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Original Research Paper

Psychology

EXTENT OF ANXIETY AND STRESS IN DIFFERENT GROUPS OF HEALTH CARE WORKERS OF SIKKIM BASED ON THEIR EXTENT OF INSOMNIA

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ABSTRACT The aim of the present study is to measure the extent of anxiety and stress among different groups of the health care workers (HCW) of Sikkim, based on the level of insomnia they were suffering from. The sample of the present study consisted of 153 HCWs. Depression anxiety and Stress Scale (DASS-21) and Insomnia Severity Index were administered. Different groups of health care workers, based on different levels of Insomnia were found to have different extent of anxiety and stress.

KEYWORDS : Anxiety, Stress, Insomnia, Health Care Workers, Sikkim, Covid-19

1. INTRODUCTION

During the COVID-19, the world saw a pool of changes in the field of professions and career. While work from home and online jobs became the new normal, health care sector carried the burden of continuing the old tradition of working on the front as well as struggled with facing the direct and maximum impact of the epidemic. On one hand, the health care workers were celebrated for their tireless efforts and heroic work during the COVID-19, on the other, an immense rise in their mental health problems were observed. Healthcare workers were under the colossal pressure of the society and their fraternity as they were simultaneously expected to give their continued services and also expose themselves to increased risks of the infection due to the very nature of their jobs. Pappa, S. et.al (2021) found in their study that more than half of healthcare workers had mild to severe mental health issues, depression, anxiety, traumatic stress, sleep issues, and burnout. Anxiety is defined as an affect with both psychological and physiological characteristics. It is usually identified as an unpleasant emotional state accompanied by physiological arousal and the cognitive components of apprehension, guilt and a sense of impending disaster while stress is a feeling or reaction individuals have when faced with a situation that demands action from them, especially actions that are beyond their capabilities. Alshekaili, M. et al (2020) stated that a significant number of healthcare workers were suffering from depression, insomnia, stress, and anxiety. Gupta, S. & Sahoo, S. (2020) observed the prevalence of anxiety, insomnia, depression, acute stress disorder, and other psychological problem in their study of mental health of healthcare workers during COVID 19. Sheraton, M. et.al (2020) found that insomnia was higher in healthcare workers than in non-healthcare workers during COVID-19 situation. Insomnia can be described as difficulty in going to sleep or staying asleep or not feeling rested after wakening. It was found by Nader Salari, et.al (2020) that increasing stress due to the COVID-19 pandemic has increased sleep disturbances among healthcare workers, especially those who are in the frontline. McCall et.al (2021) confirmed that cases of insomnia were associated with depression and anxiety, especially the new ones among healthcare workers. Shreffler, et.al (2020) and Tayyiba, et.al (2020) found in their respective studies that most of the healthcare workers were suffering from significant stress, anxiety, depression, and insomnia. Thakur, et. al (2021) saw that anxiety, stress, depression, and insomnia were found highest in frontline healthcare workers than in general healthcare workers. Very little work by Indian researchers have been done on anxiety, stress and insomnia among health care workers of the north-east India. The aim of the study was to fill the dearth of the same and produce some quality work towards the direction.

2. Objectives

To study the extent of anxiety & stress of different groups of HCWs based on their level of insomnia

3. Hypothesis

Different groups based on the different levels of insomnia will have different extent of anxiety and stress.

4. Method

4.1. Sample

This sample contained 153 individuals (healthcare workers) from around the state of Sikkim, India, who volunteered for the study. Health Care Workers, which included doctors, nurses, and administrative staff, were the subjects of the study.

4.2. Instruments

1. ***Insomnia Severity Index (ISI)*:** The Insomnia Severity Index was created by Morin. The Insomnia Severity Index (ISI) is a quick tool for determining the severity of both the overnight and daytime aspects of insomnia. The ISI is a seven-item self-assessment questionnaire that evaluates the nature, severity, and impact of insomnia. The dimensions evaluated are: intensity of sleep onset, sleep maintenance, and early morning awakening problems, sleep dissatisfaction, interference of sleep difficulties with daytime functioning, noticeability of sleep problems by others, and distress caused by sleep difficulties. Each question is rated on a 5-point Likert scale (e.g., 0 = no problem; 4 = extremely serious problem), generating a total score ranging from 0 to 28. Absence of insomnia (0–7); sub-threshold insomnia (8–14); moderate insomnia (15–21); and severe insomnia (22–28) are the four categories of the total score. It is a reliable and valid tool for detecting insomnia in the general population, as well as a sensitive indicator of therapy response in clinical patients. ISI has great internal consistency, test-retest reliability, and validity for the Indian population with cronbach's coefficients of 0.90 and 0.91

2.***The Depression, Anxiety, and Stress Scale -*** *21 Items* (DASS-21): Lovibond and Lovibond created this scale. Every one of

the three DASS-21 scales has seven things that are assembled into subscales that have comparable substance. Dysphoria, sadness, debasement of life, self-belittling, absence of interest/support, anhedonia, and idleness are completely surveyed on the downturn scale. Autonomic excitement, skeletal muscle impacts, situational tension, and emotional vibe of restless influence are totally estimated on the nervousness scale.

Constant vague excitement levels are touchy to the pressure scale. It assesses anxiety, restless excitement, and being effortlessly disturbed/upset, bad tempered/over-responsive, and fretful. Adding the scores for the significant components yields discouragement, nervousness, and stress scores. The unwavering quality of the DASS-21 was shown by Cronbach's upsides of 0.81, 0.89, and 0.78 for the burdensome, nervousness, and stress subscales, individually. It has high discriminative, simultaneous, and focalized legitimacy, just as high inner consistency. It corresponds well with the State-Trait Anxiety Scale and oneself rating misery scale.

5. Procedure

Firstly, the Insomnia Severity Index (ISI) was administered on the participants with proper instruction. Data was collected and scoring was done using the scoring keys provided. On the basis of the scores, HCWs were classified into four categories i.e., healthcare workers with No clinically significant insomnia, sub threshold insomnia, clinical insomnia (moderate) and clinical insomnia (severe). Now the participants from each level of insomnia were given the Depression, Anxiety, and Stress Scale i.e., DASS-21 (Anxiety & Stress dimension) with sufficient instruction. The information was gathered and scored using the scoring keys provided.

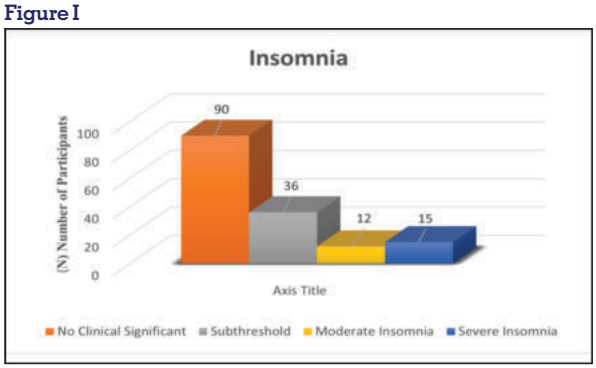
6. RESULT AND DISCUSSION

The percentage representation was calculated and using graphs and diagrams they are displayed as following:

Table I

Level of Insomnia	Number of Health care workers
No clinically significant	90
Subthreshold	36
Moderate insomnia	12
Severe insomnia	15

Figure I



From the data it's clear that according to the levels of Insomnia, healthcare workers were divided into four categories i.e., HCWs with no clinically significant insomnia, with subthreshold insomnia, moderate insomnia and severe insomnia.

No clinically significant insomnia was reported by 90 HCWs being the highest, followed by 36 HCWs in subthreshold category. Moderate level was reported by the least number of HCWs i.e., by 12 whereas 15 HCWs were found to be with severe insomnia level.

Table II -Insomnia and Anxiety

Showing the comparison of levels of anxiety in healthcare workers with different level of insomnia into five categories i.e., normal, mild, moderate, severe, and extremely severe.

Group	N	Normal		Mild		Moderate		Severe		Extremely Severe	
		N	%	N	%	N	%	N	%	N	%
No clinically significant	90	50	55.56	17	7.78	11	12.22	9	10	3	3.33
Subthreshold	36	22	61.11	5	13.89	4	11.11	3	8.33	2	5.56
Moderate Insomnia	12	4	33.33	3	25	2	16.67	2	16.67	1	8.33
Severe Insomnia	15	2	13.33	1	6.67	2	13.33	3	20	7	46.67

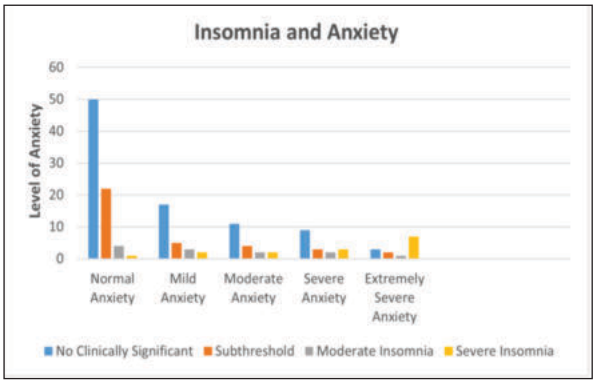
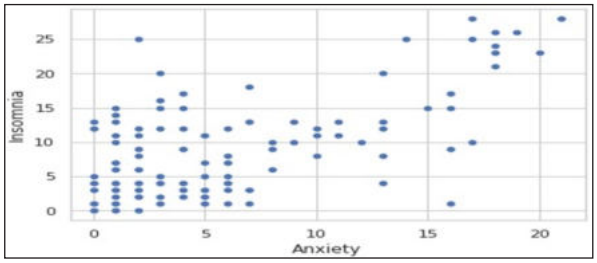


Table II and Figure II indicates that normal level of anxiety was reported by 55.56% of HCW with no clinically significant insomnia, 61.11 % of HCW with subthreshold insomnia,33.33 % with moderate insomnia and 13.33 % with severe insomnia. Mild level of anxiety was reported by 7.78% of HCW with no clinically significant insomnia, 13.89 % of HCW with subthreshold insomnia, 25 % with moderate insomnia and 6.67 % with severe insomnia. The table further shows that moderate level of anxiety was reported by 12.22% of HCW with no clinically significant insomnia, 11.11 % of HCW with subthreshold insomnia, 16.67 % with moderate insomnia and 13.33 % with severe insomnia. Severe level of anxiety was reported by 10% of HCW with no clinically significant insomnia, 8.33 % of HCW with subthreshold insomnia, 16.67 % with moderate insomnia and 20 % with severe insomnia. Finally, we can see that extremely severe level of anxiety was reported by 3.33% of HCW with no clinically significant insomnia, 5.56 % of HCW with subthreshold insomnia, 8.33 % with moderate insomnia and 46.67 % with severe insomnia.

On comparing the data within each group, we find that highest percentage of HCW with no clinically significant insomnia had normal level of anxiety, which was the same in case of HCW with subthreshold and moderately severe insomnia as well. Only in case of HCW suffering with severe insomnia, we find the shift is towards the other end i.e., the highest percentage shows extremely severe anxiety.

On comparing the numbers between the groups based on different levels of insomnia, we find that the highest percentage of HCW showing normal level of anxiety are the ones affected with subthreshold insomnia. Interestingly highest percentage of mild and moderate level anxiety was shown by HCW with moderate level of clinical insomnia. Finally, highest percentage of severe and extremely severe anxiety was reported by HCW suffering from severe insomnia. The data suggests a positive correlation between anxiety and insomnia which is further represented in the following diagram:



This Scatter plot, based on the raw scores of the participants on the respective tools ,shows that there is a positive corelation between insomnia and anxiety. This suggests that HCWs who reported severe level of insomnia also reported extremely severe levels of anxiety.

Table III -Insomnia and Stress

Showing the comparison of levels of stress in healthcare workers with different level of insomnia into five categories i.e., normal, mild, moderate, severe, and extremely severe.

Group	N	Normal		Mild		Moderate		Severe		Extremely Severe	
		N	%	N	%	N	%	N	%	N	%
No clinically significant	90	50	55.56	18	20	11	12.22	10	11.11	1	1.11
Subthreshold	36	25	69.44	4	11.11	3	8.33	3	8.33	1	2.78
Moderate Insomnia	12	5	41.67	3	25	2	16.67	1	8.33	1	8.33
Severe Insomnia	15	1	6.67	2	13.33	3	20	4	26.67	5	33.33

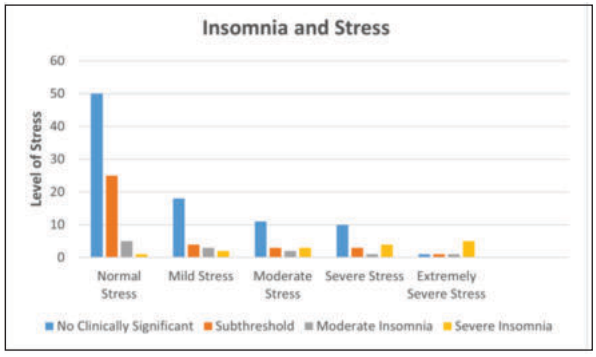
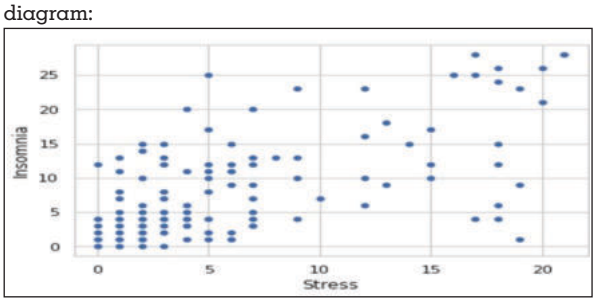


Table III and Figure III indicates that normal level of stress was reported by 55.56% of HCW with no clinically significant insomnia, 69.44 % of HCW with subthreshold insomnia,41.67 % with moderate insomnia and 6.67 % with severe insomnia. Mild level of stress was reported by 20% of HCW with no clinically significant insomnia, 11.11 % of HCW with subthreshold insomnia, 25 % with moderate insomnia and 13.33 % with severe insomnia. The table continues to show that moderate level of stress was reported by 12.22% of HCW with no clinically significant insomnia, 8.33 % of HCW with subthreshold insomnia, 16.67 % with moderate insomnia and 20 % with severe insomnia. Severe level of stress was reported by 11.11% of HCW with no clinically significant insomnia, 8.33 % of HCW with subthreshold insomnia, 8.33 % with moderate insomnia and 26.67 % with severe insomnia. Lastly, we can see that extremely severe level of stress was reported by 1.11% of HCW with no clinically significant insomnia, 2.78 % of HCW with subthreshold insomnia, 8.33 % with moderate insomnia and 38.33 % with severe insomnia.

On comparing the data within each group, we find that highest percentage of HCW with no clinically significant insomnia had normal level of stress, which was replicated in case of HCW with subthreshold and moderately severe insomnia as well. Only in case of HCW suffering with severe insomnia, we find the shift is towards the other end i.e., the highest percentage shows extremely severe stress level.

On analysing the data between the groups based on different levels of insomnia, we find that the highest percentage of HCW showing normal level of stress are the ones affected with subthreshold insomnia. Highest percentage of HCW showing mild level of stress are the ones affected with moderate insomnia. Interestingly highest percentage of moderate, severe and extremely severe stress was reported by HCW suffering from severe insomnia.

The data suggests a positive correlation between stress and insomnia which is further represented in the following diagram:



This Scatter plot, based on the raw scores of the participants on the respective tools, shows that there is a positive corelation between insomnia and stress. This suggests that HCWs who reported severe level of insomnia also reported extremely severe levels of stress.

7. CONCLUSIONS

Different groups of HCW based on the different levels of insomnia have different extent of anxiety and stress.

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