2023 SICASH
SLIIT INTERNATIONAL CONFERENCE ON ADVANCEMENTS IN SCIENCES & HUMANITIES

Prevalence of Stress and Associated Factors among Field Midwives in Sri Lanka during the COVID-19 Pandemic

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ARTICLE INFO

Article History:
Received: 10 September 2023
Accepted: 01 November 2023

Keywords:
Stress; Associated factors; Field midwives; Sri Lanka

Citation:

Pathirana J. M. P, Edirisinghe N. P, Amarasekara T.D. (2023). Prevalence of Stress and Associated Factors among Field Midwives in Sri Lanka during the COVID-19 Pandemic. Proceedings of SLIIT International Conference on Advancements in Sciences and Humanities, 1-2 December, Colombo, pages 416-423.

ABSTRACT

The COVID-19 outbreak has had a significant impact on people's physical and mental health. Globally, the stress faced by healthcare workers during COVID-19 has been investigated. The aim of the study was to describe the level of perceived stress, and associated factors, among field midwives (FMs). A descriptive cross-sectional study of FMs in selected Medical Officer of Health (MOH) regions in the Matara district was carried out. FMs were among the subjects, while those on maternity leave and without at least six months of professional experience were not included. Data were collected using validated Perceived Stress Scale-10, and a pre-tested socio-demographic questionnaire. Data analysis was done using descriptive statistics, and a Chi-square test. The study participants had a mean age of 41.43±12.01. Results indicated that 27.6% of the FMs experienced low stress, 51% experienced moderate stress, and 21.4% reported high perceived stress levels. The presence of any chronic diseases (95% CI, 0.077-0.966, OR=0.274, p=0.034) and economic status (95% CI, 1.079-1.261, OR=6.374, p=0.011) showed statistically significant associations with perceived stress. In conclusion, the majority of FMs were moderately 74 (51%) stressed during the COVID-19 pandemic.

https://doi.org/10.54389/TXIO2216

1. INTRODUCTION

COVID-19 Outbreak has severely influenced people's physical and psychological lives (Munawar and Choudhry, 2020). Though the COVID-19 -pandemic affected Sri Lankan lives in 2020, field midwives (FMs) gave their care to mothers and children through systematic home visiting and providing care through clinics. Many research studies have proven that Health Care Workers (HCWs) presented high psychological distress over the COVID-19 epidemic. Therefore, there is a high risk of psychological distress among field midwives during COVID-19 with their job status.

Stress is our body's reaction to pressures caused by a scenario or life event known as a "stressor" (Fink., 2017). Mental health issues contribute significantly to the worldwide disease burden. It is predicted that by 2030, mental health issues would be the major cause of mortality and morbidity worldwide (Mental Health Foundation, 2016). The stress experienced by HCWs during COVID-19 has been examined all across the world. Previous research has associated this stress with variables such as age, gender, compensation, and having kids (Matsuo., 2020; Flesia., 2020; Babore., 2020). Work experience, work hours, family factors, and caring for COVID-19 patients were all indicated as sources of stress (Cui., 2021; Khasne., 2020).

In Sri Lanka, during the pandemic, healthcare facilities partially shut down and focused on COVID-19 prevention and treatment. Midwifery services, on the other hand, remained as usual. Midwives, who come into close and prolonged contact with women while giving care, are frequently plagued by inadequate contamination protection, increased risks of infection, working fatigue, fear, anxiety, and depression. However, there is little information available on the psychological impact of COVID-19 on midwives. Therefore, this study aimed to assess the level of stress, and associated factors, among field midwives in selected MOH areas in the Matara district of Sri Lanka during the COVID-19 Pandemic.

2. MATERIAL AND METHODS

Between December 2021 and February 2022—the months that followed the epidemic's peak spread—descriptive cross-sectional research was carried out.

2.1. Study Setting and Sample Recruitment

Nine MOH offices from the Matara district were selected for the study. Working FMs from the Matara district were the participants. The individuals who are now employed in certain MOH divisions in the Matara district and have at least six months of experience in the area were included and maternity leave recipients within the last six months were not included. The Taro Yamane equation was used to find the right sample size, and a precision of 0.05 was utilized for significance. The sample size had a final count of 157. A final sample size of 165 was deemed appropriate since prospective non-responders were chosen at simple random from nine MOH divisions in the Matara district.

2.2 Data Collection

Participants provided written informed consent prior to the interviewer administering the questionnaire. To measure stress, the validated Perceived Stress Scale-10 (PSS-10) was applied. Additionally, a pre-tested sociodemographic questionnaire was used. The average amount of time needed to finish a questionnaire was about 15 minutes.

2.3 Data Analysis

Descriptive statistics were employed to summarize and present data on population characteristics. Prevalence rates were determined using PSS-10 cut-offs. Scores ranging from 0-13 would be considered low stress. Scores ranging from

14-26 would be considered moderate stress. Scores ranging from 27-40 would be considered high perceived stress. The Chi-square test was used to identify components related to binary outcomes (e.g., stress). Furthermore, the PSS-10 outcomes were recoded into a binary variable; the affirmative responses, i.e." moderate," and "high" were combined into one category, while the negative response, i.e. 'low stress,' was preserved as one category. The strength of association was interpreted using the odds ratio (OR) and 95% CI. SPSS (Statistical Software Package for Social Sciences) version 26.0 was used for data input and analysis.

2.4 Ethical Considerations

The study was approved by the Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka (Nur/09/21). Informed written consent was obtained from participants before data collection.

3. RESULTS

3.1 Sample Characteristics

With a response rate of 87.8%, 145 of the 165 individuals who were contacted to participate submitted a finished survey. The participants' average age was 41.43 ± 12.01, and 51 (35.2) respondents were determined to be between the ages of 20 and 34. The majority of respondents were married, with 96 (66%) being members of a nuclear family and 119 (82.1%) having at least one child. The majority of participants, 131, lived at home (90.3%), and 137 (94.5%) of them lived in rural areas. 78 (53.8%) of the participants had more than 10 years of experience, while 67 (46.2%) had less. In addition, 27 (18.6%) of the respondents said they were suffering from chronic illnesses.

3.2. Prevalence of Stress

As summarized in Table 1, most of the participants 42 (29%) had selected "sometimes" for the question "In the last month, how often have you felt that you were unable to control the important things in your life?" The PSS-10 total mean score was 18.51±8.43.

Table 1. Prevalence and severity of stress as per the PSS-10 scale (n=145)

During the last month, how often have you been bothered by any of the following problems	0-never (f) %	1 - almost never (f) %	2-sometimes (f) %	3 - fairly often (f) %	4 - very often (f) %
l. In the last month, how often have you been upset because of something that happened unexpectedly?	60 41.4	19 13.15	30 20.7	30 20.7	6 4.1
2. In the last month, how often have you felt that you were unable to control the important things in your life?	55 37.9	25 17.2	42 29	9 6.2	14 9.7
3. In the last month, how often have you felt nervous and stressed?	38 26.2	17 11.7	49 33.8	30 20.7	11 7.6
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	19 13.1	20 13.8	38 26.2	28 19.3	40 27.6
5. In the last month, how often have you felt that things were going your way?	21 14.5	12 8.3	45 31	44 30	23 15.9
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	31 21.4	21 14.5	59 40.7	26 17.9	8 5.5

7. In the last month, how often have you been able to control irritations in your life?	33 22.8	9 6.2	19 13.1	37 25.5	47 32.4
8. In the last month, how often have you felt that you were on top of things?	23 15.9	12 8.3	26 17.9	30 20.7	54 37.2
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	69 47.6	18 12.4	27 18.6	17 11.7	14 9.75
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	51 35.2	18 12.4	27 18.6	28 19.3	21 14.5

3.3. Association between Demographic Characteristics and Perceived Stress

Any history of chronic diseases (95% CI, 0.077-0.966, or p= 0.034) and economic status (95% CI, 1.079 – 1.261, OR=6.374, p=0.011) have shown a statistically significant association with perceived stress among FMs. A summary of the associations between demographic characteristics and perceived stress is in Table 2.

Table 2: **Association between demographic characteristics and perceived stress (n=145)**

Demographic Characteristic	Stress				
	Mild N, (%)	Moderate to severe N, (%)	Crude OR	95% CI	Chi-Square, p-value
Age					
More than 42	17 (11.7)	41 (28.2)	1.154	0.551-2.417	χ^2= 0.144, p=0.704
Less than 42	23 (15.8)	64 (44.1)			
Marital status					
Unmarried	8 (5.5)	18 (12.4)	1.208	0.479-3.501	χ^2=0.161, p=0.689
Married	32 (22.0)	87 (60.0)	ref		
Parental status					
No children	13 (8.9)	36 (24.8)	0.923	0.425-2.002	χ^2=0. 041, p=1.00
Children or more	27 (18.6)	69 (47.5)	ref		
Type of Family					
Nuclear	29 (20.0)	68 (46.8)	1.434	0.644-.197	χ^2= 0.783, p=0.433
Extended	11 (7.5)	37 (25.5)	ref		
Accommodation					
Home	37 (25.5)	94 (64.8)	1.443	0.381-0.468	χ^2=0.294, P=0.758
Quarters or Temporary arrangement	3 (2.0)	11 (7.5)	ref		
Years of experience					
10 years and below	20 (13.7)	47 (32.4)	1.234	0.595-2.559	χ^2=0.320, P=0.572
More than 10 years	20 (13.7)	58 (40.0)	ref		
Any history of chronic disease					

Yes	3 (2.0)	24 (16.5)	0.274	0.077-0.966	χ^2= 4.508, **P=0.034**
No	37 (25.5)	81 (55.8)	ref		
Working in Covid 19 high area					
Yes	35 (24.1)	86 (59.3)	1.547	0.535- 4.467	χ^2=0.657, P=0.418
No	5 (3.4)	19 (13.1)	ref		
Contact with suspected confirmed COVID-19 cases					
Yes	30 (20.6)	89 (61.3)	0.539	0.221-1.316	χ^2=1.876, p=0.171
No	10 (6.8)	16 (11.0)	ref		
Family members, relatives or friends infected with COVID-19					
Yes	31 (21.3)	79 (54.4)	1.134	0.478-2.691	χ^2=0.081, p=0.776
No	09 (6.2)	26 (17.9)	ref		
Death of family members, relatives, or friends due to COVID-19					
Yes	3 (2.0)	9 (6.2)	0.865	0.222-3.373	χ^2=0.044, p=0.834
No	37 (25.2)	96 (66.2)	ref		
Personal Protective Equipment					
Sufficient	12 (8.2)	19 (13.1)	1.940	0.838-4.490	χ^2=2.442, p=0.118
Insufficient	28 (19.3)	86 (59.3)	ref		
Economic status					
Moderate to high	40 (27.5)	90 (62.0)	6.374	1.079 – 1.261	χ^2=6.374, **p=0.011**
Low	0 (0)	15 (10.3)	ref		

4. DISCUSSION

During COVID-19, this study examined stress-related variables among field midwives. FMs play a crucial role in lowering morbidity and mortality among pregnant women and newborns. In the latter stages of the pandemic, 145 FMs participated in this study utilizing a cross-sectional study design.

This finding was lower than the other studies conducted among HCWs in northwest Ethiopia, 79.5% (Mekonen et al., 2020); in New York, 57% (Ari Shechter et al., 2020); in China, 71.5% (Lai et al., 2020). Numerous reasons may cause this. Initially, HCWs have been working and caring for patients during the epidemics up until the third wave. Secondly, maintaining the new normal in working and living environments, as well as the change in work hours, causes mental issues. Thirdly, while they waited to obtain a COVID vaccine, they were not provided with a consensus and assurance of the vaccine's efficacy. Whereas this study's prevalence of stress was higher than in Ethiopia,

33.8% (Jemal et al., 2021); in Turkey, 41.2% (Elbay et al., 2020). This could be because those studies were conducted during the early stages of the COVID-19 pandemic, when the outbreak was severe and produced panic and dissatisfaction among healthcare practitioners and the general population. Furthermore, during the early stages of the pandemic, little is known about the virus, including prevention and transmission methods, clinical presentation, and personal protective equipment. This anxiety could have been caused by their fears of spreading COVID-19 to their loved ones or other patients. They may have also been stressed as a result of working long hours without adequate nutrition, witnessing the deaths of patients and coworkers, encountering difficulties such as donning personal protective equipment (PPE), having disagreements with doctors or other nurses, dealing with poor preparation for COVID-19, a lack of support, or dealing with a significant workload (Magdi., 2022).

The present study found that the history of chronic diseases and the economic status of FMs have a significant association with the level of stress. But a study done in Ethiopia reported working in rural areas, having poor knowledge of COVID-19, and having poor preventive practices were associated with stress (Kassahun et al., 2022). Some studies reported single nurses as having higher stress levels (Ali et al., 2020; Yubonpunt et al., 2022). Having children was not only found to be a predictor of stress (Al Muharraq., 2021; Nie et al., 2020) during the pandemic, but also a stress-relieving effect (Ali et al., 2020).

The results of the study indicated that the majority of FMs were moderately 74 (51%) stressed during the COVID-19 pandemic. This study provides a basic picture for health policymakers to understand the overall psychological aspect of FMs and plan for mechanisms to address enhancing psychological aspect of them.

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