

## Pre-departure psychological distress, depression, anxiety, stress and perception of risk factors at workplace among migrant workers of Nepal: A pilot study

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### ABSTRACT

**Introduction:** Migration is a stressful process and perception regarding risk factors at workplace can impact the mental health of migrant workers early from pre-departure phase. Around 23% percent of returnee migrants of Nepal reported having mental problems. Yet, only few researches were conducted on the mental health of Nepali migrant workers during pre-departure phase and this study aims to fill that gap.

**Method:** A cross-sectional study was conducted on 39 migrant workers during the pre-departure phase to measure the level of psychological distress, depression, anxiety and stress. It was also used to validate the locally developed pre-departure risk factor perception scale (PD-RFPS) at workplace. Validated DASS-21 and PD-RFPS tools in Nepali language were self-administered in two pre-departure orientation institutes of Kathmandu valley. Consensus index was used to summarize the perception of migrant workers on the possible risk factors at workplace.

**Result:** Prevalence of psychological distress, depression, anxiety and stress were identified as 28.21%, 35.9%, 41.03% and 20.51% respectively. The DASS-21 scale and sub-scales were found to have good internal consistencies. DASS-Depression and DASS-Anxiety subscales showed concurrent validity with Beck's Depression Inventory (BAI) and Beck's Anxiety Inventory (BAI). The PD-RFPS tool also showed good internal construct reliability. Migrant workers perceived differently about the risk factors at workplace as consensus index ranged between 41.61% and 73.96%.

**Conclusions:** Prevalence of psychological distress, depression, anxiety and stress among the migrant workers at pre-departure phase suggests the presence of symptoms of mental health problems. It also warrants further study with large sample size and representative sampling methods.

**Keywords:** migrant workers, psychological distress, perceived risk factors, gulf countries, Nepal

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## INTRODUCTION

People often migrate from developing countries to developed countries in search of better opportunities and guaranteed income to support their family. Consequently, labor migration takes place mostly to fill the unskilled and low-skill jobs, which are often not preferred by the better trained and paid local workers of developed countries.<sup>1</sup> According to the 2018 Status Report of Department of Foreign Employment (DOFE) of Nepal, 786564 people left for foreign employment to over hundred destination countries in fiscal year 2015/16 and 2016/17. Same report has also highlighted that Gulf Cooperation Council (GCC) countries and Malaysia accounted for 85% of all labor migration of Nepal between fiscal year 2008/2009 to 2014/2015.<sup>2</sup>

Migration is a stressful process and can impact on mental health status of migrant workers. Mental health problem starts early, during pre-departure phase, mostly due to the psychological distress. Since these migrant workers have to adjust to the new surroundings and cope with the conditions there, their perception regarding possible risk factors at workplace are directly related with their sound mental health.<sup>3</sup> Although government of Nepal has system to certify migrant worker as mentally sound prior to their departure, mental health screening is not done and support is not provided through the certified clinical psychologists or psychiatrists.<sup>4</sup> Studies have found mental health problem among the returnee migrant workers but no such evidences exist for the pre-departure phase in Nepal.<sup>5</sup>

Thus, primary aim of this pilot study was to identify the prevalence of psychological distress, depression, anxiety and stress among migrant workers during pre-departure phase using validate DASS-21 as screening tool. Secondary objective was to validate the locally developed perception scale to measure the perceived risk factors for psychological distress at work place.

## METHOD

Descriptive cross sectional study was conducted among migrant workers attending pre-departure orientation program. Sample size for the pilot study was taken as 10% (39) of the total sample size (385), which was calculated using hypothetical psychological distress prevalence of 50% to allow the largest sample size for Masters in Public Health thesis requirement. Two pre-departure orientation training institutes of Kathmandu valley were

selected purposively and visited for three consecutive days. Eligible literate migrant workers who had already got visa for foreign employment and attending training sessions in these institutes in the study period were included.

Data were collected using the questionnaire that was divided into three parts, Socio-demographic and migration related; Depression Anxiety Stress Score (DASS-21), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI); and Pre-Departure Risk Factors Perception Scale (PD-RFPS). DASS-21, which had been translated and validated in Nepali elsewhere,<sup>6</sup> was used to measure the level of psychological distress, depression, anxiety and stress among the selected participants. DASS-21 is a tool to screen the severity of symptoms of depression, anxiety and stress but it is not used to diagnose the problem clinically.<sup>7</sup> Yet, BDI and BAI were administered to ensure the concurrent validity of depression and anxiety sub-scale of DASS-21 in local context. The PD-RFPS was developed locally by combining risk factors extracted from the literatures and two focus group discussions (FGDs) conducted among the male and female migrant workers during pre-departure phase of their journey. The PD-RFPS was discussed iteratively within and outside of study team to ensure its content validity. This tool contained 24 risk factors with 4-point forced Likert scale to measure the perception of the migrant workers. These questionnaires were self-administered to all the eligible study participants only after the written informed consent. This study was approved by the IRC-PAHS (Ref:PHP1906281263).

Data were entered using pre-defined data entry program in Epi-Info 7.2.2.2 software and cleaned in the same software. Cleaned data was exported as spreadsheet file, which was imported and analyzed in Easy R 1.38 software. Prevalence of psychological distress, depression, anxiety and stress were calculated using the standard DASS-21 Score cut off categories. The severity of symptoms of depression, anxiety and stress were categorized as mild, moderate, severe and extremely severe using DASS cut off category. Symptoms of moderate, severe and extremely severe were included to compute prevalence of severity of depression, anxiety and stress.

Coefficient alpha for DASS-21 scale (psychological distress) and each DASS sub-scales (depression, anxiety and stress) were also calculated to check the internal consistency reliability of the tool in the

local context. Likewise, Pearson's correlation coefficient was computed to check the concurrent validity of depression and anxiety sub-scale with BDI and BAI tools. Internal consistency reliability of the PD-RFPS tool was also computed. Finally, consensus index was computed to describe perception of risk factor at work place based on weighted average percentage of responses measured on the ordinal scale. Consensus index was used to measure how much participant agreed on the statement of risk factor at work place and its value ranged between 0 and 1. Value near to 1 indicated higher agreement with less dispersion and value near to zero or 0 indicated low agreement or no agreement with high dispersion.<sup>8</sup>

## RESULT

Prevalence of symptoms of depression, anxiety, stress and psychological distress were identified as

35.9%, 41.03%, 20.51% and 28.21% respectively based on moderate and severe categories. It also revealed substantial proportion of migrant workers having mild symptoms of psychological distress (Table 1). Coefficient alpha was 0.80 for depression, 0.78 for anxiety, 0.76 for stress subscales and 0.91 for DASS total (psychological distress) score.

Pearson correlation coefficient showed significant relation between DASS-Depression and BDI as well as between DASS-Anxiety and BAI. However, DASS-stress subscale was not related with BDI as well as BAI. However, DASS-stress subscale was related significantly with the DASS-Depression and DASS-Anxiety subscales. Likewise, DASS-Anxiety subscale was highly and significantly correlated with the DASS-depression subscale (Table 2).

**Table 1: Prevalence of depression, anxiety, stress and psychological distress among migrant workers during pre-departure phase, Kathmandu, Nepal**

DASS Subscale	Prevalence (N=39)				
	Normal	Mild	Moderate	Severe	Extremely severe
Depression	14 (35.9%)	11 (28.21%)	9 (23.08%)	2 (5.13%)	3 (7.69%)
Anxiety	20 (51.28%)	3 (7.69%)	9 (23.08%)	2 (5.13%)	5 (12.82%)
Stress	26 (66.67%)	5 (12.82%)	4 (10.26%)	3 (7.69%)	1 (2.56%)
DASS Score	21 (53.85%)	7 (17.95%)	5 (12.82%)	5 (12.82%)	1 (2.56%)

**Table 2: Correlation between DASS subscale, BDI and BAI**

	DASS-Depression	DASS- Anxiety	DASS- Stress	BDI	BAI
DASS-Depression	-				
DASS-Anxiety	0.743*	-			
DASS-Stress	0.592*	0.76*	-		
BDI	0.421*	0.468*	0.290	-	
BAI	0.475*	0.372*	0.249	0.709*	-

\*= P-Value <0.05

PD-RFPS tool was found be internally consistent with alpha value of 0.76. Consensus index revealed that nearly 74% of migrant workers perceived "safety standards at work place" as the main risk factor of psychological distress whereas between 60-70% of the migrant workers perceived "provision of leave", "followed contract properly", "get salary as per contract", "working condition is good", "place where I live is good", "get salary in time", "easy to contact with family" and "provision of paid leave" as risk factors for the psychological distress. Similarly, 50-60% of migrant workers

perceived "send money in time", "language problem", "unnecessary problem in work", "provision of rest", "work other than told", "adopt in local community", "food problem", "provision of unpaid leave", "family get problem", "work longer hour", "taken training" and "cultural problem" as risk factors for the psychological distress. And, nearly 40-50% of the migrant workers perceived "favorable weather", "can change company" and "can change work" as risk factors for the psychological distress.

**Table 3: Coefficient alpha of PD-RFPS and consensus index of risk factors at work place**

Coefficient alpha (Cronbach's alpha) of PD-RFPS = 0.76		
Item:	What if analysis: Alpha- if item-deleted	Consensus Index
Working condition is good	0.75	65.22
Safety standard at work is good	0.75	73.96
Taken training	0.78	51.45
Work other than told	0.75	55.81
Work longer hour	0.75	53.52
Language problem	0.76	57.79
Cultural problem	0.78	50.11
Food problem	0.76	54.00
Favorable weather	0.76	48.54
Adopt in local community	0.73	54.07
Followed contract properly	0.75	68.82
Can change company	0.76	45.42
Can change work	0.75	41.61
Get salary as per contract	0.74	66.30
Get salary in time	0.74	63.82
Provision of leave	0.74	69.23
Provision of unpaid leave	0.77	53.95
Provision of paid leave	0.74	60.19
Unnecessary problem in work	0.76	56.21
Provision of rest	0.75	56.07
Place where I live is good	0.75	64.93
Family get problem	0.77	53.95
Easy to contact with family	0.74	61.21
Send money in time	0.75	58.76

## DISCUSSION

Prevalence of symptoms of depression and anxiety was found high among migrant workers during pre-departure phase in this study than returnee migrant workers.<sup>9</sup> This indicates that migrant workers not only face challenges at work place, they also go through many challenges during pre-departure phase too. Level of severity of symptoms of anxiety and depression is also found higher among migrant workers during pre-departure phase than the general population as point prevalence of anxiety and depression among Nepali population was reported as 22.7% and 11.7% respectively.<sup>10</sup> This clearly indicates that various labor migration related factors can exacerbate the symptoms of anxiety and depression during pre-departure phase.

In the same vein, identified prevalence of symptoms of anxiety and depression in this study was also higher than the estimated global prevalence of depression (20%) and anxiety (21%) in a recent systematic review of depression and anxiety among migrant workers globally.<sup>11</sup> Level of general psychological distress of 28.21% as per DASS total score in this study is lower than the level of the psychological distress identified in the Sri-

Lankan study among aspiring migrant workers: 39.3% using K10 tools and 44.2% using GHQ12 tools.<sup>12</sup> These differences were most likely due to the differences of measuring tool but require further scrutiny.

DASS-21 in Nepali showed good internal consistency among the migrant workers as coefficient alpha of 0.80, 0.78 and 0.78 was obtained for depression, anxiety and stress respectively in this study. Thus, it can be used to screen symptoms of depression, anxiety and stress among the migrant workers in Kathmandu valley. Although this study found high internal consistency of 0.91 for psychological distress (DASS-21 total score), coefficient alpha for the DASS-subcales were found to be slightly lower than the original DASS measurements.<sup>13</sup> Most importantly, coefficient alpha of DASS-21 subscales in this study were similar to the coefficient alpha computed among Nepali speaking adults of Hong Kong, which was 0.77 for depression, 0.80 for anxiety and 0.82 for stress DASS-subcales.<sup>6</sup>

DASS-21 subscale showed positive correlation with each other (In Table 2). This indicated that migrant workers who experienced symptoms of depression also experienced some level of anxiety and stress.

DASS-Depression and DASS-Anxiety subscale showed statistically significant correlation with BDI and BAI respectively, suggesting a good concurrent validity of the DASS-21 tool among the Nepali migrant workers too. However, the magnitude of the correlation is found to be low compared to the previous studies<sup>13,14</sup>, which is mainly due to the small sample size used in this study. Most importantly, the study revealed that DASS-stress subscale was not related significantly with the BDI and BAI confirming DASS-stress sub-scale as independent factor than depression and anxiety within the DASS-sub-scales.

Coefficient alpha of PD-RFPS tool was found to be 0.76 and as it was more than 0.70 cut-off this is sufficient to establish internal consistency of this developed locally too. Pilot test raised questions on few items included in this tool as alpha increased after dropping few items but they were retained for the final study as coefficient alpha did not improve drastically and items were identified as important risk factors at workplace by the experts. This also means that PD-RFPS tool can be used to measure the perception of migrant workers in Nepal.<sup>15</sup>

Highest consensus for risk factor at workplace was found for “safety standard at work place is good” and lowest for whether one “can change work” at destination, which were 73.96% and 41.61% respectively. These risk factors were also highlighted as the major problems among the Nepali migrants working abroad.<sup>16,17</sup> Secondary analysis of information from returnee female migrants in Nepal showed significant association between health problem with unlimited period of working time, not being able to change one working place, leave provision, not being paid on time and who had a problem at their family.<sup>16</sup> Likewise, returnee Nepali migrants who had perceived bad working condition were also found at higher risk of experiencing mental health symptoms.<sup>5</sup> Similarly, cognitive preparedness and expectation at destination were identified as the reasons for pre-aculturative stress among pre-departure migrants from Russia to Finland.<sup>18</sup> This indicates that the perception of risk factors mentioned above might effect on psychological well-being of migrants during pre-departure period.

Since this is a pilot study with convenience sampling of the pre-departure training institutes and sample size was small, calculated prevalence of severity of symptoms of psychological distress cannot be generalized. On the other hand, as the

questionnaire was self-administered, participant’s misinterpretation on the questions/items due to language barrier and/or low level of education of migrant workers might have influenced the results even though they were minimized during the data collection phase.

## CONCLUSION

Prevalence of severity of symptoms of psychological distress, depression, anxiety and stress among migrant workers during pre-departure phase indicates the immediate need for interventional strategies by the government, its concern bodies and other non-governmental organizations. Early diagnosis and treatment is the key for ensuring health and safety of migrant workers and it is necessary to supplement the pre-departure screening of mental health condition by clinical psychologists for general counselling for mild and moderate symptoms followed by psychiatrists for severe and extremely severe symptoms. As there are very few researches and publications on mental health of migrant workers on pre-departure phase, more robust studies are needed to generalize the findings at national, regional and international levels.

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## REFERENCES

1. Adhikary P, Keen S, van Teijlingen E. Workplace Accidents Among Nepali Male Workers in the Middle East and Malaysia: A Qualitative Study. *J Immigr Minor Health*. 2019 Oct; 21(5):1115-1112. DOI: <http://dx.doi.org/10.1007/s10903-018-0801-y>
2. Ministry of Labour and Employment. Labour Migration for Employment: A Status Report for Nepal:2015/2016-2016/2017. Gov Nepal. 2018. Available from: <https://asiafoundation.org/wp-content/uploads/2018/05/Nepal-Labor-Migration-status-report-2015-16-to-2016-17.pdf>
3. Chapagai M, Sb P, Tulachan P, Dhungana S. Psychiatric morbidity among repatriated Nepalese foreign labor migrants-a hospital based study. *J Inst Med*. 2017;39:33-7. Available from: [www.jiom.com.np](http://www.jiom.com.np)

4. Editor, T. Migrant worker and Mental health in Nepal. *J Psychiatr Assoc Nepal*. 2014;1(1). DOI: <http://dx.doi.org/10.3126/jpan.v1i1.9917>
5. Adhikary P, Sheppard ZA, Keen S, Teijlingen E van. Health and well-being of Nepalese migrant workers abroad. *Int J Migr Heal Soc Care*. 2018 Jan 10;14(1):96–105. DOI: <https://doi.org/10.1108/IJMHC-12-2015-0052>
6. Tonsing KN. Psychometric properties and validation of Nepali version of the Depression Anxiety Stress Scales (DASS-21). *Asian J Psychiatr*. 2018;8:63–6. DOI: 10.1016/j.ajp.2013.11.001
7. Psychology Foundation of Australia. Depression Anxiety Stress Scale - DASS. 2018 [cited 2019 Feb 16]. Available from: <http://www2.psy.unsw.edu.au/groups/dass/>
8. Tastle WJ, Russell J, Wierman MJ. A new measure to analyze student performance using the likert scale. *Proc ISECON*. 2005;6(35). Available from: <http://isedj.org/6/35/>
9. Adhikary P, Sheppard ZA, Keen S, Teijlingen E Van. Risky work : Accidents among Nepalese migrant workers in Malaysia , Qatar and Saudi Arabia. *Heal Prospect J Public Heal*. 2017;3–10. DOI: 10.3126/hprospect.v16i2.18643
10. Risal A, Manandhar K, Linde M, Steiner TJ, Holen A. Anxiety and depression in Nepal: Prevalence, comorbidity and associations. *BMC Psychiatry*. 2016;16(1):1–9. DOI: <http://dx.doi.org/10.1186/s12888-016-0810-0>
11. Lindert J, Priebe S, Mielck A, Bra E. Depression and anxiety in labor migrants and refugees – A systematic review and meta-analysis. *Soc Sci Med*. 2009;69:246–57. DOI: <https://doi.org/10.1016/j.socscimed.2009.04.032> %0A
12. Galappaththi R. Psychological Distress among Aspiring Sri Lankan Migrant Labour Workers and Associated demographic variables. 2018. Available from: <https://www.academia.edu/38368829/>
13. Lovibond PF. The Structure of Negative Emotional States : Scales ( DASS ) With the Beck Depression and. *Depression*. 1995;33(3):335–43. DOI: 10.1016/0005-7967(94)00075-U
14. Antony MM, Bieling PJ, Enns MW, Swinson RP. Psychometric properties of the 42-item and the 21-item version of the DASS in clinical groups and a community sample. *Psychol Assess*. 1998;10(2):176–81. DOI: 10.1037/1040-3590.10.2.176
15. Santos JR. Cronbach’s alpha: A tool for assessing the reliability of scales. *J Ext*. 1999;37(2):1–5. Available from: <https://www.joe.org/joe/1999april/tt3.php/journal-current-issue.php>
16. Simkhada P, Van Teijlingen E, Gurung M, Wasti SP. A survey of health problems of Nepalese female migrants workers in the Middle-East and Malaysia. *BMC Int Health Hum Rights*. 2018;18(1):1–7. DOI: 10.1186/s12914-018-0145-7
17. Regmi PR, van Teijlingen E, Mahato P, Aryal N, Jadhav N, Simkhada P, et al. The Health of Nepali Migrants in India: A Qualitative Study of Lifestyles and Risks. *Int J Environ Res Public Health*. 2019;16(19):3655. DOI: 10.3390/ijerph16193655
18. Jasinskaja-lahti I, Yijälä A. The model of pre-aculturative stress — A pre-migration study of potential migrants from Russia to Finland. *Int J Intercult Relations*. 2011;35:499–510. DOI: 10.1016/j.ijintrel.2010.11.003