

Prevalence and Measurement of Anxiety and Depression in Working Nurses in Nepal: A Reflection of Professional Hazard in Low Income Nation

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Abstract

Background Anxiety, Depression is one of the under reported, underdiagnosed in Nepal though it is the leading cause of incapacitation and is the leading healthcare burden worldwide. The prevalence of anxiety, depression among health personnel is not reported. In this study we attempted to assess the incidence and impact of depression and anxiety in nurses who are working upfront in different hospitals. Method A cross-sectional study and observational analysis was carried out and the sample was collected from nurses working in different hospitals who had spent 6 months or more time as a working nurse in those hospitals. Prevalence of anxiety and depression was assessed using a structured validated questionnaire, The Hamilton Anxiety Scale (HAM-A) with a cut-off score for various levels of anxiety. Similarly, General Anxiety Disorder Questionnaires (GAD), Hamilton Depression Rating Scale (HAM-D) was used to assess depression and anxiety. Result The analysis of these different scales revealed that disabling anxiety prevailed at highest (43.6%) in nursing staff according to HAM-A scale. Moderate anxiety also seemed to be higher (>20%) in GAD questionnaire. The moderate to severe anxiety prevailed in majority of our study participants in all these scales (HAM-A, HAM-D, GAD). Interestingly, there seemed a strong association between HAM-A to GAD ($p=0.008$). Conclusions This is probably the first study of its kind that reports on the prevalence of anxiety, depression in the nurses who work in different hospitals in Nepal. We hope this study also depicts the mental health problems that the nursing professionals are suffering in other nations as well. Keywords: Anxiety, Depression, Nurse, Mental Health, Low- and Middle-Income Countries

Background

Anxiety and depression are one of the most common mental health issues. Several research reports on the prevalence of depression and anxiety on medical, nursing students. [1] The high intensity of training, high targets to achieve are some of the important reasons for the depression and anxiety in them.

The formal nursing education in Nepal has started only during 1950s before which there was no single health institution involved in nursing or other medical education. [2] Today, nursing education system has entered the maturity in Nepal. Several universities and numerous affiliated colleges at both government and private sectors in different regions of Nepal run nursing education. In Nepal, there are various categories of nursing education and the degrees are awarded accordingly. Among the various categories, there are two formal nursing degrees.

1. The proficiency certificate level in nursing (PCL) or staff nurse which was started in 1999. PCL nursing is one of the prominent and popular disciplines within the Nursing profession. It is taught for 3 years and is given equivalence to the diploma in nursing internationally. This curriculum is designed with the purpose of producing middle level technical nursing workforce equipped with knowledge and skills related to the field of nursing to meet the demand of such workforce in the country to contribute in the national economic and health development of Nepal. In total three years; the first-year course is focused on basic nursing care in hospital and in the community: foundation nursing practices; the second-year

course is focused on preventive, promotive as well as therapeutic nursing care of sick adult and elderly individual as well as mentally ill individual. Similarly, the third-year course comprise of the pediatric, midwifery and gynecology as well as leadership and management.

2. The other popular formal nursing course is Bachelor of science in nursing (B.Sc. Nursing). This is a 4 years course. The Program aims to prepare professional nurse with the highest possible technical and managerial competence in respective level of health programs, including problem identification, planning, implementing, training, health education, evaluation and research. This program is equivalent to international BSc Nursing. The salary and pay are a major issue in Nepal's nursing profession. The average salary of a junior nurse is around \$ 100 a month. With the bachelor's degree, the pay could rise as high as \$ 200, which is still a meagre amount in comparison to the developed nations. To get a nursing education, the expenditure on average involves paying \$ 3000 for PCL and \$12000 or more for B.Sc. Nursing (according to the admission section of a parent University).

Demand of nurses is another major issue in the country. The nurse to patient ratio should be according to workload and nurses' specialization. [2] This ratio is very low in Nepal. Usually 20-30 occupant (patients) in a unit is covered by only 1-2 nurses in most hospitals. Usually, they also must carry out non-nursing jobs which are time consuming and distract them from their work. Overload and overwork are one of the challenges facing nurses in Nepal.

Anxiety and depression in nurses have been quite dreadful than perceived. Systematic reviews and meta-analyses indicated that the prevalence of anxiety and depression among medical students worldwide was around 28%, and suicidal ideation was 11.1%. [3-5] However, not many papers report the prevalence of anxiety and depression among nurses employed in hospitals. [6] However each papers from around the world on depression symptoms indicate the prevalence of anxiety symptom from 18% to 40% in nurses in United States, 11% to 80% in Iranian nurses, [7] 35% in Chinese nurses [8] while 41.2% in Australian nurses. [9] A survey done in Vietnam showed that the prevalence of depression and anxiety is higher than the prevalence of anxiety and depression in general population of that country. [10, 11] The low socio-economic status, longer working period, uncertainty for the future and low earning than the counterparts working in abroad countries add the fuel to the fire of anxiety and depression.

Depression in nursing profession should be addressed as it may significantly impact the quality of care they provide to the consumers. In this study we have attempted to see the prevalence of anxiety and depression among nurses who are working in different hospitals in Nepal. Nurses regularly face a various types of stressors including but not limited to : work hours, meeting patient's needs, and the patient attendant's expectations, lack of professional support. [9] The greatest concern is that the depressed staff often exhibit low mood, difficulty focusing and as a result are accident prone and lower total work output and decreased efficiency. [12, 13] The accurate measurement and identification of depression and anxiety is challenging because of frequent overlapping or co-occurrence of these conditions.

Methods

Design: This was an observational cross-control study to examine the prevalence of anxiety and depression in a cohort of Nepalese nurses working in different hospitals.

Sample and setting: Nurses who were already employed and working in bigger hospitals were only included in the study. Data were collected using the different set of questionnaires (HAM-A, HAM-D and GAD) were used for the assessment of anxiety and depression. Rationale for the study was that we wanted to see the level of depression in employed nurses. Our assumption was that nursing students are more vulnerable to depression as they are more surrounded by stressful situations for example, uncertainty of graduation, uncertainty of getting good job, uncertainty of materializing dreams. Nurses who have graduated and have been employed in bigger hospitals would have comparatively lower depression than their counterpart. Hence, we only selected the nurses employed in bigger hospitals. We were also particular to selecting only those nurses who had no anxiety history in the family or family relatives. The level of anxiety depression was based on the scores and their respective cutoff points. HAM-A consisted of mild, moderate, severe, grossly disabling depression, while GAD included as mild, moderate, and severe based on their scores respectively. HAM-A is a checklist of self-answerable questionnaires that assist a clinician in evaluating each participant as to the degree of anxiety and pathological condition. It is one of the first rating scales developed to measure the severity of anxiety symptoms and is still widely used today in both clinical and research settings. It consists of 14 items -, each defined by a series of symptoms. The total score range of 0-56, where less than 17 indicated mild severity, 18-24 mild to moderate severity and 25-30 as moderate to severe. [14] GAD is also another easy to perform initial screening tool for generalized anxiety disorder. We have used 7 elements of GAD questionnaires, also called as GAD7 and it is obtained by adding score for each question. The result was grouped according to the score achieved. From score 0-5 was grouped as mild anxiety, 6-10 as moderate anxiety, 11-15 as severe anxiety. Using a threshold of 10, it has shown fair amount of Sensitivity (>89 %) and Specificity (>82%). [15] Anxiety, Depression was measured using HAM-D, HAM-A, and GAD 7 scales. HAM-D consisted of 21 questions among which if the participants are diagnosed as from none to severe anxiety according to the score, they get up to the 17th questions. HAM-A consists of 14 sets of questions and the score of <17 denotes mild severity while >25 denotes severe.

Data collection and data analysis: Data were collected from 64 clinically active nurses working in different hospitals in Nepal. The data were collected in 2 months duration (July-August 2019) and since we were very rigid about the selection, we were not able to collect many participants (n=64). Nevertheless, this study was a pilot study and the preliminary results would help us carry further researches. Prior to inclusion, all participants were screened for chronic diseases including previously diagnosed clinical depression, or other mental health issues and were excluded from the study if found. The personal history for the exclusion was chronic smoking habits (>10 cigarettes per day), alcohol intake (more than 16 standard drinks per day). Data were entered and analyzed with SPSS (version 20). The descriptive statistical analysis was run through the data. The frequency was calculated using descriptive analysis

and the association between different scales (HAM-A and GAD) and (HAM-D and GAD) was analyzed by using analysis of variance (ANOVA) one way.

Ethical consideration: Participants were well informed in written as well as in oral form. Their names were coded, and all other information were kept secret. The data was entered by one of the authors who was blinded to the participants. Only those participants were included who consented

Results

Interestingly, only female pursue the career as a nurse in Nepal and hence our study consisted of only female sex. Unfortunately, we could not show the gender difference in anxiety and depression in our study because of the above reason. The analysis for each of the scales used in this study was done. The analysis revealed that highest number of participants (43.6 %) were suffering from disabling anxiety according to HAM-A scale. Apart from that, 20.5% of participants had mild and 9% had severe anxiety (table 1). None of our participants denied any anxiety. In GAD scoring, the analysis revealed that 25.6% of our participants suffered from moderate anxiety, while 10.8% had severe anxiety and 16.7 % had mild anxiety (table 2). Like the HAM-A scale, none of our GAD participants denied anxiety. There was a strong correlation between HAM-A and GAD as well as in HAM-D and GAD in our participants which was seen in ANOVA. The association between HAM-D and GAD had significant positive correlation ($p=0.016$), and the association between HAM-A and GAD even showed stronger positive correlation ($p=0.008$).

Discussion

There is a vast body of literature on anxiety and depression on general population but not much on working nurses and very few on low economic countries. Nepal falls in a low and middle-income countries and the social anxiety disorder is much prevalent in these nations[16], yet only few literatures emphasize on the mental health issues in health personnel especially on the nurses who are not the students anymore. In nurses who are working, it is expected to have comparatively lesser anxiety in the employed groups rather than the student group as they have no more study or exams or other procedures to perform. Contrary to this, our study revealed that the anxiety level is very prevalent in the employed nurses. It aligns with the analysis done by Letvak et al, and Mahraj et al, in which they found that the hospital employed nurses have higher rates of depressive and anxiety symptoms.[6, 9] Similar kind of result in our study could be mainly due to the poor working condition, low salary jobs and as a result low satisfaction to the job. The lack of insurance policy, insecure future in hospital and fewer number of nurses to large number of patients are some important factors contributing to the dissatisfaction of nurses towards their profession and causing anxiety and depression. The ratio of patient to nurse is very low in Nepal. Usually 20-30 occupant (patients) in a unit is covered by only 1-2 nurses in most hospitals. Usually, they also must carry out non-nursing jobs which are time consuming and distract them from their work. Overload and overwork are one of the challenges facing nurses in Nepal. The duty hours are very high (it is usually called double duty in Nepal in which nurses work from morning 7AM till 6PM). High number of nurses migrating to foreign countries is prevalent in Nepal. Comparatively easier access to the

foreign countries like Australia, UK with better working environment and higher salary with comparatively secured job are some main factors attracting nurses. As a result, recent data shows that in Nepal every 1 among 6 nurses successfully get the visa and migrate to other countries working as a nurse (applicants are many more.) On addition to these, highly stressful job, and low number of staff also could be the reason for anxiety and depression. High turnover, absenteeism, and lost productivity within the health workforce could amplify shortages and easily leave facilities understaffed and unable to meet patient demands, placing patients at risk.[17] The low job satisfaction is one of the reasons for the anxiety symptoms among working nurses as found in a study on German nurses.[18] There can be serious consequences to the situation where staff work under extreme anxiety and stress. Several researches have shown that poor mental health may led to decrease in cognitive performances and ultimately resulting in inadequate performance.[19] There are some limitations in our study. A small representative sample is one of the main limitations of this study. Another limitation is that the study is a cross-sectional observational study design, and self-answerable questionnaire were used, which is very subjective and variable in understanding. Thus, further research seems inevitable that would include larger sample and different other questionnaires with higher specificity. Nevertheless, our study points out several important aspects of mental health in working nurses that needs to be considered. Further research may benefit from larger sample, and longitudinal type of study as well as more elements to be included. A more comprehensive assessment of demographic, personal and work-related factors need to be included as well.

Conclusions

Nursing is an indispensable part of our health care system. Patient care, hospitalization rely heavily upon their ability to work optimally and without them it would be impossible to deliver the best possible care. Thus, the increasing anxiety depression among nurses cannot be afforded to ignore. The higher prevalence of anxiety depression among nurses as shown through our study is a witness of the fact that the working situation of nurses need to be considered in due time. The anxiety among working nurses may not be totally preventable but the recognition of the problem would certainly bring many measures to curb it down.

The limitation of this study was that it consisted of a smaller sample, with homogenous gender. Thus, further bigger research is needed to help care for the well-being of nurses and minimize poor mental health in workplace. This study certainly calls for the policy makers to consider the situation and bring out any short term and long-term support strategies and interventions that would combat the psychological stress and exhaustion and thus improve the mental health of working nurses.

Abbreviations

HAM-A: The Hamilton Anxiety Scale

GAD: General Anxiety Disorder Questionnaires

HAM-D: Hamilton Depression Rating Scale

IRC: Institutional Review Committee

Declarations

Ethics approval and consent to participate

This study was reviewed and approved by the institutional review committee (IRC) of Annapurna Neurological Institute and Allied Sciences. It was conducted in accordance with the Declaration of Helsinki. Additionally, all participants who agreed to participate were only enrolled after giving written informed consent.

Consent for publication

Not Applicable

Availability of data and materials

The data and materials are stored and are available.

Competing Interests

None to declare

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Authors' Contributions

All authors have made substantial contributions to this manuscript. PK contributed to the conception and drafted the article. GJWK and AC critically revised the article. AC contributed to the statistical analysis, study design

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Tables

Anxiety	Frequency	Percent
HAM-A Mild Anxiety	16	20.5
Moderate Anxiety	5	6.4
Severe Anxiety	7	9.0
Disabling Anxiety	34	43.6

Table-1. Frequency chart of anxiety category according to HAM-A

Anxiety	Frequency	Percent
GAD Mild	13	16.7
Moderate	20	25.6
Severe	8	10.3
	41	52.6
	37	47.4
	78	100.0

Table-2. Frequency table for type of anxiety for GAD

Supplementary Files

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