

Research Article

A Mixed Method Study to Assess the Risk and Experiences of Frontline Nurses Working in a Dedicated Covid Hospital at Bhubaneswar

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Received: 03.05.26, Revised: 07.06.26, Accepted: 04.07.26

ABSTRACT

Introduction: The world is grappling with an ongoing COVID-19 pandemic that has shaken the mankind to the core and disrupted the lives of everyone. The aim of this study was to assess the risk and experience of nursing officer's working in COVID-19 ward during COVID-19 second wave.

Methodology: A mixed method study was conducted in selected hospitals of Bhubaneswar, Odisha, to assess the impact of COVID-19 among 200 nursing officer's working in COVID-19 wards. Questionnaire which includes demographic profile, DASS-21 and insomnia severity index were used for risk assessment like psychological distress of depression, anxiety, stress and insomnia, Interview guide used to assess experience of nursing officers while working in the COVID-19 Ward.

Results: Out of 200 nursing officer's, 56 (28%) had mild level of depression, 54 (27%) had moderate level of depression and 5 (2.5%) had severe level of depression respectively. 76 (38%) had moderate level of anxiety, 50 (25%) had severe level of anxiety and 30 (15%) had mild level of anxiety respectively. 40 (20%) had mild level of stress, and 100(50%) had moderate level of stress respectively. 80 (40%) had Sub threshold insomnia, 70 (35%) had clinical insomnia (moderate severity), 50 (25.5%) had clinical insomnia (severe) respectively. Correlation between depression, anxiety, stress and insomnia shows positive correlation p-value is ($p=0.000$) are statistically highly significant. Selected demographic variables shows statistically significant association between level of psychological distress of depression, anxiety, stress and insomnia. There are three main themes and each theme had 3-4 sub themes for the qualitative part in relation to experience of nursing officers.

Conclusion: The present study concluded that COVID-19 second wave had a significant psychological impact on nursing officers.

Keywords: Nursing Officer's, Covid -19 Second Wave, Psychological Distress.

INTRODUCTION

The nursing community, accounting for the largest group of frontline health workers provided the infected patients of Covid-19 direct care [1]. Because of such infectious disease outbreak, persons in the medical and health care while playing the crucial part, put their health at risk and even their lives at stake [2]. Long working hours, heavy load of work, relentless virus exposure, recurring and proximal contact with patients infected with Covid-19, lack of PPE, social stigmatization, media pressure, outstanding numbers of death caused extreme psychological distress and exertion in the attending medical personnel. Similarly, nurses were subjected to extreme physical strain due to long durations of wearing non-standard PPE, excessive perspiration, dehydration, scars and breathlessness [3]. These factors culminated in reduction of quantity and quality of patient care and a sense

of feeling of loss of hope and helplessness among the attending nurses [4,5].

The present study would be helpful to understand, improve and promote patients' health to explain nurses' perceptions of providing health care to the Covid-19 patients. [6]. This will be better understood through a qualitative study of the nurses' experiences while attending to Covid-19 patients since qualitative research is commonly used to examine and investigate such phenomena in depth [7]. The healthcare system in Iran was affected significantly by the COVID-19. In order manage the outbreak, the Iranian government established many COVID-19 wards in various hospitals across the. As a result, nurses were assigned to work in these wards, which increased their risk contracting the virus. Furthermore, nurses had to adapt to new protocols, work longer hours, provide care for critically ill patients.

NEED OF THE STUDY

The nurses become physically and mentally worn out and depleted. Additionally, I am aware that mental strain is even more of a problem than it was previously. In this time of need, the mental and physical strain that nurses must bear may change their lives. Nurse leaders will have to deal with problems that may not have been there before. Financial strains will be felt. A virus that remains a global threat despite our limited understanding of it will need to be explained. Additionally, there will be work to restore those who have become worn out from fighting. We ought to begin the difficult work of looking ahead and providing care to those who have provided such unwavering care to patients and their families [8].

Nurses often experience significant psychological stress due to heavy workloads, shift duties, working hours which are long and high-risk work environments. Nurses are top medical service professionals who work in critical care clinics, remote care offices, nursing homes, schools, networks and government organizations providing medical services. During this COVID-19 pandemic, the multiple roles and responsibilities of nurses are particularly critical as they provide education on health, screening services, and help to not only the general public but also to the high-risk individuals [9]. In order to develop effective treatment options and preventive measures, health professionals need to estimate the impact that Covid-19 outbreak has on the nurses psychologically [10].

According to quantitative studies, frontline healthcare workers treating patients with COVID-19 are more likely to suffer from mental health problems such as anxiety, depression, insomnia, and stress [20]. Nurses who worked during the pandemic reported that their experience was "physically and emotionally draining [11].

Objectives of the Study:

- The objective of the study includes evaluating the risk factors that nurses on a COVID faced during the second wave COVID-19, which include depression, anxiety, stress. The results obtained can used to customize support, enhance

resources and tackle obstacles promptly for both and future enhancements.

- Determine the correlation between insomnia and psychological distress provoked by depression, anxiety stress.
- Conduct a to examine the experiences of nurses who worked on a COVID ward the second wave of COVID19.
- Evaluate how second wave of COVID effected- the caregivers' psychological well-being, incorporating depression, anxiety, stress and insomnia.

The Literature Review has been Compartmentalized into Three Sections for Presentation.

- Section A - Prevalence literature of nursing personnel at risk from the COVID-19 pandemic
- Section B - Literature on depression, anxiety and stress endured by while facing the covid-19 pandemic
- Section C - Literature on Nurses' Experiences during the pandemic of the Covid-19

METHODOLOGY

A Qualitative and Quantitative Approach and a mixed method strategy for the study is suitable. Risk and experience of nursing officer are the research variables in this study. 200 nurses will be selected from the Dedicated COVID hospital to participate in the study for quantitative part. Around 30 Nursing officers will be selected for in-depth interview for the qualitative part to explore their experience. These samples were selected through purposive sampling technique. To assess the level of DAS, presence of DASS 21 questionnaire were used; to assess the severances and the nature of insomnia among all the nursing officers the Insomnia severity index-7 questionnaire was used and Interview guide to conduct in depth interview for participants to explore their experience during working in the covid ward. The Cronbach's alpha values for the DASS-21 subscales are 0.81, 0.89, and 0.78 for DAS respectively. The Insomnia Severity Index also showed promising results, with a Cronbach's alpha of 0.90 and 0.91.

RESULTS

Table 1: Frequency and Percentage wise Distribution of demographic among Nursing Officer Working in COVID Ward

Sl. No	Variables	Frequency	Percentage
1	Age		

	21- 25 Years	80	40
	26-35 Years	50	25
	36-45 years	50	25
	Above 45 years	20	10
2	Gender		
	Male	30	15
	Female	170	85
3	Marital status		
	Single	50	25
	Married	130	65
	Others	20	10
4	Types of Family Nuclear Family Joint Family	180	90
		20	10
5	Number of children		
	1	50	25
	2	20	10
	>2	30	15
	None	30	15
6	Domicile		
	Rural	50	25
	Urban	150	75
7	Education		
	Diploma Nursing	120	60
	BSc Nursing	70	35
	MSc Nursing	10	5
8	Work experience		
	1-5 years	50	25
	6-10 years	100	50
	10-20 years	40	20
	>20 years	10	5

The table no. 1 revealed that Out of the 200 nursing officer, Majority of the nursing officer 80 (40%) were in the age group 21-25 years. Most of the nursing officer was female 170 (85%). Majority of the nursing officer were belongs to married 130 (65%). Most of the nursing officer was nuclear family 180 (90%).

Majority of the nursing officer were having one child 50 (25%). Most of the nursing officer 150 (75%) lived in urban area, majority of the nursing officer were completed in GNM nursing 120 (60%). Most of the nursing officer 100 (50%) were having 1- 5 years.

Table no. 2: Frequency and Percentage Wise Distribution of Level of Depression Experienced by Nursing Officers Working in COVID Ward

Level of depression	Frequency	Percentage
Normal (0-9)	5	2.5
Mild (10-13)	56	28
Moderate (14-20)	54	27
Severe (21-27)	5	2.5
Extremely Severe (28+)	0	0

Table 2:- Frequency and percentage wise distribution of level of depression experienced by nursing officers working in COVID ward. Majority of the nursing officers 56 (28%) had

mild, 54 (27%) had moderate level of depression, and 5 (2.5%) had severe level of depression respectively.

Table No. 3: Frequency and Percentage Wise Distribution of Level of Anxiety Experienced by Nursing Officers Working in COVID Ward

Level of Anxiety	Frequency	Percentage
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Normal (0-7)	44	22
Mild (8-9)	30	15
Moderate (10-14)	76	38
Severe (15-19)	50	25
Extremely Severe (20+)	0	0

Table 3:- Frequency and percentage wise distribution of level of anxiety experienced by nursing officers working in COVID ward. Majority of the nursing officers 76 (38%) had

moderate level anxiety, 30 (15%) had mild level of anxiety, 50 (25%) had severe level of anxiety and 44 (22%) were normal.

Table 4: Frequency and Percentage Wise Distribution of Level of Stress Experienced by Nursing Officers Working in COVID Ward

Level of Stress	Frequency	Percentage
Normal (0-7)	40	20
Mild (8-9)	40	20
Moderate (10-14)	100	50
Severe (15-19)	20	10
Extremely Severe (20+)	0	0

Table 4:- Frequency and percentage wise distribution of level of stress experienced by nursing officers working in COVID ward.

Majority of the nursing officers 100 (50%) had moderate level of stress, 40 (20%) had mild level of stress, and 40 (20%) were normal.

Table 5: Frequency and Percentage Wise Distribution of Level of Insomnia Experienced by Nursing Officers Working in COVID Ward

Level of insomnia	Frequency	Percentage
No clinically significant insomnia (0-7)	0	0
Sub threshold insomnia (8-14)	80	40
Clinical insomnia (moderate severity) (10-14)	70	35
Clinical insomnia (severe) (22-28)	50	25

Table 5:- Frequency and percentage wise distribution of level of insomnia experienced by nursing officers working in COVID ward. Majority of the nursing officers 80 (40%) had

Sub threshold insomnia, 70 (35%) had clinical insomnia (moderate severity), and 50 (25%) had clinical insomnia (severe).

Table 6: Correlation Between Psychological Distress of Depression, Anxiety and Stress and Insomnia Experienced by Nursing Officers Working in COVID Ward

Correlation Between Psychological Distress of Depression, Anxiety and Stress and Insomnia Experienced by Nursing Officers Working in Covid Ward	Mean	Sd	'R' Value	'P' Value
Depression	8.67	5.13	0.230	0.000** HS
Insomnia	14.19	7.77		
Anxiety	9.43	4.97	0.234	0.000** HS
Insomnia	14.19	7.77		
Stress	9.92	4.64	0.232	0.000** HS
Insomnia	14.19	7.77		

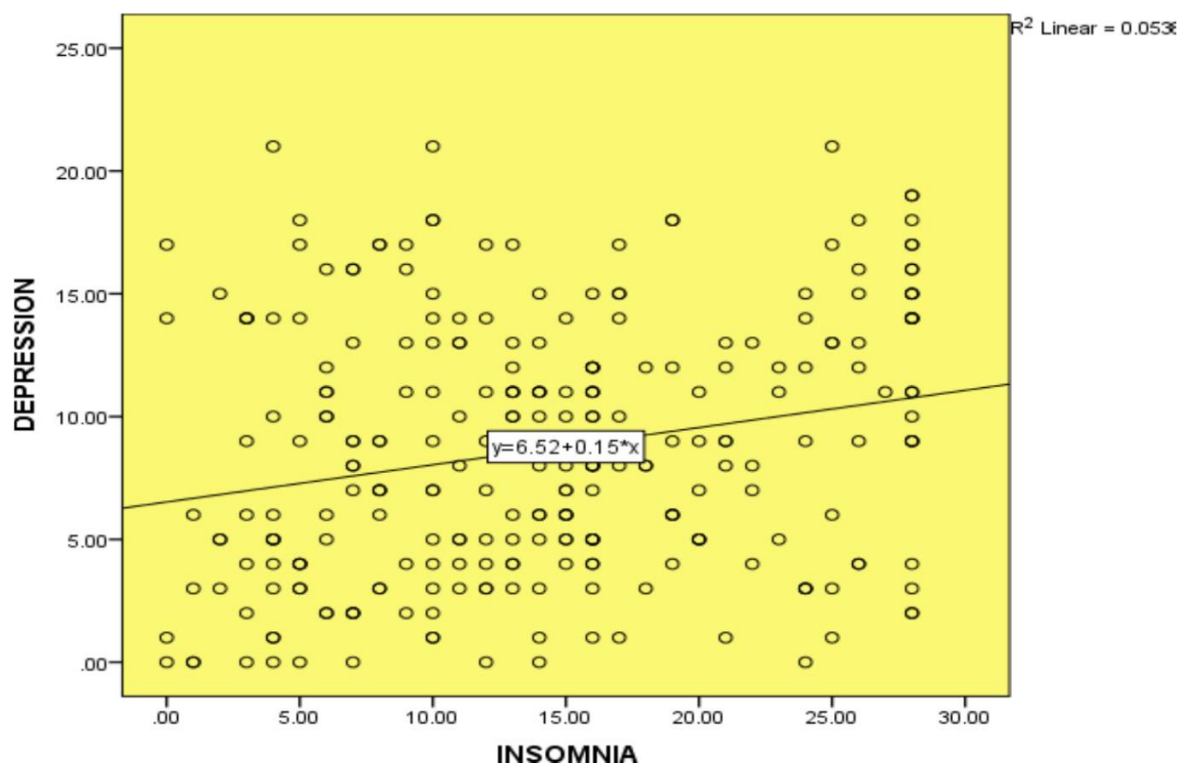


Fig: 1 Scatter Diagrams Shows Correlation between Depression and Insomnia Experienced by Nursing Officers Working in COVID Ward (Positive correlation)

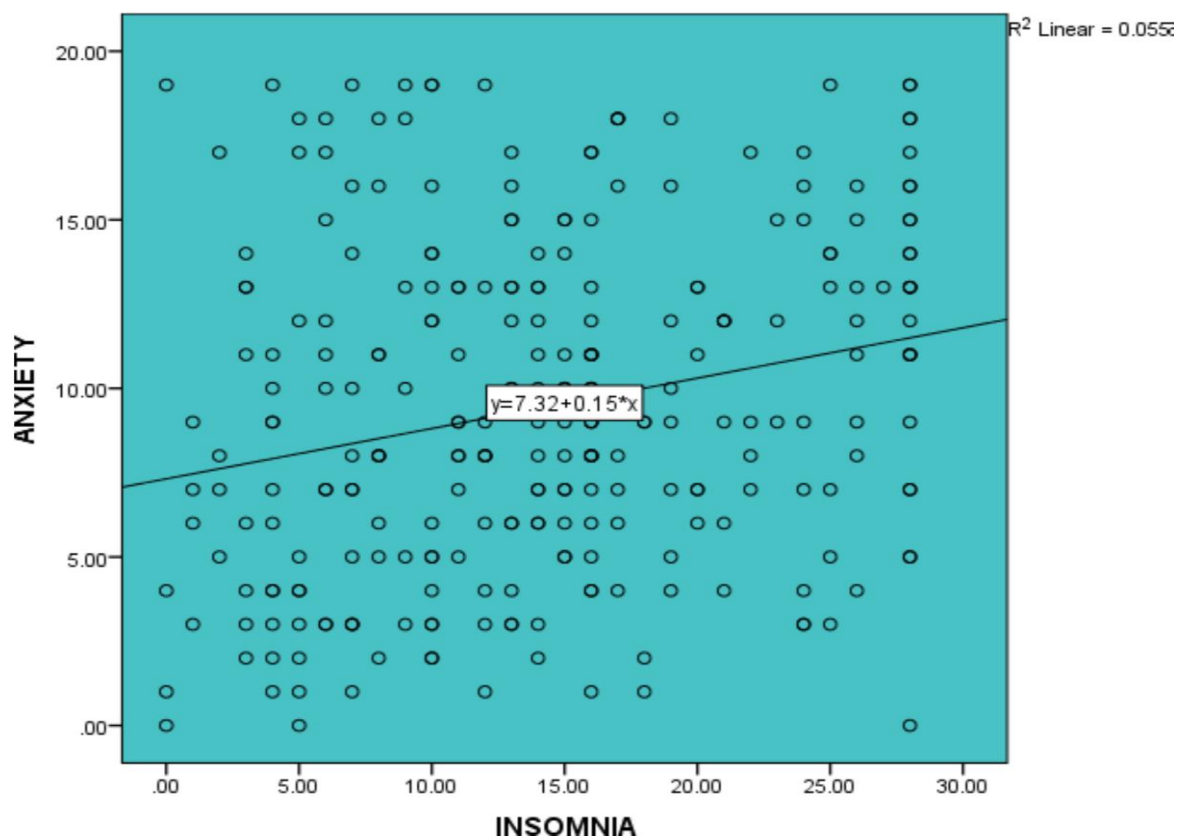


Fig: 2 Scatter Diagrams Shows Correlation between Anxiety and Insomnia Experienced by Nursing Officers Working in COVID Ward (Positive correlation)

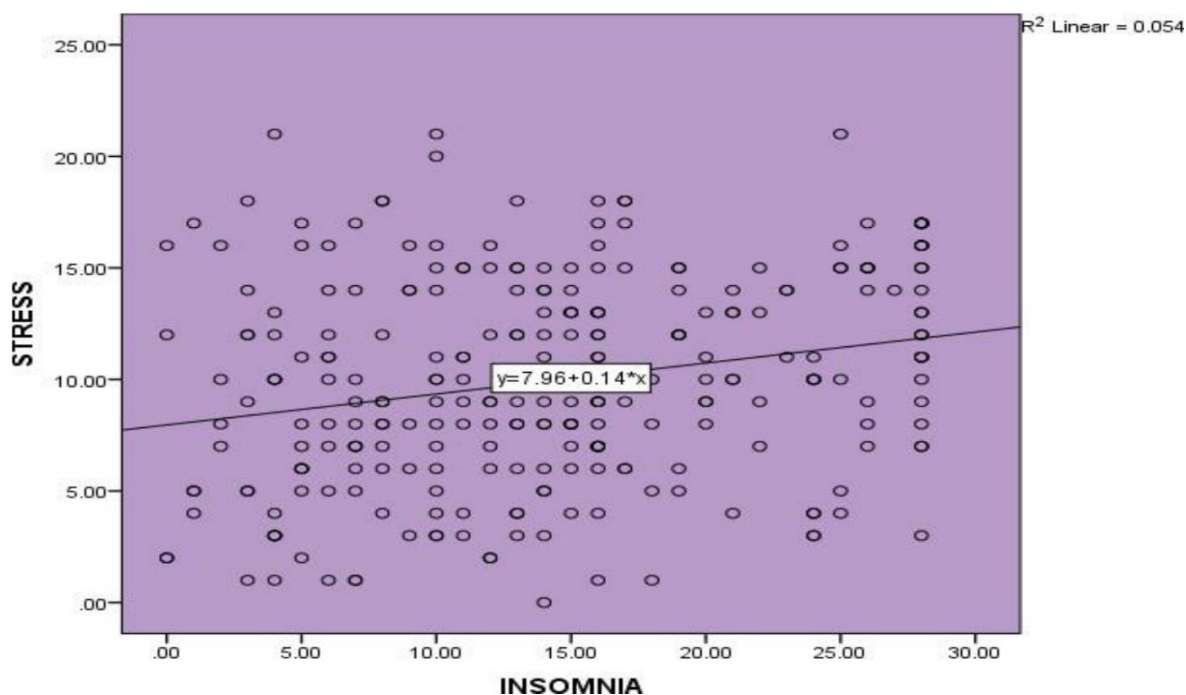


Fig: 3 Scatter Diagrams Shows Correlation between Stress and Insomnia Experienced by Nursing Officers Working in COVID Ward (Positive correlation)

Table 6 and fig. No. 1,2 & 3 shows Correlation between depression and insomnia indicates the positive correlation and shows the results pearson correlation r- value is (0.230), p-value is (p=0.000) are statistically highly significant, which means as the level of depression incerases there is an increase in the level of insomnia.

Correlation between anxiety and insomnia indicates the positive correlation and shows the results pearson correlation r- value is (0.234), p-value is (p=0.000) are statistically highly significant, which means as the level of anxiety incerases there is an increase in the level of insomnia.

Correlation between stress and insomnia indicates the positive correlation and shows the results pearson correlation r- value is (0.232), p-value is (p=0.000) are statistically highly significant, which means as the level of stress incerases there is an increase in the level of insomnia.

DISCUSSION

The purpose of the study was to evaluate the experiences as well as the risks involved in the workings of frontline healthcare workers, caregivers and nurses in a hospital which was dedicated to COVID-19 and is located in Bhubaneswar, Odisha. Nursing officers from various hospitals in Bhubaneswar participated in the mixed method research design. The sample was made up of 200 people. To assess

the risk of psychological distress, insomnia severity index, and DASS-21 were used.

The data got analysed using the correlation coefficient, inferential statistics (chi-square test), and descriptive statistics (frequency, mean, percentage, and standard deviation). The study's objectives served as the foundation for data analysis.

The levels of psychological distress which a healthcare worker experienced in a COVID ward and the variables of selected demographics which can include marital status, professional working experience, their age, and their service domains has a remarkable association observing levels of $p < 0.001$ and < 0.05 chi-square values.

Additionally, the level of stress experienced by nurses as well as the level of insomnia among the nurses, both of them has a strong and significant association with the variety of demographic variables observing the levels of $p < 0.001$ and 0.05 chi-square values.

In the year 2020, Lin Han et al. conducted a study during the coronavirus (COVID-19) in the 14 hospitals of China at Province of Gansu. It involved all the frontline healthcare workers and the nurses and the investigation was on the depression and anxiety. Sample size was 22034 nurses. The observation of the study was that occupational, psychological, and demographic factors all contributed to the psychological responses among the healthcare workers and nurses dealing with the pandemic.

According to the analysis and discussion of the study, most of the healthcare workers and caregivers had ordinary DAS, but most of them had sub-threshold insomnia.

Every nation and healthcare system has experienced the widespread consequences of the pandemic. Frontline health care providers and facilitators, especially nurses, played a vital role in the decrement of the spread of pandemic. The caregivers and nurses who were on the frontline and also provided treatment during the pandemic for COVID-19 patients, based on their experience and perspective, this study focused on three key areas.

CONCLUSION

To conclude this study, the observation was that the caregivers and people who were assisting to control the spread, they were highly susceptible to contract coronavirus. Nurses and caregivers also felt that their sleep quality and has improved and the symptoms of anxiety, depression, and stress has decreased in the second wave of COVID-19 pandemic. The range of mental health concerns of caregivers varied based on the demographics. To boost their

1. Shu-Ching, Al, Yeur-Hur, Shiow-Luan, Nursing Perspectives on the Impacts of COVID-19. Journal of Nursing Research. June 2020. Available form: https://journals.lww.com/jnrtwna/fulltext/2020/06000/nursing_perspectives_on_the_impacts_of_covid_19.2.aspx
2. Enyew Mekonen, Belayneh Shetie, and Niguse Muluneh. The Psychological Impact of COVID-19 Outbreak on Nurses Working in the Northwest of Amhara Regional State Referral Hospitals, Northwest Ethiopia. Psychological research and behavior
3. Saifur Rahman Chowdhury, Tachli ma Chowdhury Sunna, Dipak Chand ra Das, Humayun Kabir, Ahmed Hossain, Sabbir Mahmud & Shakil Ahmed . Mental health symptoms among the nurses of Bangladesh during the COVID-19 pandemic . Middle East Current Psychiatry (2021). Available form : <https://mecp.springeropen.com/articles/10.1186/s43045-021-00103-x>
4. Hidde Heesakkers, Marieke Zegersa, Margo M.C. van, Molb Mark van den, Boogaarda. The impact of the first COVID-19 surge on the mental well-being of ICU nurses: A nationwide survey study. Intensive and critical care nursing,

well-being, hospitals should establish effective mental health initiatives that prioritize job security and family support. Specifically tailored policies and care could assist in addressing these issues. Additional research is necessary to investigate the mental distress experienced by nursing staff during and after the ongoing pandemic emergency and to identify means of healing.

Recommendations

- A similar study can be done with larger samples and that too in a different scenario to generalize and validate the study's results and findings.
- Other front-line warriors could be the subject of a similar study.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

Funding Source: There is no funding Source for this study

BIBLIOGRAPHY

2021. Available form: <https://doi.org/10.1016/j.iccn.2021.103034>
5. Leodoro J. Labrague, Fear of COVID-19, psychological distress, work satisfaction and turnover intention among front line nurses. Available form : <https://orcid.org/0000-0003-0315-4438>
6. Anliu Nie, Xiangfen Su, Shuzeng Zhang, Wenjie Guan Psychological impact of COVID-19 outbreak on frontline nurses: A cross-sectional survey study. August 2020 Journal of Clinical Nursing. Available form: https://www.researchgate.net/publication/343630348_Psychological_impact_of_COVID-19_outbreak_on_frontline_nurses_A_cross-sectional_survey_study
7. Su Hong, Ming Ai, Xiaoming Xub, Wo Wangc, Jianmei Chen, Qi Zhang, Lixia Wangb, Li Kuang. Immediate psychological impact on nurses working at 42 government-designated hospitals during COVID-19 outbreak in China: A cross-sectional study. Nursing outlook. 2021. Available form: <https://doi.org/10.1016/j.outlook.2020.07.007>
8. Shasha Cui Nantong , Yujun Jiang , Lei Zhang , Meijuan Qian. Impact of COVID-19 on psychology of nurses working in the emergency and fever outpatient: A cross-

- sectional survey. Available form: <https://orcid.org/0000-0002-0981-3644>
9. Sarah Crowe, A Fuchsia Howard , Brandi Vanderspank-Wright , Paula Gillis , Fiona McLeod , Caroline Penner , Gregory Haljan, The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study. 2021 Pubmed. Available form: <https://pubmed.ncbi.nlm.nih.gov/33342649/>
 10. HuanXiong, Shuanglian Yi, Yufen Lin, The Psychological Status and Self-Efficacy of Nurses During COVID-19 Outbreak: A Cross-Sectional Survey. September 8, 2020. PubMed. . Available form: <https://doi.org/10.1177/004695802095711>
 11. Linda ChihurumnanyaOdikpo, Helen OgechiAbazie, Duke Emon, Mary OluwafunmilolaMobolaji-Olajide, Dorothy DooshimaGbahabo, and Aisha Musa-Malikki. Knowledge and reasons for anxiety among nurses towards covid -19 in Nigeria.African journal of infectious disease 2021. Available form: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8052971/>
 12. TanerSahin, HumeyraAslaner, ÖzlemOlgunerEker, MebrureBeyzaGökçek, Murat Doğan, International Journal of Medical Science and Clinical Invention A Questionnaire Study Effect of COVID-19 Pandemic on Anxiety and Burnout Levels in Emergency Healthcare Workers. Available form: <https://valleyinternational.net/index.php/ijmsci/article/view/2801>
 13. Suresh K Sharma, Shiv K Mudgal,KalpanaThakur,AashishParihar, Digpal Singh Chundawat, andJaydeep Joshi. Anxiety, depression and quality of life (QOL) related to COVID-19 among frontline health care professionals: A multicentric cross- sectional survey. Journal of family medicine and primary care 2021. Available form: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8140249/>