

Anxiety, Perceived Stress and Coping Strategies among the Nepalese Nurses Working around the World During a Corona Virus Disease -19 Outbreak

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ABSTRACT

Background: Nurses are the frontline health professional of healthcare delivery system prone to have psychosocial problems. This study aimed to explore anxiety, stress and coping strategies among the Nepalese Nurses working around the World during a corona virus disease -19 Outbreak.

Methods: A web based cross sectional study was conducted for a period of three month among 240 nurses from Nepal and working abroad. They were invited to participate via various web based networks. Anxiety Self rating scale, perceived stress Scale and coping strategies were used for data collection. Chisquare, spearman rho and Manwhitney was used for data analysis.

Results: More than half 58.8% were <30 years of age, mean age was 31 ± 7.29 , range was 20-56 years. Only 17.5% were having Mild to Extreme Anxiety and, 62.5% Nepalese nurses were having stress. Regarding coping strategies mean score is higher in positive reframing followed by acceptance. There was significant association between stress and demographic variables marital status and country. Nepalese Nurses working in Nepal were having more anxiety and stress mean score than Nepalese nurses working abroad.

Conclusions: Nepalese nurses working in Nepal were having more anxiety and stress mean score than Nepalese nurses working in abroad. Mean score of coping strategies was higher in avoidant coping (Maladaptive coping) in nurses working in Nepal whereas mean score is higher in Approach coping (Adaptive coping) in Nepalese nurses working abroad.

Keywords: Anxiety; coping; corona virus disease-19; nurses; stress

INTRODUCTION

Globally, there have been 181,930,736 confirmed cases of COVID-19, including 3,945,832 deaths, reported to WHO as of 30 June 2021¹. Health-care providers are cardinal resources for every country. Their health and safety are pivotal not only for continuous and safe patient care, but also for control of any outbreak.² The COVID-19 pandemic led to nurse burnout, feelings of conflict, guilt and overwhelming stress and anxiety.³ A cross-sectional study was carried out among 152 nurses working at Gandaki Medical College Teaching Hospital and Research Centre of Kaski district of Nepal. The results showed that anxiety and stress were prevalent among 50% and 25.7% of the respondents respectively.⁴ Nurses would be in a state of physical and mental stress

and feel secluded and helpless in the face of health threats and demand from the high-intensity work caused by such public health emergencies⁵. Therefore, the present study was aimed to explore anxiety, perceived stress and coping strategies among Nepalese nurses during a corona virus (Covid -19) outbreak.

METHODS

A web based cross sectional study was conducted among Nepalese nurses working in Nepal and abroad. Data was collected from December 2020 to February 2021. The sample was calculated as 332 taking in consideration of 95% confidence interval, 5% error with estimated proportion of 32.23%. Allowing non-response rate of 5% and maintaining the power of test, the final sample

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size was 350. Nurses working in abroad and Nepal were selected by using non probability quota sampling techniques. quota sampling was established by taking 120 Nepalese Nurses working in Nepal and 120 Nepalese Nurses working in abroad.

The tools used was socio-demographic information, Zung self rating Anxiety scale (SAS -20 item)⁷ for each item, It was measured as "A little of the sometime-1", "Some of the time -2", "Good part of the time -3" and "Most of the time - 4". Scoring was normal <44 points, 45 to 59 points for mild to moderate anxiety, 60 to 74 points for intense to severe anxiety and above 75 points for Extreme anxiety . Perceived stress scale (14 item)⁸. Of these 7 items (1,2,3,8,11,12,14) belong to negative item and other 7 items (4,5,6,7,9,10,13) belong to positive item .each item was rated on 0 to 4 score where higher score indicates high level of stress. normal \leq 25 points , Stress >25 points . Brief COPE Strategy Scale (Carver, 28 item).⁹ Each question has a 4-point Likert item from (1 = I haven't been doing this at all, 2 = I've been doing this a little bit, 3 = I've been doing this a medium amount, 4 = I've been doing this a lot). The term "coping" is defined broadly as an effort used to minimize distress associated with negative life experiences. The coping approaches are broadly categorized as avoidant coping, approach coping, and neither/or, with each category containing subscales. Data collection tool was pre-tested in 10% of the total sample from Nepal i.e. 24. Those participants included in pretest were excluded in the main study. To verify the reliability of the tool, Cronbach's alpha was calculated using the pre-test study data. Cronbach's alpha of SAS, Perceived stress and brief cope scale was 0.72, 0.69 & 0.90 respectively. The study was conducted via online survey. Self reported, standard questionnaire were developed in the Google forms and the link to the survey as posted on various social media platforms and was also shared the web link web link (<https://docs.google.com/forms>) and shared the link in messenger using internet system or through individual mail. The system was set in such a way that one participant could submit only one form with one Google account. To encourage participation, nurses were sent 2-3 reminders at a week of intervals. Questionnaire was sent to a total of approximately 550 individuals, of whom 513 replied, 5 refused to participate . out of calculated 350 sample size ,240 met the inclusion criteria with a response rate of 68.5 %. The collected data was automatically saved in Google drive. The collected online data was only available to the researchers to maintain confidentiality in a non-identifiable form, not disclosing the information and using the information for only research purpose .

An ethical approval was obtained from Nepal Health Research Council. Written consent was taken at the first page of google form before proceeding online survey. Inclusion criteria was Registered Nepalese nurses who were currently working in clinical area as frontline for Covid patients for at least 2 weeks. Nepalese registered nurses (PCL, BN/BNS B.Sc, and MN/M.Sc.) who were currently working in clinical area of United States of America, United Kingdom, Australia, Canada and Nepal as a frontline for Covid patient. Nurses working in abroad United Kingdom, United States of America, Australia , Canada and Nepal , Who have knowledge on internet access, who were willing to participate.

Data were analysed in SPSS version 16.0 for window using descriptive and inferential statistics. Descriptive statistics was used to describe the data, utilizing mean (SD) or frequency (percentage) as appropriate. Chi-square, spearman rho test and Manwhitney test was performed to compare the differences between two groups Nepalese nurses working in Nepal and Nepalese nurses working in abroad.

RESULTS

Table 1. Sociodemographic Characteristics of the Participant (n=240)

Characteristics	Number	Percentage
Age		
≤30	141	58.8
>31	99	41.3
Mean ± S.D, Range	31 ± 7.29 (20-56)	
Marital status		
Married	163	67.9
Unmarried	77	32.1
Family Type		
Nuclear	184	76.7
Joint	56	23.3
Residence		
Rural	31	12.9
Urban	209	87.1
Qualification		
Undergraduate	42	17.5
Graduate	198	82.5
Designation		
Staff Nurse/R.N	216	90.0
Nursing Officer/In charge	24	10.0
Country		
Nepal	120	50.0
Abroad	120	50.0

Out of 240 Nepalese nurses more than half (58.8%) were ≤ 30 years of age, mean age was 31±7.29 ,range was (20-56),More than two third (67.9 %) were Married, More than three quarters (76.7%) were from nuclear family type,Most of them (87.1%) were from urban residence ,Majority (82.5%) were graduate, Most (90.0%) designation were Staff Nurse/R.N (Table 1).

the (mean ± SD) of the total coping score was 59.29 ± 11.09 of the broad categories of coping approaches, approach coping achieved the highest mean29.15±5.88. Among subscale of coping strategies, Positive Reframing achieved the highest mean score accounting for7.49±1.88 while substance use was the least stress coping strategy reported with mean 2.42±0.96.

Table 2.Level of Anxiety & Perceived Level of Stress Among Nepalese Nurses n=240

Level	frequency	Percentage
Anxiety		
Normal	198	82.5
Mild to Moderate	37	15.4
Intense to Severe)	4	1.7
Extreme	1	0.4
Mean ± S.D		36.62+8.97
Stress		
Normal	90	37.5
Stress	150	62.5

Only (17.5%) were having Mild to Extreme Anxiety and mean and S.D of anxiety was 36.62+8.97,Near to two third (62.5%) Nepalese nurses were having stress (Table 2)

Table 3. Association between Stress and Selected Variables n = 240.

Variables	Normal (%)	Stress (%)	df	P -value
Age				
≤30	50(35.5)	91(64.5)	1	.436
>31	40(40.4)	59(59.6)		
Religion				
Hindu	81(38.6)	129(61.4)	1	.364
Others (Buddhist, Muslim, Christian & kirat)	9(30.0)	21(70.0)		
Marital status				
Married	70(42.9)	93(57.1)	1	.011*
Unmarried	20(26.0)	57(74.0)		
Family Type				
Nuclear	64(34.8)	120(65.2)	1	.115
Joint	26(46.4)	30(53.6)		
Residence				
Rural	12(38.7)	19(61.3)	1	.881
Urban	78(37.3)	131(62.7)		
Qualification				
Undergraduate	14(33.3)	28(66.7)	1	.539
Graduate& above	76(38.4)	122(61.6)		
Designation				
Staff Nurse/R.N	84(38.9)	132(61.1)	1	.182
Nursing Officer/ In charge	6(25.0)	18(75.0)		
Country				
Nepal	37(20.8)	83(69.2)	1	.033*
Abroad	53(44.2)	67(55.8)		

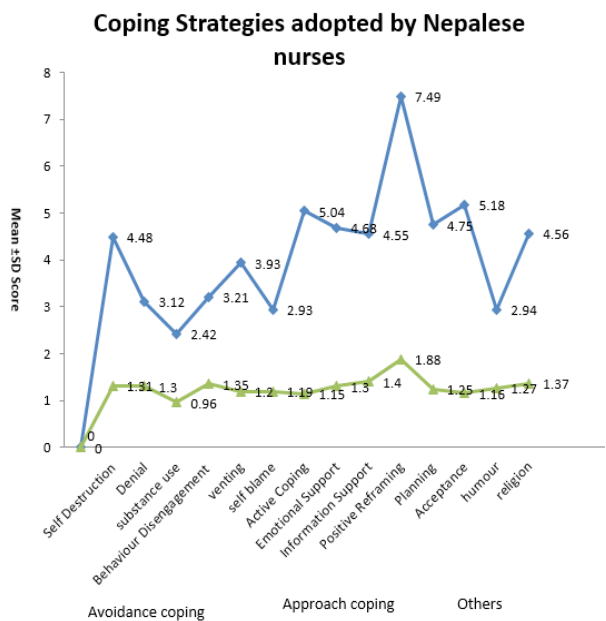


Figure 1. Line Graph Showing Coping Strategies Adopted by Nepalese Nurses.

Figure 1 showed various means of coping with covid 19 related stress. Based on the brief-COPE strategy,

Significance level 0.05

There was significant association between Stress and demographic variables marital status and country (Table

3).

Table 4. Correlation between Anxiety and Stress among Nepalese Nurses working in different Countries n = 240

Variable	r value	P value
Stress	-	-
Anxiety	.416	.000**

**Correlation is significant at the 0.00 level (2 tailed)

The correlation between Stress and Anxiety with Spearman's rho correlation found that stress has positive correlation anxiety (at $p < .000$) level of significance ($r = .416^{**}$) indicating that if there is high stress level then anxiety level will also high. (Table 4).

Table 5. Comparison of Anxiety, Perceived Stress & Coping among Nepal and Abroad Nepalese Nurses (n= 240)

Variables	Mean rank		z	P-value
	Nepal	Abroad		
Anxiety	130.19	110.81	-2.164	.030*
Stress	132.65	108.35	-2.720	.007*
Coping strategies				
Avoidance coping	140.40	100.60	-4.451	.000*
Self destruction	118.40	122.60	-.481	.630
Denial	137.47	103.53	-4.038	.000*
Substance use	126.40	114.60	-1.885	.059
Behaviour Disengagement	138.06	102.94	-4.169	.000*
Venting	137.08	103.92	-3.826	.000*
Self blame	137.22	103.78	-4.061	.000*
Approach coping				
Active coping	117.91	123.09	-.616	.538
Emotional support	130.59	110.41	-2.341	.019*
Use of Information support				
Positive Reframing	122.70	118.30	-.522	.602
Planning	126.09	114.91	-1.297	.194
Acceptance	123.01	117.99	-.627	.531
Others				
Humor	125.53	115.48	-1.242	.214
Religious	119.88	121.12	-.143	.886

P=<0.05 level of significance

We compared anxiety, perceived stress and coping strategy between Nepalese Nurses working in Nepal and Abroad using the ManwhitneyU test. In the case of anxiety, resultsshowed that therewas significant difference between the two groups ($z = -2.164$, $p = 0.030$) with a mean rank anxiety score of 130.19 for Nepal, 110.81 for abroad indicating that nurses working in Nepal were having more anxiety than Nepalese nurses working in abroad. Therewas significant difference in perceived stress level between the two groups ($Z = -2.720$, $p = 0.007$) with a mean rank anxiety score of 132.65 for Nepalese nurses working in Nepal, 108.35 for abroad revealing that Nepalese nurses working in Nepal have increased stress level compared to than nurses working in abroad and therewas significant difference in Coping score between two groups ($Z = -4.451$, $p = 0.00$) with a mean rank coping score of 140.40 in avoidant coping, 126.05 Approach coping, 125.53 for humor and 119.88 for Religious for Nepalese nurses working in Nepal whereas 100.60 for Avoidance coping, 114.95 for Approach coping, 115.48 for humor and 121.12 for Religious coping for Nepalese nurses working in abroad which revealed Nepalese nurses working in Nepal were using Avoidance coping (Maladaptive coping) whereas Nepalese nurses working in abroad were using more Approach (Adaptive) coping. (Table 5)

Nepalese nurses working in Nepal were having higher mean score in stress than anxiety whereas Nepalese nurses working abroad were higher mean in anxiety. Nurses working in Nepal were stressed because of inadequate PPE, deficit of Isolation after Covid duty, duty break after Covid exposure.

DISCUSSION

The present study attempts to understand Nepalese Nurses Anxiety, Perceived Stress and Coping Strategies during a corona virus (Covid-19) Outbreak. The present study shows that Nepalese nurses had 17.5% Mild to Extreme Anxiety and mean and S.D of anxiety was 36.62+8.97. This result is consistent with studies findings conducted by Nepupane M et al in Nepal¹⁰ which revealed that 10.5 % nurses had Mild to Moderate Anxiety & 20.3 % Nurses reported Mild to Severe anxiety in china.¹¹ Previous studies in different parts of the world during epidemic revealed higher anxiety during the current pandemic which contrary present study i.e 92.3% of the nurses had mild to severe anxiety,¹² 46.3 % nurses reported high level of Anxiety.¹³ 53% nurses reported severe to Disabling anxiety,¹⁴ 40.8% Nurses had Mild to Severe Anxiety.¹⁵ The higher anxiety may be due to variation in tools. Near two third 62.5%

Nepalese nurses were stressed during pandemic which is similar to other study conducted in china⁶ where 32.23% reported high stressed and study conducted by kim et al reported 80.1 had moderate/high stress.¹⁶ whereas the prevalence of stress in this study contradicts previous study as low level of stress experienced by nurses and health care workers.^{10,17-20} Nurses are more stressed \, may be spending more time delivering direct patient care, improper and inadequate Nurse patient ratio.

The mean score is high in self distraction (4.48) in Avoidant coping and positive reframing (7.49) followed by acceptance(5.18) under approach coping strategy which is similar in the study conducted by Lou et.al among Nurses,²¹ Approach coping achieved the highest mean 29.15±5.88 which is similar to the study conducted by Awoke et al among undergraduate health science students of Jimma i.e highest mean (±SD) score was 33.76 (±6.64) in approach coping.²² There was no significant association between Stress and demographic variables age, qualification which contradicts the previous study.²³ There was positive correlation between stress and anxiety ($r = 0.416$, $p < .005$) in this study which is consistent with the earlier study conducted by Mo et al²⁴ ($r = 0.676$, $p < .05$), Chen CH et al²⁵ ($P < 0.01$), Chen et al²⁶ ($P < 0.05$) The mean anxiety and stress score among Nepalese nurses working in Nepal was higher than that of Nepalese nurses working in abroad which is consistent with previous study as mean stress score working in developing country was higher than developed country.²⁷ This may be due to various factors such as less availability and Access to Personal Protective Equipment, workload, nature of work, training support in health institutions, inadequate staff, did not provide them facilities to quarantine nurses arranged their residence adjacent to the hospital in developing country.

The Limitation of the study was Self administered questionnaire that could introduce a bias, research is confined within participant who had internet access.

CONCLUSIONS

Nepalese nurses had less anxiety but high stress level. Mean score is higher in Positive Reframing followed by Acceptance. Nepalese nurses working in Nepal were having more anxiety and stress than Nepalese nurses working in abroad.

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