDCC	5	2.2
	PPV KLCC	3	1.3
	PPV AEON BUKIT RAJA	11	4.9
	PPV UCSI	5	2.2
	Others	22	9.7
Types of Personality Traits	Extraversion	40	17.7
	Agreeableness	84	37.2
	Conscientiousness	67	29.6
	Neuroticism	1	.4
	Openness	34	15.0

4.2 General Concerns About COVID-19

The information for this study was collected between November 2021 and February 2022. Not every PPV volunteer had gotten all of their vaccine doses by that time. The Malaysian government implemented the third wave of COVID-19 at the same time as national restriction movements. It is crucial to investigate the respondent's general worries or experiences with COVID-19 that could be detrimental to their mental health. The findings of the respondents' overall COVID-19 worries are summarized in Table 2. The majority of responders were more worried about the COVID-19 impacts, including "anxious about becoming infected, worried about getting seriously ill if infected, worried about infecting others, especially among family members." They are also more worried with how COVID-19 will affect their future and how important it is for them to manage adhering to rules (like SOPs) in social situations. According to the findings, the respondents were also only moderately concerned about the experiences of being infected, being suspected of being infected, experiencing emotional effects from the pandemic, feeling lonely during the COVID-19 pandemic, experiencing challenges in daily life, and experiencing challenges because children were at home.

Table 2: General Concerns about COVID-19

No.	General Concerns	Mean	Remarks
1	Experiencing symptoms of COVID-19.	5.40	Moderate concern
2	Being contacted by the health care personnel because of COVID-19 symptoms.	5.26	Moderate concern
3	Having to test for COVID-19 (either positive or negative).	6.90	Moderate concern
4	Being suspected for having been infected.	5.23	Moderate concern
5	Worried about being infected.	7.67	High concern
6	Worried about getting seriously ill if infected.	7.71	High concern
7	Worried about infecting others.	8.46	High concern
8	Being quarantined – by authorities (KKM).	5.57	Moderate concern
9	Being quarantined – by own choice (self-quarantine).	6.45	Moderate concern
10	Worried about others getting infected.	8.39	High concern
11	Personal acquaintances (closed contact) being infected.	7.45	High concern
12	Personal acquaintances (closed contact) being hospitalized.	6.40	Moderate concern
13	Personal acquaintances (closed contact) died due to COVID-19.	5.62	Moderate concern
14	Obedying the recommendations from health authorities (KKM).	8.85	High concern
15	Trusting the recommendations from health authorities (KKM).	8.66	High concern
16	Agreeing with the restrictions given by the government (KKM).	8.39	High concern
17	Getting emotionally affected by the pandemic.	6.41	Moderate concern
18	Worried that the pandemic will have significant consequences in future life.	7.82	High concern
19	Own management of following restrictions (e.g. SOPs) in social life.	8.59	High concern
20	Feeling lonelier during the COVID-19 pandemic.	6.03	Moderate concern
21	Feeling challenged in everyday life.	5.83	Moderate concern
22	Feeling challenged because of children being at home.	4.45	Moderate concern

4.3 Factor Analysis

A principal component factor analysis with varimax rotation was performed to examine the dimensionality of items measuring the important stressors that contribute to mental health among PPV volunteers. Table 3 shows that four factors were extracted as originally conceptualized, with the percentage of variance explained by 69%. The KMO value is .938, which is above the threshold value of 0.6 and the MSA values are ranging from .88 to .975, indicating sampling adequacy. The first component represents workload & environment with seven items extracted, explaining 18.9% of the variance. The factor loadings are in the range of .55 and .77. The second factor reflects the organizer & colleagues that contain five items, explaining 17.8% of the variance. The factor loadings range from .66 to .867. The third factor comprises six items that measure dealing with recipients that contribute 17.7% of the variance. The factor loadings are in the range of .661 and .775. The fourth component contains five items measuring knowledge & skills with loadings of .619 and .763. All items are valid to measure the respective components in this study.

Table 3: Results of Factor Analysis for the Independent Variables (n=226)

	Component			
	1	2	3	4
C-WT4-Dull and inflexible task at PPV affects my family and social life.	.770			
C-WT2-The requirements of task exceed my physical and emotional endurance.	.742			
C-E1-Feeling stressed from the condition and environment at PPV.	.704			
C-WT3-Experiencing pressure from the nature and quality of work at PPV.	.698			
C-E2-Unfamiliar with the surrounding facilities.	.687			
C-WT1-Worried about my bad performance as a volunteer.	.596			

C-E3-Feeling unsafe within the environment of the PPV.		.550			
C-OC1-Organizers lack of empathy and are not willing to help.		.867			
C-OC1-Lack of support from the organizer.		.858			
C-OC1-Lack of care and guidance from the organizer.		.827			
C-OC1-Feeling stressed when the organizer's instruction is different from my expectations.		.803			
C-OC1-Lack of support from colleagues.		.660			
C-DWVR-Inability to provide appropriate responses to them		.775			
C-DWVR-Worried about not being trusted		.773			
C-DWVR-Inability to reach one's expectations dealing with challenges arising from the gap between PPV performance and self-expectation		.733			
C-DWVR-Do not know how to communicate with them		.714			
C-DWVR-Lack of knowledge about how to help them		.700			
C-DWVR-Lack of experience and ability and in making judgments		.661			
C-KS2-Unfamiliar with the medical history and terms.				.763	
C-KS3-Unfamiliar with roles and skills as a volunteer.				.741	
C-KS1-Unfamiliar with the flow of vaccination process.				.737	
C-KS4-Lack of knowledge on task requirement.				.645	
C-KS5-Feeling lack of confident when dealing with vaccination recipients.				.619	
% variance explained (69%)		18.9	17.8	17.7	14.5
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938			
Bartlett's Test of Sphericity	Approx. Chi-Square	3667.171			
	df	253			
	Sig.	.000			
MSA		.880-.975			

Notes: Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.^a

Factor analysis with the principal component extraction method was performed to examine the dimensionality of the items measuring the dependent variables such as psychological distress, physical illness, and mental illness. As shown in Table 4, the results indicate the existence of three factors explaining 67.7% of the total variance in the model. The KMO value of .96 and the Bartlett's Test of Sphericity is significant ($p < .001$), showing that the correlation matrix is adequate for factor analysis to be conducted. The MSA values are within the range of .94 and .978, indicating that the sampling is sufficient for each item used to measure the variable. The first component contains 10 items that represent physical illness, with factor loadings that are in the range of .535 and .782. The second component has seven items that reflect mental illness. The factor loadings are in the range of .647 and .765. The third component consists of four items that measure psychological distress with factor loadings that are in the range of .735 and .802. These three variables are used in the subsequent analyses.

Table 4: Results of Factor Analysis for the Dependent Variables (n=226)

	Component		
	1	2	3
D-MI19-Do you have uncomfortable feelings in your stomach?	.782		
D-MI7-Is your digestion poor?	.731		
D-MI5-Do your hands shake?	.704		
D-MI1-Do you often have headaches?	.624		
D-MI6-Do you feel nervous, tense or worried?	.623		
D-MI4-Are you easily frightened?	.616		
D-MI20-Are you easily tired?	.610		
D-MI2-Is your appetite poor?	.605		
D-MI8-Do you have trouble thinking clearly?	.552		
D-MI3-Do you have trouble sleeping?	.535		
D-MI12-Do you find it difficult to make decisions?		.765	
D-MI15-Have you lost interest in things?		.741	

D-MI11-Do you find it difficult to enjoy your daily activities?	.710
D-MI14-Are you unable to play a useful part in life?	.704
D-MI13-Is your daily work suffering?	.660
D-MI16-Do you feel that you are a worthless person?	.648
D-MI9-Do you feel unhappy?	.647
D-PD2-How often during the past 30 days did you feel 'hopeless'?	.802
D-PD5-How often during the past 30 days did you feel 'that everything was an effort'?	.791
D-PD4-How often during the past 30 days did you feel 'so depressed that nothing could cheer you up'?	.764
D-PD3-How often during the past 30 days did you feel 'restless or fidgety'?	.735
% variance explained (67.7%)	24.9 24.3 18.5
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.960
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
MSA	.940-.978

Notes: Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.^a

4.3 Reliability, Correlation & Regression Analysis

Table 5 presents the results of reliability and correlation analysis. The reliability results are derived from the value of Cronbach's alphas and are presented in the parentheses along the diagonal. All variables have Cronbach's alpha values higher than the threshold value of 0.7 as suggested by Kaur and Paruthi (2019), indicating the items are reliable to measure the intended variables. The Cronbach alphas value range between .877 to .927. Correlation analysis results show that all independent variables are significantly correlated with one another, indicating convergent validity. The lowest correlation ($r=.457$; $p.01$) is between organizer and colleague and knowledge and skills, while the highest correlation ($r=.654$; $p.01$) is between workload and environment and knowledge and skills. All independent variables are significantly correlated with the dependent variables, indicating concurrent validity. The lowest correlation is between knowledge & skills and physical illness ($r=.326$; $p<.01$) and the highest correlation is between dealing with recipients and psychological distress ($r=.479$; $p<.01$).

Table 5: Result of Correlation and Reliability Analysis (n=226)

No	Variables	Mean	SD	1	2	3	4	5	6	7
1	Workload & Environment	1.74	.73	(.888)						
2	Organizer & Colleague	2.10	.93	.643**	(.927)					
3	Dealing with Recipients	2.20	.72	.568**	.496**	(.877)				
4	Knowledge & Skills	1.85	.70	.654**	.457**	.626**	(.862)			
5	Psychological Distress	1.70	.85	.478**	.406**	.479**	.399**	(.915)		
6	Physical Illness	1.96	.69	.454**	.326**	.426**	.414**	.719**	(.908)	
7	Mental Illness	1.88	.76	.413**	.393**	.377**	.321**	.766**	.802**	(.915)

Notes: **. Correlation is significant at the 0.01 level (1-tailed); *. Correlation is significant at the 0.05 level (1-tailed); Cronbach's alphas along the diagonal in the parentheses; N=226

Table 6 illustrates the result of multiple regression analysis between stressors (workload & environment, organizer & colleagues, dealing with recipients, and knowledge & skills) and mental health (psychological distress, physical illness, and mental illness) as reported by the respondents. The regression model for the first model (with psychological distress as the dependent variable) is acceptable, with an R² of .392, indicating that the independent variables explain 39.2% of the variance. The F value of 33.739 is significant, denoting that the data fits the model very well. The Durbin-Watson coefficient of 1.936 shows the absence of an autocorrelation problem in the regression model. Looking at the contribution of independent variables in explaining psychological distress, there are two factors that are significant: workload & environment ($\beta=.347$, $p<0.01$), and dealing with recipients ($\beta=.304$, $p<0.01$). The other two additional stressors, organizer and colleague and knowledge and skills, have no relationship with psychological distress. These results support H₁ and H₃, but not H₂ and H₄.

For the second model (physical illness as a dependent variable), the regression model is acceptable with an R^2 of .38 which shows 38% of the variance is explained by the independent variables. The F value of 32.043 is significant, demonstrating that the data fits the model well. The Durbin-Watson value of 1.855 states the absence of an autocorrelation problem in the regression model. Looking at the contribution of independent variables in explaining physical illness, there are three factors that are significant, such as workload & environment ($\beta=.358$, $p<0.01$), dealing with recipients ($\beta=.219$, $p<0.01$) and knowledge & skills ($\beta=.173$, $p<0.05$), while organizer & colleague do not significantly contribute to physical illness. These results support H_5 , H_7 and H_8 , except H_6 .

With an R^2 of .363 indicating that the independent variables explain 36.3% of the variance, the regression model for the third model (mental illness as a dependent variable) is also acceptable. The F value of 29.755 is significant, proving that the data fits the model very well. The Durbin-Watson value of 2.061 shows the absence of an autocorrelation problem in the regression model. The result shows that two stressors contribute to mental illness among respondents, namely workload & environment ($\beta=.3$, $p<0.0145$) and dealing with recipients ($\beta=.213$, $p<0.01$). The other two additional stressors, organizer and colleague and knowledge and skills, have no effect on mental illness. These results support H_9 and H_{11} , however H_{10} and H_{12} are not supported.

Table 6: Result of Multiple Regression Analysis (n=226)

Independent Variables	Standardized Beta Coefficients		
	Psychological Distress	Physical Illness	Mental Illness
Workload & Environment	.347**	.358**	.345**
Organizer & Colleague	.017	-.044	.106
Dealing with Recipients	.304**	.219**	.213**
Knowledge & Skills	.060	.173*	.046
R	.626	.617	.602
R^2	.392	.380	.363
Adjusted R^2	.381	.368	.351
F value	33.739	32.043	29.755
Sig. F value	.000	.000	.000
Durbin Watson	1.936	1.855	2.061

Notes: ** Sig at the 0.01 level, * Sig at the 0.05 level

4.4 Discussion

The global COVID-19 pandemic has profoundly impacted volunteers, particularly in Malaysia. During the COVID-19 pandemic, there was an increased need for volunteers. In the context of the personality traits, the results revealed agreeableness (trust, morality, altruism, cooperation, modesty, sympathy), and conscientiousness (self-efficacy, orderliness, dutifulness, achievement striving, self-discipline, cautiousness) had high frequency among volunteers; 37.2% and 29.6%, respectively. It confirms the results of Olagundoye et.al, (2021) found that traits of agreeableness and conscientiousness were significantly different between volunteers and non-volunteers ($p<0.05$). Furthermore, a higher agreeableness and conscientiousness predicted taking health precautions; and higher agreeableness, consciousness, extraversion, and openness all predicted higher tendencies to give health recommendations to others (Clark, Davila, Regis, & Kraus, (2020).

In general, participants had several concerns about the pandemic. They complied with the government's restrictions and recommendations because they were concerned about infecting themselves, their families, and friends, and they believed the epidemic would have significant consequences for their life in the future. They also felt challenged in their daily lives throughout the pandemic. This is consistent with a study by Petersen et al., (2021), who discovered that participants trusted the authorities' recommendations and believed that they managed the epidemic and the restrictions to a great extent despite some significant future consequences of the pandemic. Moreover, Clotworthy et.al., (2021) indicated that there were stable levels regarding worries and quality of life at most communities during the lockdown, though there was a slight decline in overall mental health.

The aim of this study was to investigate the influence of perceived stressors on mental well-being among VACs volunteers. Results discovered that workload and work environment significantly predicted the psychological

distress, physical discomfort, and mental stress of the VAC volunteers. The findings from the current study are consistent with previous studies (Tong, et al., 2018, Yosiana, Hermawati & Masud, 2020, Ruiz-Frutos, et al., 2021; Ruiz-Frutos, et al., 2022). Heavy workload significantly impacts the overall positive score rate among healthcare workers (Tong, et al., 2018). Yosiana, Hermawati & Masud (2020) pointed out that a high workload and a less favourable work environment are seen as work stressors. High-level workload, and they had many health problems like health instability, mental distraction, lack of rest, night shifts, work overload, and too many tasks or jobs being carried out (Yosiana, Hermawati & Masud, 2020). In a recent study, Ruiz-Frutos, et al., (2022) found that psychological distress during the first phase of the pandemic were associated with being stressed at work. Therefore, by taking adequate measures against factors due to stressors, effects on mental health can be effectively prevented (Ruiz-Frutos, et al., 2022). A physical work environment supports workers; the existence of air circulation, which makes the work more accessible; the sense of security at the workplace; and good relationships that workers have with their superiors, co-workers, or subordinates.

Results from the present study also found that dealing with vaccine recipients significantly predicted the psychological distress, physical discomfort, and mental stress of the VAC volunteers. For some people, deciding whether or not to get vaccinated was a difficult process: information appeared to be lacking and contradictory; numerous moral principles were at stake and contradictory; the way vaccination was organised clashed with the health values to which people had previously been exposed; and the fear of discrimination for those who chose not to get vaccinated came into view over the decision (Fadda et.al., 2022). According to Greyson (2021), high-quality communication can reduce ethical risks associated with vaccination by presenting information in ways appropriate for a given audience and collaborating with trusted community leaders to deliver evidence-based messages and conduct vaccine coverage surveillance in culturally acceptable ways. Unfortunately, effective communication strategies can also be applied unethically, for as by utilising current online trust networks to spread false information regarding the safety of vaccines. In addition, low-quality information (e.g., without source references) might promote anti-vaccine efforts, even when it is intended to promote improved population health outcomes. Due to these circumstances, it is vital to the VACs volunteers and workers to demonstrate professional traits while dealing with people's attitudes and behaviours

Nevertheless, the present study found that knowledge and skills significantly predict physical discomfort, but not psychological distress or mental stress. Results showed the physical discomfort includes uncomfortable feelings in stomach, digestion poor, hands shaking, headaches, worried, easily frightened, and tired, poor appetite, trouble sleeping and thinking clearly. Respondents in this current study perceived factor of knowledge and skills during the volunteering contributes to physical discomfort. The results consistent with study conducted by Wu et. al., (2021) study indicated that perceived factors such as lack of experience and ability in providing nursing care and in making judgments, expectations dealing with challenges arising from the gap between clinical performance and self-expectation, lack of knowledge about how to help patients with physio-psycho-social problems and worry about grades as the predominant sources of stress were vulnerable to stress. A high level of stress negatively impacts psychological, physical, and mental health.

5 Conclusion

In conclusion, this study examined the perceived stress factors that predicted the mental health of VAC volunteers during the COVID-19 pandemic. Workload, environment, and volunteering with vaccine recipients appear to have influenced psychological distress, physical discomfort, and mental illness, whereas inadequate knowledge and skills correspond to physical health problems. It is imperative to aggressively promote ways to reduce perceived stressors and support volunteers in acquiring coping strategies to improve their mental health. There is a need for additional research to identify coping methods that enable participants to reduce and balance their perceived sources of stress that negatively affect their mental health. The findings of the present study should aid in guiding future volunteer processes in emergency situations, enhance volunteer programmes, and provide crucial data for mental health support services. In addition, the findings benefit policymakers and all other relevant parties in implementing the necessary measures to prevent mental health issues during the impending pandemic.

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