

Psychological Impact of COVID-19 pandemic on nursing staff in India

A Report

By

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(Part-1)



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1. Introduction

The SARS-Cov-2 infection is a newly come upon infection which has new ribonucleic acid coronavirus secluded and diagnosed in patients initiated with mysterious pneumonia in Wuhan, China in December 2019.¹ Prior to its naming via International Committee of Viral Classification as COVID -19 (Coronavirus disease, 2019) in February 2020, it was termed as 2019-nCoV. SARS-CoV-2 (The Severe acute respiratory syndrome coronavirus 2) most commonly causing respiratory and lung infection symptoms.² Elderly population with primary history of diseases are more susceptible to infection of the virus, leading to progression of severe symptoms. Young population are also prone to the risk of getting infected.³ Today, with worldwide spread of this virus catastrophe till far there are 5.5 Million cases around the globe [as on 26.May.2020, 23:07, (GMT+5:30)] and the major burden of this pandemic has come on the shoulders of healthcare workers. Every physician, nurse, frontline worker and ambulance worker are most foreseeable to be infected as compared to any other population group. Concurrently, they are also under heavy loads of providing clinical care, preventive treatments in the arena of major expectations, with short time durations and amid unavailability of requisite measurements; thus, leading to occupational stress which further results in anxiety and post-traumatic stress disabilities. ^[4,5]

This study majorly emphasizes on the nursing staff and the impact of COVID-19 Pandemic on their psychology. Earlier studies conducted had also disseminated that being and sustaining as nurse is extremely exhaustive and nerve-racking. At the time of SARS outbreak, nursing population were suffering from anxiety disorders, stressed and weren't able to sleep properly. Nevertheless, efficient SARS anticipation program made these aspects better. Under such circumstances of infectious pandemic calamities, medical international and national organizational institutions should construct a comprehensive integrated program to aid coping stressful environment for medical professionals, especially nurses. ^[6,7] Nursing population serves as the most significant warrior in the battle against COVID-19 pandemic, because they had to begin their responsibility from an ambulance driver dropping the patient till the time a patient doesn't recover. Even a doctor isn't available 24*7 but, a nurse is. Thus, they are under the exorbitant risk and tension of all medical workers.⁵ There had been incidents of serious health threats in the past decades with outbreaks of several infectious diseases like; H₁N₁ flu virus cum pig influenza Virus, Severe

acute respiratory syndrome (SARS), Middle east respiratory syndrome (MERS), Ebola hemorrhagic fever virus, Zika virus and additional contagious transmissible diseases continually occurred, not long ago, posing critical hazards on health. During December 2019 COVID-19 appeared suddenly in Hubei Province of Wuhan, China. Soon after it emerged, it was declared as global health alert of COVID-19 Pandemic due to its rapid spread of infection and increasing cases and thereafter WHO officially asseverated the epidemic as Public Health Emergency of International Concern (PHEIC) in January, 2020.^[8,9,10,11,12] Many past studies had also mentioned that when nurses are in proximate accessible distance with patients during their contagious disease period like; MERS, SARS, H₁N₁ virus, Ebola then they are more likely to get symptoms of anxiety, fear of infection, sleep disorders, work stress, feeling of enervation and other associated psychological concern. Previous data from similar studies shows that incidence of post-traumatic stress, depression and insomnia in nurses concerned in the treatment of SARS patients was 33%, 38.5% and 37% respectively.¹³ Nursing staff are most prevalent to infection under any pandemic and epidemic outbreaks, substantially when the disease causing agents are infectious in nature with its cause being entirely unclear. COVID-19 is highly contagious, making the nurses more prone to anxiety, depression and developing an inclination towards negative coping methods.⁴ Extra workload and over working hours also lead to losing of sense of control to the life, listless feeling, causes insomnia, appetite loss and various associated physical issues;¹⁴ At the time of such natural calamities and communicable diseases, nurses had even ceded their personal requirements to earnestly participate in the outbreak workload along with humanitarian work devotion beyond their moral and professional duties. While all this was happening, there was a major howl of psychological issues and fear of isolation, helplessness in the face of health catastrophe due to heavy intensified workloads caused by these pandemic medical emergencies.^[15,16] The psychological impact on healthcare professionals in general and nursing staff in particular, has been critical in the scenario of pandemic situation of the COVID-19 all over the world.¹⁷ Also, with this unexpected unforeseen outbreak of the pandemic, nursing staff across the Department of infectious Diseases had to indulge in the negative pressure ward of care treatment to provide care for the patients at most after receiving a brief training on COVID-19 because COVID-19 is a new disease and there is a degree of variety among medical system and culture of different countries, therefore more advanced research is needed on the psychological experiences of nursing staff battling against COVID-19.¹⁸ There had been

incidents where healthcare professionals who were susceptible and were came in direct contact with the confirmed COVID-19 cases are more prone to be affected by two direct risk factor; getting infected and psychological issues, Its severity and ferocity further leads to serious mental-health concerns resulting, not only in poor vague decision making capability but can also give rise to long lasting deleterious effect on their complete comprehensive well-being.¹⁹

Keywords: COVID-19, Nurses, Psychological concerns, Pandemic crises.

2. Literature Review

S. No	Source	Author	Title	Study Design	Findings
1.	Research Square review site	Shasha Cui <i>et al.</i> (2020)	Impact of COVID-19 on psychology of nurses working in the emergency and fever outpatients	It was a cross-sectional survey.	Among participants, more than 50% of them had showed no anxiety symptoms, while 34% showed mild anxiety symptoms and only 0.44% had showed severe anxiety.
2.	The Lancet, Psychiatry	Lijun Kang <i>et al.</i> (2020)	The mental health of medical workers in Wuhan, China dealing with the 2019 novel CoronaVirus.	Descriptive Study	The severe situation is causing mental health problems such as stress, anxiety, depressive symptoms, insomnia, denial, anger, and fear.
3.	PubMed	Nicholas WS Chew <i>et al.</i> (2020)	A multinational, multicenter study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak	Observational Study	Out of the 906 healthcare workers who participated in the survey, 48 (5.3%) screened positive for moderate to very-severe depression, 79 (8.7%) for moderate to extremely-severe anxiety, 20 (2.2%) for moderate to extremely-severe stress, and 34 (3.8%) for moderate to severe levels of

					psychological distress.
4.	PubMed	Huiyao Wang <i>et al.</i> (2020)	The Psychological Distress and Coping Styles in the Early Stages of the 2019 Coronavirus Disease (COVID-19) Epidemic in the General Mainland Chinese Population: A Web-Based Survey	Cross- Sectional Study	As age increases and marital status changes, K6 (Psychological distress) scores had a downward trend. Those with a history of visiting Wuhan and a history of epidemics occurring in the community had higher level of psychological distress than those without such experiences.
5.	Google Scholar	Andria Praghlapati, (2020)	Self- efficacy of nurses during the pandemic COVID-19	Perspective Article	The COVID-19 outbreak affected not only physical but mental health. Mental health problems caused by a person because COVID-19 is not possible quickly it will turn into a mental disorder.
6.	MedRxiv	Long Huang <i>et al.</i> (2020)	Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak	Quantitative Survey study	The results found that women showed more severe anxiety and fear than men, the coping depended on the cycle of “with more fear comes better emotional and problem focused coping”. Nurses at the core of the incident are affected the most.
7.	Google Scholar	Dandan Jhio <i>et al.</i> (2020)	A qualitative study on the psychological experience of caregivers of COVID-19 patients	Phenomenological Qualitative Study	experience of nurses caring for COVID-19 patients can be summarized into 4 themes. First, negative emotions. Second, self-coping

					styles included psychological and life adjustment. Third, we found growth under pressure. Finally, it showed that positive emotions occurred simultaneously with negative emotions.
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With this literature review the inference can be made that the sudden onset of COVID-19 with high contagiousness pose a severe threat on physical and mental health of the healthcare professionals. In current COVID-19 scenario, it brings out many positive- negative emotions of frontline workers and especially nurses. Initially negative thoughts and emotions played a major impact but with time, coping mechanism is developed by the professionals and nurses to confront this crisis. It was also, recognized more stressful and fearful situation leads to better emotional and problem focused coping. The issue needs to be addressed by national, international governments for serious assisting in overcoming this psychological issue.

3. Rationale

This research study focuses on the psychological challenges and concerns confronted by nurses in India. It observes the psychological impact on nurses amidst this pandemic crisis and what unfamiliar strains it has put on different aspects of nurse's life. No previous study has been done in India to earnestly explain the psychological impact of COVID-19 on nurses. Also, previous studies emphasize on overall healthcare worker's psychological concerns majorly and not nursing staff. The major proportion of the past studies prioritized key mental-health concerns of the healthcare professionals in general and that too in earlier epidemic outbreaks where COVID-19 was not a primitive interest.

Therefore, this study is being conducted with its key focus on nurse's psychological consequences due to COVID-19.

In view of intensified circumstances of COVID-19, it is imperative to understand and recognize the psychological concerns of our nurses, who are in constant deliberate pressure to perform.

4. Research Question:

“What is the Psychological impact of COVID-19 pandemic on Nursing staff in India”

5. Objectives

General Objective: The aim of this study is to observe the psychological impact of COVID-19 among nursing staff in India. It discerns some key aspects of nurse's health, work and overall, about their work demand.

Specific Objectives:

- 👤 **To identify the workplace environment;** In terms of overall impact of COVID-19 Pandemic on incidents of bickering, presence of harmony among colleagues and whether doctor's temperament agitates nurses during COVID-19 crisis or not.
- 🏠 **To determine work-life balance;** In terms of satisfaction with current work-life balance, visit to families, increased workload and fulfillment of basic human necessities.
- 💖 **To observe the impact on nurse's health;** By determining how frequently nurses get time for fulfillment of their basic health amenities; water & pee breaks, had faced trouble sleeping at night and had experienced loss of appetite due to COVID-19.
- 📊 **To study frequency of two incidents resulting due to work demand of COVID-19 Pandemic;** By determine what majority of nurse's report on frequency of two incidents; bearing negative sentiments of patients as well as their attendants and maintaining other work units.

6. Methodology

Type of Study:

Cross- Sectional Observation Study

Participants:

The study was conducted in the month of May 2020 after four months of the outbreak of the pandemic. The inclusion criteria of the participants were as follows; -

- Registered nurse, serving patients in COVID-19 pandemic.
- Working in any branch of Columbia Asia Hospitals, India.

Exclusion criteria were as follows; -

- Nursing students
- Other medical professionals.

Tool of the Study:

The study is a cross-sectional observational study, which was conducted through online self-administered questionnaire in various branches of Columbia Asia Hospital, across India. The questionnaire consisted questions on four main aspects; Conflicts at workplace due to pandemic

crisis, Work-Life balance, impact on health due to COVID-19 pandemic and consequences of work demand. The questionnaire was made using NIOSH (National institute for occupational safety and health), COPSQ (Copenhagen Psychosocial Questionnaire) and NOSS (Nurses' Occupational Stressor Scale) as base questionnaires. The general information included the questions of nurse's professional and descriptive characteristics like; gender, age and unit of work.

Data Collection: The data for the study was collected through online questionnaire by making google form of it and dividing the four dimensions into four sections followed by the questions inside each section. This google form was then disseminated to nurses through email, the responses were retrieved from the google account at the time of analysis. Quantitative approach was used for data collection by using Likert Scale and Yes/No attributes for the questions under each section.

Analysis: “Pearson correlation coefficient” was used under certain question variables in order to measure their association and their significance level. Here, the value of ‘r’ was compared with $r=0.5/-0.5$, the value away from $r=0.5$ and closer to $r=1/-1$ will denote strong direct/inverse correlation while, value closer to $r=0.5/-0.5$ and away from $r=1/-1$ will denote weak direct/ inverse correlation.

The analysis of the retrieved data was done as per objectives through MS. Excel. Data analysis toolkit of add-ins in excel was used for data analysis. **Pearson** correlation and descriptive statistics were used for making inferences and conclusions for certain question variables.

Ethical View:

All participants mentioned their signed informed consent and a mutual understanding of trust was made that there will be no academic misconduct of plagiarism, data fabrication and falsification.

7. Results

A total of 148 nurse respondents were studied. Baseline characteristics and four-dimensions of psychological variables of the subjects are tabulated in the tables below. In the study, 29 males and 119 females participated. Their age was between 21yrs and 54yrs with an average age of 28yrs $\pm$ 6.16 SD, average working experience was 5.18yrs $\pm$ 4.92 SD. Most of the nurses were from ICU, Emergency and Medical ward. Significant psychological instances of nurses providing care to the patients of COVID-19 were explored.

Table 1: Baseline characteristics of participants.

Characteristics		N (%) or mean $\pm$ SD	Median
Gender	Male	29 (20%)	
	Female	119 (80%)	
Age		28 $\pm$ 6.16	27
Work Experience		5.18 $\pm$ 4.92	3.6

The workplace environment;

It was observed that majority of nurses **strongly agreed** to “**the presence of harmonious environment within colleagues at workplace amidst COVID-19 pandemic**”. Also, median being 4 signifies that 50% of the responses were either moderately agreeing or strongly agreeing to the presence of harmony within colleagues at workplace.

Majority of nurses reported **strongly disagree** to the “**incidents of bickering over who should do work**”.

For the third question variable, majority of nurses “**strongly disagree on agitation from doctor’s temperament**”. But as median being 3 signifies that 50% of the respondents had chooses 3 or more than 3 i.e. 4 or 5 as their option (4= moderately agree and 5= strongly agree).

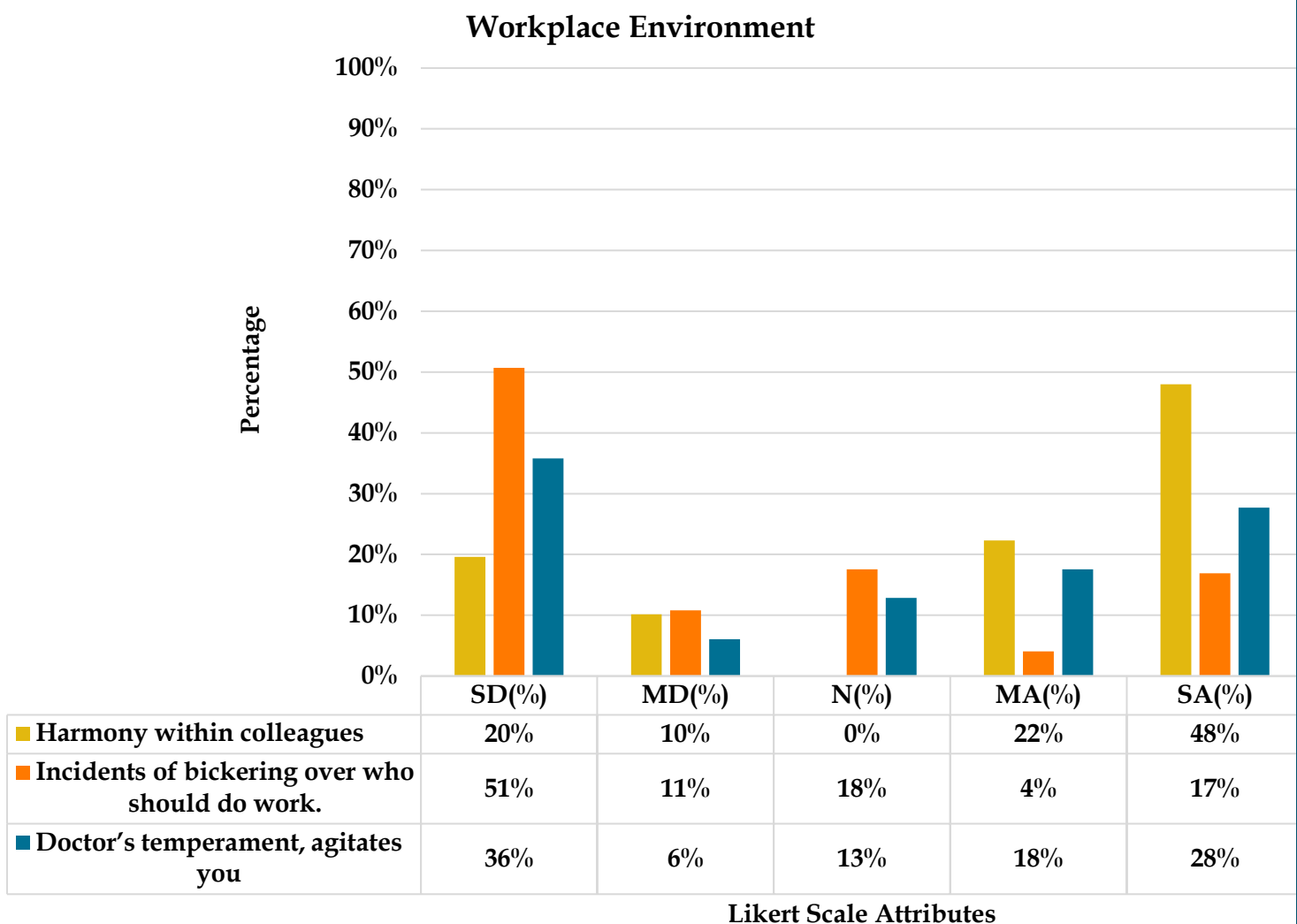
Table 2: First psychological dimension question’s inference in terms of mode, median and standard deviation (SD)

Harmony within colleagues		
Mode	Median	SD
5	4	1.6
Incidents of bickering over who should do work		
Mode	Median	SD
1	1	1.52
Agitation from doctor’s temperament		
Mode	Median	SD
1	3	1.67

48% of the participants **strongly agree** to the “**presence of harmony within colleagues at workplace amid COVID-19 crisis**”. Overall, 70% of the subjects responded either **strongly agree or moderately agree** towards “**presence of harmony within colleagues at workplace**”. 51% of the nursing respondents **strongly disagree** to “**incidents of bickering over work in this**”.

pandemic situation". Overall, 62% of the participants responded either **strongly agree or moderately disagree** towards **“incidents of bickering over who should do work”**. Though majority of respondents **strongly disagree** on **“agitation from doctor’s temperament”** but 28% of them had **strongly agree** on agitation from **“doctor’s temperament amid COVID-19”**. Overall, 42% of respondents responded either **strongly disagree or moderately disagree** but 46% of the respondents responded either **strongly agree or moderately agree** towards **“agitation from doctor’s temperament”**. This minute difference was the cause of median as 3 which was stated below.

Graph 1: Percentages of various responses of Dimension 1- Workplace Environment



After studying each working condition variable, Pearson correlation coefficients were calculated to assess association of '*harmony within colleagues amidst COVID-19*' with '*incidents of bickering over who should do work during pandemic crisis*' and '*agitation from doctor's temperament during pandemic crisis*'.

- The calculated correlation coefficient shown in table 4 shows a statistically negative correlation between '*harmony within colleagues*' and '*incidents of bickering over who should do work*' which explains an inverse relation between the two variables i.e. **more harmony within colleagues comes with less incidents of bickering over who should work during COVID-19 pandemic ($r = -0.87$, $p = 0.002$)**. As, p-value is less than $\alpha = 0.05$, this signifies that the correlation test is statistically significant. Also, the value of $r = -0.87$ which is less than $r = -0.5$ **denotes that the correlation is strong**.

Table 3: Pearson correlation coefficient between '*harmony within colleagues*' and '*incidents of bickering over who should do work*'

	<i>Harmony within colleagues</i>	<i>Incidents of bickering over who should do work.</i>
<i>Harmony within colleagues</i>	1	
<i>Incidents of bickering over who should do work.</i>	-0.87085943	1

- Here, the calculated correlation coefficient shows a statistically negative correlation between '*harmony within colleagues*' and '*agitation from doctor's temperament*' which again explains an inverse relation between the two variables i.e. **more harmony within colleagues comes with less cases of agitation from doctor's temperament amid COVID-19 ($r = -0.67$, $p = 0.002$)**. As, p-value is less than $\alpha = 0.05$, this signifies that the correlation test is statistically significant. Also, the value of $r = -0.67$ which is less than $r = -0.5$ **denotes moderate correlation** because the difference between the two is less.

Table 4: Pearson correlation coefficient between '*harmony within colleagues*' and '*agitation from doctor's temperament*'

	<i>Harmony within colleagues</i>	<i>Agitation from doctor's temperament</i>
<i>Harmony within colleagues</i>	1	
<i>Doctor's temperament, agitates you</i>	-0.678384557	1

Work-life balance;

- Majority of nurses responded with **strongly disagree** towards their “**satisfaction level with current work-life balance with the ongoing pandemic situation**”. Also, median being 1 signifies that 50% of the subjects had responded with **strongly disagree for “satisfaction with current work-life balance**”. Majority of nurses responded with **strongly agree** with the “**increased workload due to pandemic**”. Also, median being 5 signifies that 50% of the subjects had responded with **strongly agree for “increased workload due to pandemic**”. For the third question variable, majority of participants responded with **strongly agree** towards “**increased job requirements in order to work very hard under the crisis of pandemic**”. Median being 5 also signifies that 50% of the subjects fall in the category of **strongly agree towards “increased job requirements for working harder during COVID-19 pandemic**”. For the fourth question variable, majority of participants responded with **strongly agree** towards “**difficulty in fulfilling family responsibilities, due to increased work timings in COVID-19 situation**”. Also, median being 5 signifies that 50% of the subjects falls in the category of **strongly agree** towards this question variable. For the fifth question variable, majority of participants responded with **moderately agree** towards “**difficulty in fulfilling personal chores/hobbies, due to increased work timings in COVID-19 situation**”. Also, median being 4 signifies that 50% of the subjects falls in the category of **moderately agree or strongly agree** towards “**facing difficulty in fulfilling their personal chores/hobbies under pandemic situation**”. Majority of nurses responded with **rarely** for the question asking about “**how often are they allowed to visit their families**”.

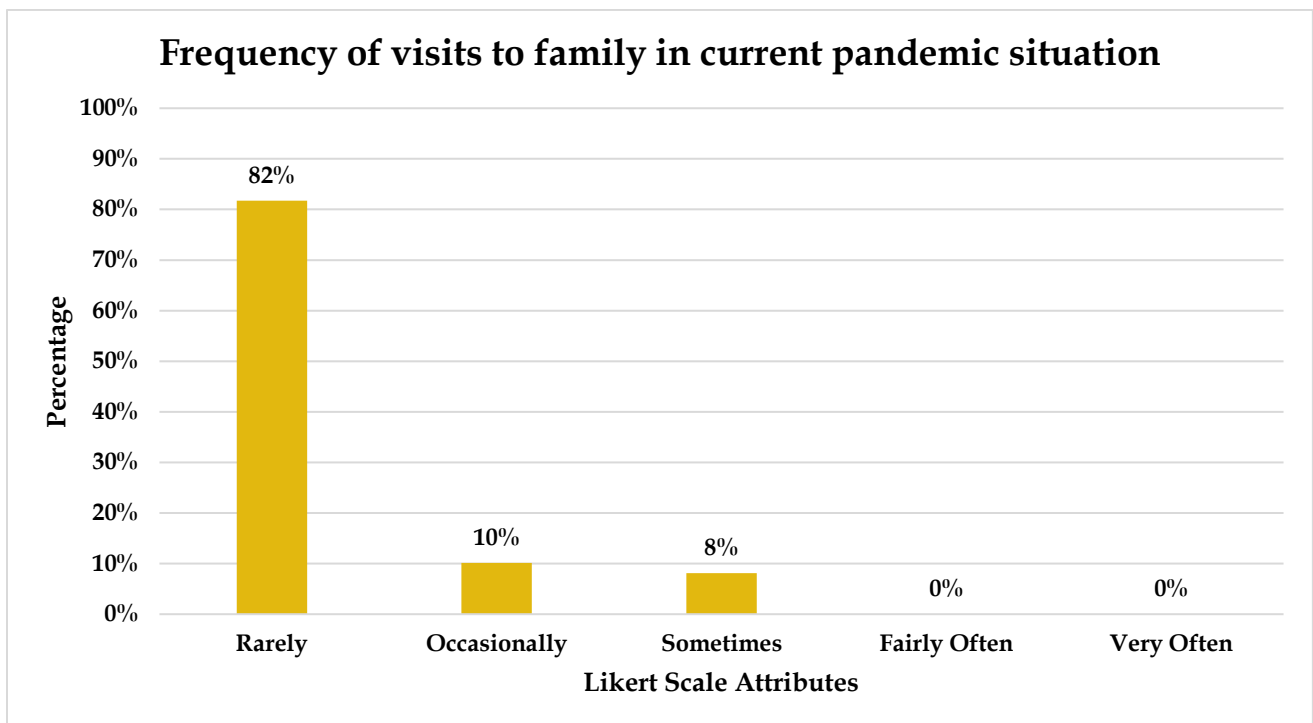
Table 5: Second psychological dimension question's inference in terms of mode, median and standard deviation (SD)

Satisfied with the work-life balance during this Pandemic		
Mode	Median	SD
1	1	0.65
Increased workload due to Pandemic		
Mode	Median	SD
5	5	0.57
Increased job requirements to work very hard under the crisis of Pandemic		

Mode	Median	SD
5	5	0.88
Difficulty in fulfilling family responsibility, due to increased work timings		
Mode	Median	SD
5	5	0.76
Difficulty in fulfilling personal chores/hobbies, due to increased work timings		
Mode	Median	SD
4	4	0.97
Frequency of visits to family in current pandemic situation		
Mode	Median	SD
1	1	0.59

82% of nurses had responded rarely when they were asked about “how often are, they allowed to visit their family in current pandemic situation”. While 0% respondents had responded for fairly often and very often attributes. 10% of the nurses had responded for occasionally attribute and only 8% had responded sometimes.

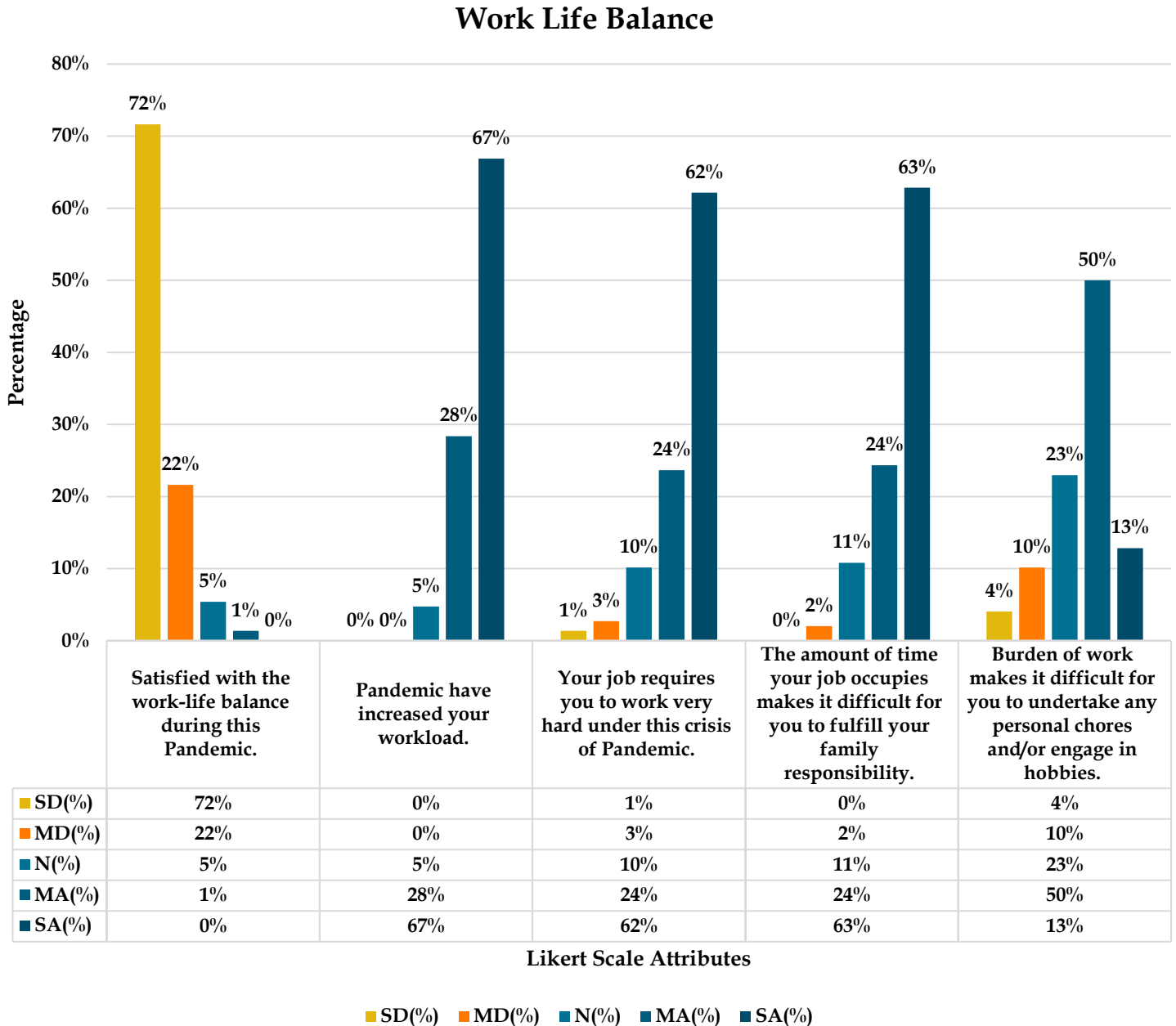
Graph 2: Percentages of various responses for Ques10- “Frequency of visits to family”



72% of the participants **strongly disagree** with the criteria of “**satisfaction from current work-life balance of COVID-19 pandemic**”. Overall, 94% of the respondents had responded either **strongly disagree or moderately disagree** towards “**satisfied with the current work-life balance of pandemic**”. 67% of the respondents had responded **strongly agree to the increased workload due to COVID-19 pandemic**. Also, 0% of the subjects had responded either disagree or strongly disagree **to the increased workload, which signifies how prominent the change of this COVID-19 situation is on workload of nurses**. Overall, 95% of the respondents had responded **either moderately agree or strongly agree** for “**increased workload due to pandemic**”. 62% of the participants responded **strongly agree** to the “**increased job requirements of working very hard amidst COVID-19 crisis**”. Overall, 86% of the responses were **either moderately agree or strongly agree** towards “**increased job requirements of working very hard under the crisis of pandemic**”. 63% of the respondents had responded **strongly agree** to the “**difficulty they are facing in fulfilling family responsibility due to increased work timings after the outbreak of COVID-19 pandemic**”. 0% of subjects had responded **strongly disagree** towards “**difficulty in fulfilling family responsibility**”. Overall, 87% of the respondents had responded **either moderately agree or strongly agree** towards this variable of work-life balance. 50% of the respondents had responded **moderately agree** for facing “**difficulty in fulfilling personal chores/hobbies due to their increased work timings**” after COVID-19 outbreak. Overall, only 14% of the total subjects had responded **either strongly disagree or moderately disagree** for facing “**difficulty in fulfilling personal chores/hobbies during COVID-19 pandemic**”. Meanwhile, 63% of subjects had responded either **moderately agree or strongly agree** for the same.

- **Tabulation of results are as follows;**

Graph 3: Percentages of various responses of Dimension 2- Work Life Balance



After studying each work-life condition variable, Pearson correlation coefficients was calculated to assess association of '*Satisfied with the work-life balance during this Pandemic*' with '*Increased workload due to Pandemic*'.

- Here, the calculated correlation coefficient shows a statistically negative correlation between '*Satisfied with the work-life balance during this Pandemic*' and '*Increased workload due to Pandemic*' which explains an inverse relation between the two variables i.e. **more satisfaction with the work-life balance comes with less cases of increased workload due to pandemic** ($r = -0.59$, $p = 0.0027$). As, p-value is less than $\alpha = 0.05$, this

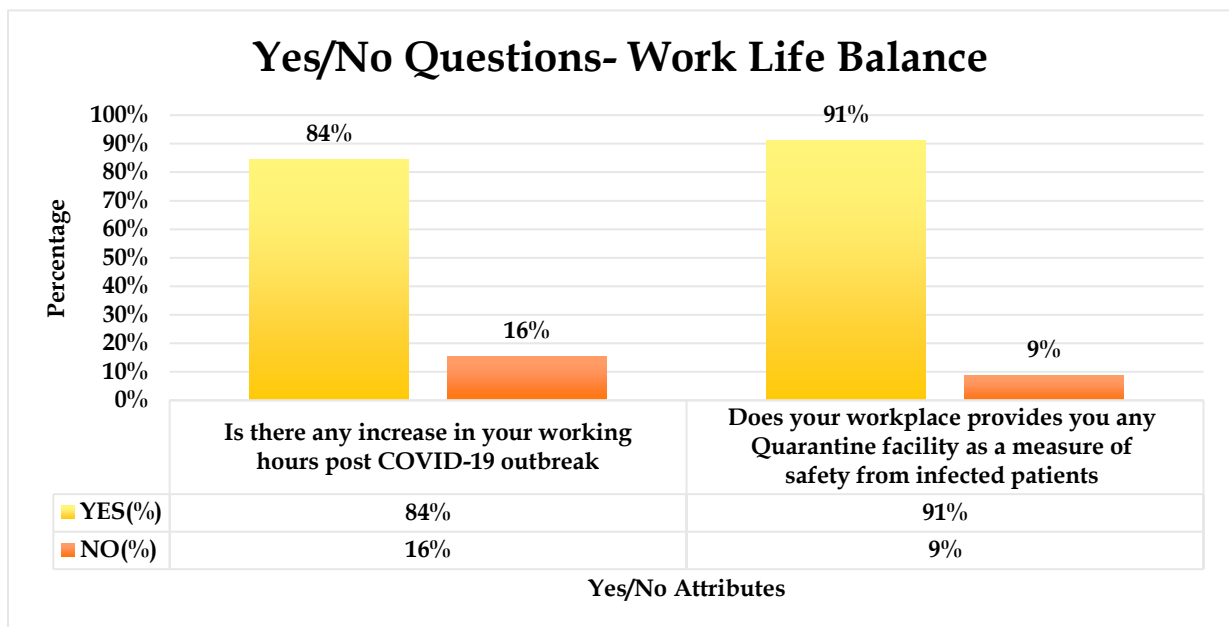
signifies that the correlation test is statistically significant. Also, the value of $r = -0.57$ which is less than $r = -0.5$ **denotes moderate correlation** because the difference between the two is very less.

Table 6: Pearson correlation coefficient between 'satisfied with the work-life balance during this pandemic' and 'increased workload due to pandemic'

	<i>Satisfied with the work-life balance during this Pandemic</i>	<i>Increased workload due to Pandemic</i>
<i>Satisfied with the work-life balance during this Pandemic</i>	1	
<i>Increased workload due to Pandemic</i>	-0.590599002	1

There were two Yes/No questions under the dimension of “work-life balance”. **One measured whether there was an increase in working hours of nurses post COVID-19 outbreak and the other measured whether nurses are provided with quarantine facility at workplace or not.** 84% of the total respondents responded about the **increase in their working hours post COVID-19 outbreak**, while only 16% of the respondents reported **no increase in their working hours post COVID-19 pandemic**. 91% of nurses responded **positively for the availability of quarantine facility at their workplace** and only 9% of the total respondents had responded **No for the availability of quarantine facility at workplace**.

Graph 4: Percentages of various responses of Yes/No Questions for Dimension 2- Work Life Balance



Cross-Tabulation was done between ‘**Difficulty in fulfilling family responsibility**’ and ‘**Increased workload due to COVID-19 pandemic**’. The Results are tabulated below, from this tabulation we can infer that **2 respondents** who had responded neutral for ‘**increased workload**’ responded neutral for ‘**difficulty in fulfilling family responsibility**’ too but, **5 had responded neutral for ‘increased workload’** still strongly agrees towards ‘**difficulty in fulfilling family responsibilities**’ after COVID-19 outbreak. **42 respondents**, who were moderately agreeing for ‘**increased workload**’ **24** strongly agreed to the ‘**difficulty in fulfilling family responsibilities**’ after the emergence of COVID-19 crisis, **5 out of 42** chose neutral and **13** selected moderately agree for ‘**difficulty in fulfilling family responsibility**’ in COVID-19 pandemic. **99 respondents** out of **148** had selected strongly agree for ‘**increased workload**’ out of which **64** had chosen strongly agree for ‘**difficulty in fulfilling family responsibility**’ too.

Table 7: Cross-Tabulation of Ques5 and Ques8

Count of RESPONDENT Pandemic have increased your workload.	The amount of time your job occupies makes it difficult for you to fulfil your family responsibility.				
	MD	N	MA	SA	Grand Total
N		2		5	7
MA		5	13	24	42
SA	3	9	23	64	99
Grand Total	3	16	36	93	148

Another **Cross-Tabulation** was done between ‘**Difficulty in fulfilling personal chores/hobbies**’ and ‘**Increased workload due to COVID-19 pandemic**’. The Results are tabulated below, from this tabulation we can infer that **only 6 respondents** had responded strongly disagree for ‘**Difficulty in fulfilling personal chores/hobbies amidst COVID-19 pandemic**’. Further, **7 respondents** who had responded neutral for ‘**increased workload**’ **3** out of them had responded neutral for ‘**difficulty in fulfilling personal chores/hobbies**’ too but, **4** had responded either strongly agree of moderately agree for ‘**difficulty in fulfilling personal chores/hobbies**’. **42 respondents**, who were moderately agreeing for ‘**increased workload**’ **31** out of them either strongly agreed or moderately agreed to ‘**difficulty in**

fulfilling personal chores/hobbies’ after the emergence of COVID-19 crisis, 8 out of 42 chose neutral and only 3 had selected either moderately disagree or strongly disagree for ‘difficulty in fulfilling personal chores/hobbies’ in COVID-19 pandemic. 99 respondents out of 148 had selected strongly agree for ‘increased workload’ out of which 58 had chosen either strongly agree or moderately agree for ‘difficulty in fulfilling personal chores/hobbies’ post COVID-19 outbreak.

Table 8: Cross-Tabulation of Ques5 and Ques9

Count of RESPONDENT Pandemic have increased your workload.	Burden of work makes it difficult for you to undertake any personal chores and/or engage in hobbies.					Grand Total
	SD	MD	N	MA	SA	
N			3	3	1	7
MA	1	2	8	27	4	42
SA	5	13	23	44	14	99
Grand Total	6	15	34	74	19	148

♥ Health impacts;

- Majority of nurses responded with **strongly agree** towards their “**trouble sleeping at night due to COVID-19 workload**”. Also, median being 5 signifies that 50% of the subjects had responded with **strongly agree** for “**Trouble sleeping at night due to COVID-19 workload**”. Majority of nurses responded with **strongly agree** with the “**loss of appetite due to COVID-19 workload**”. Also, median being 4.5 signifies that 50% of the subjects had responded with either **strongly agree or moderately agree** for “**increased workload due to pandemic**”. For the third question variable, majority of participants responded with **sometimes** towards “**How often there is no time to fulfill basic health amenities (e.g. water and pee breaks)**”. Median being 3 signifies that 50% of the subjects had responded either 3 or below i.e. 4 or 5 (4= fairly often and 5= very often). on either side of the median. the category of **strongly agree** towards “**increased job requirements for working harder during COVID-19 pandemic**”.

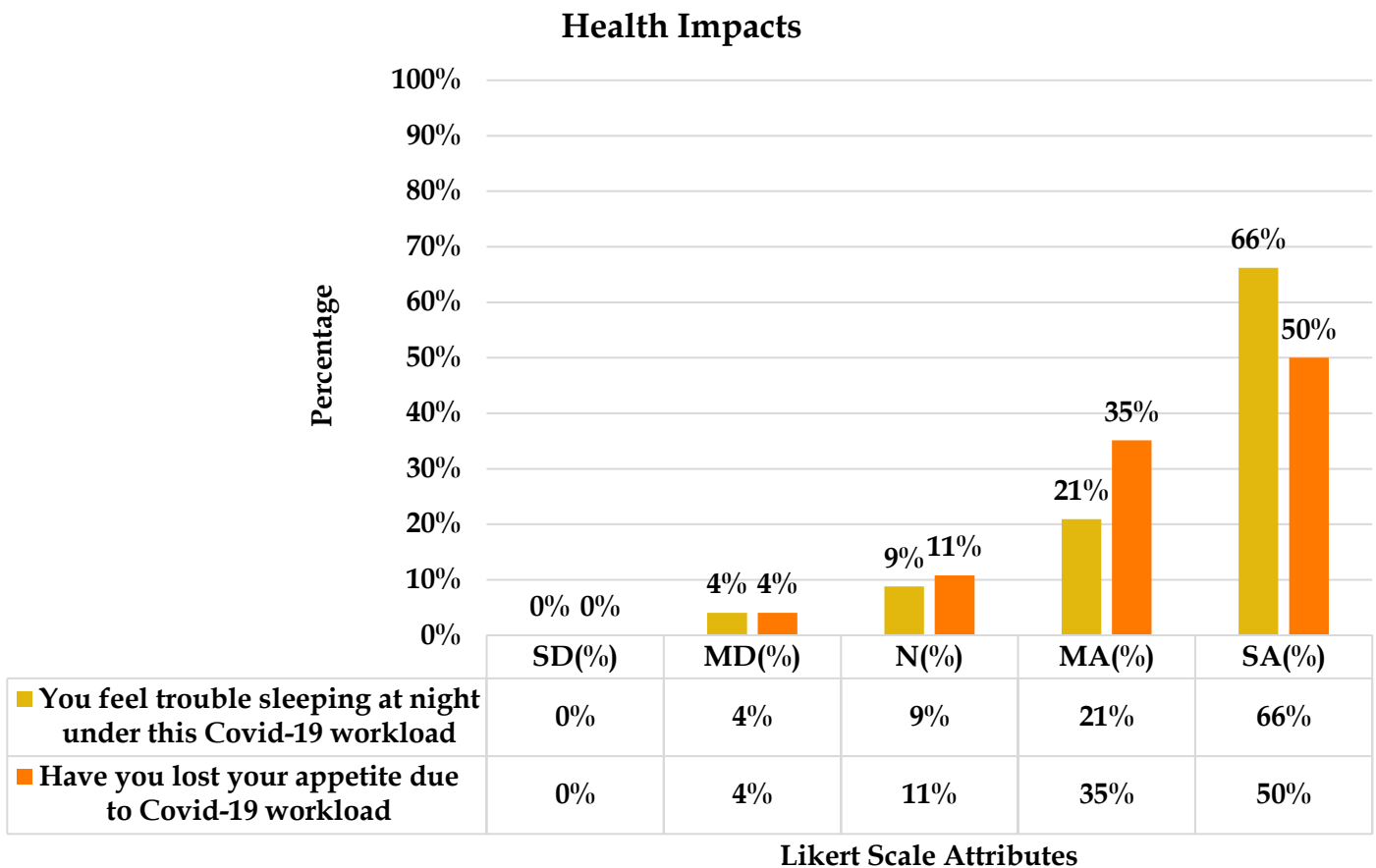
Table 9: Third psychological dimension question's inference in terms of mode, median and standard deviation (SD)

Trouble sleeping at night due to COVID-19 workload		
Mode	Median	SD
5	5	0.82
Loss of appetite due to COVID-19 workload		
Mode	Median	SD
5	4.5	0.82
Frequency of incident for no time to fulfill basic health amenities		
Mode	Median	SD
3	3	0.97

66% of the total respondents had responded **strongly agree** with “**trouble sleeping at night due to COVID-19 workload**”. 0% of the total respondents had opted for **strongly disagree** in this question variable, while only 4% had responded **with moderately disagree** with “**trouble sleeping at night due to COVID-19 workload**”. Overall, 87% of subjects had responded **either moderately agree or strongly agree** with “**sleeping trouble variable due to COVID-19 pandemic**”. 50% of the total respondents had responded **strongly agree** with “**loss of appetite due to COVID-19 workload**”. 0% of the total respondents had opted for **strongly disagree** in this question variable, while only 4% had responded with **moderately disagree** with “**loss of appetite due to COVID-19 workload**”. Overall, 85% of subjects had responded either **moderately agree or strongly agree** with “**appetite loss variable due to COVID-19 pandemic**”.

- Tabulation of the results are as follows:

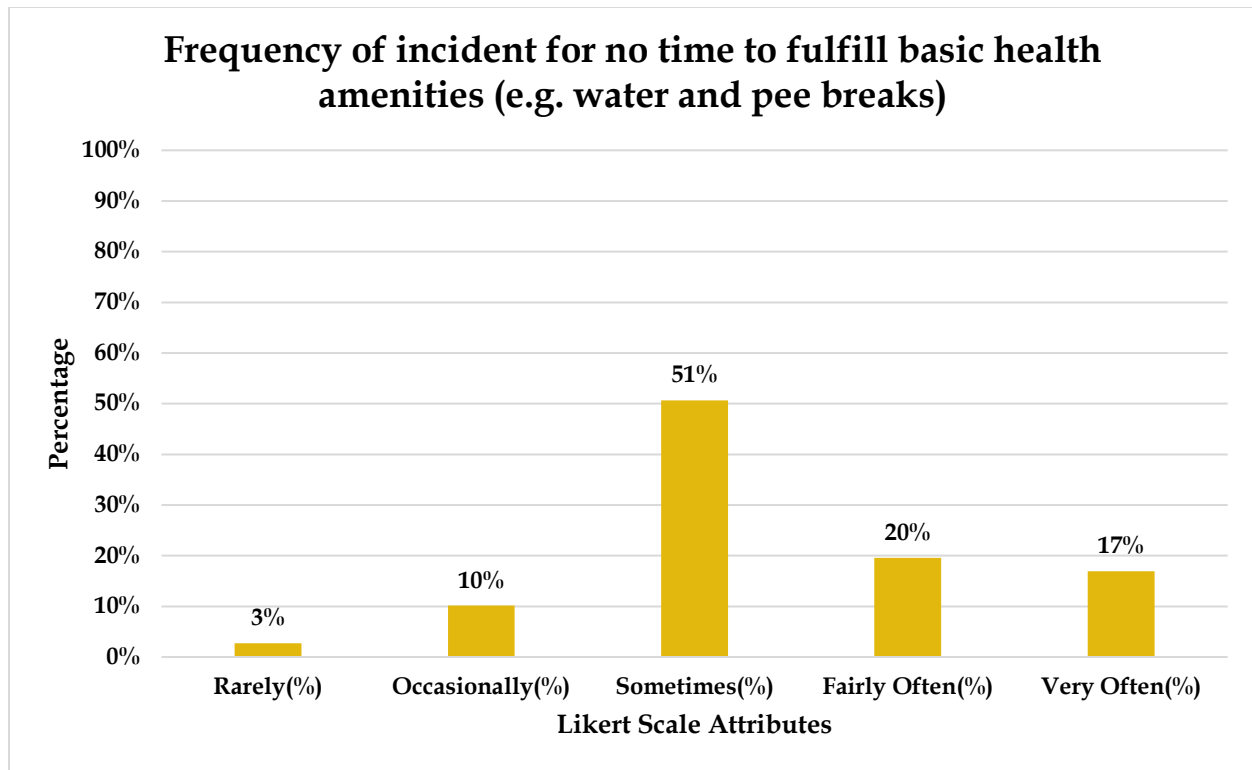
Graph 5: Percentages of various responses of Dimension 3- **Health Impacts**



51% of the participants had responded **sometimes** when they were asked about “**how often there is no time to fulfill basic health amenities (e.g. water and pee breaks)**”. While only 3% had reported **rarely** in this question variable of health dimension. Overall, 37% respondents cumulatively had responded for **fairly often and very often** attributes, when their “**basic health amenities are not fulfilled during this pandemic situation**”. Meanwhile, only 13% respondents cumulatively had responded **rarely and occasionally** for this health dimension’s variable.

- **Tabulation of the results are as follows:**

Graph 6: Percentages of various responses of Ques14- “Frequency of incident for no time to fulfill basic health amenities”



- Majority of respondents had responded **sometimes** when they were asked about “**how often do, they felt stressed**”. Also, median being 3 signifies that 50% of the respondents had responded either 3 or more than 3 i.e. 4 or 5 (4= fairly often and 5= very often).

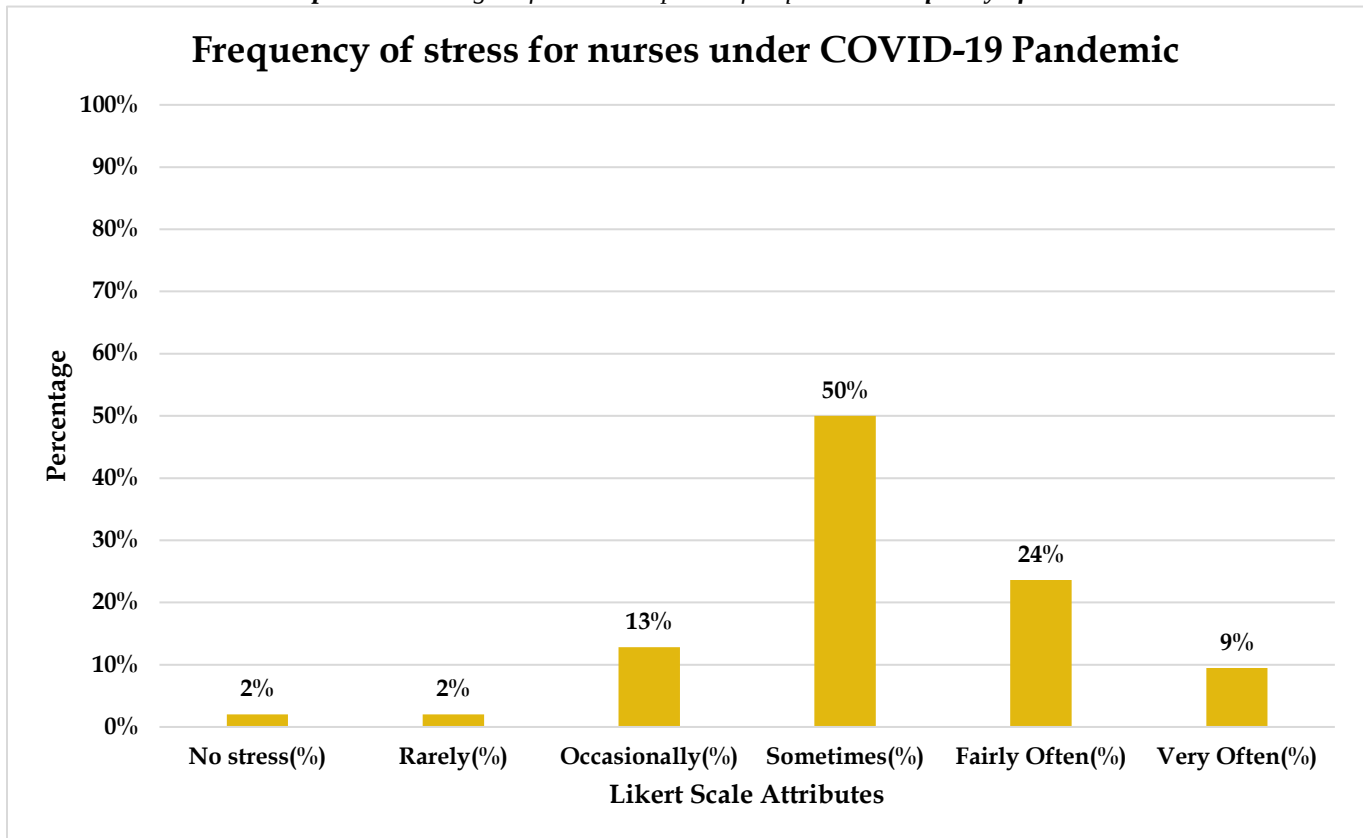
Table 10: Third psychological dimension question's inference in terms of mode, median and standard deviation (SD)

Frequency of stress for nurses under COVID-19 Pandemic		
Mode	Median	SD
3	3	0.95

Only 2% of the total respondents had responded **no to stress** under COVID-19 pandemic but, rest 98% of the respondents **had felt stressed at some point of time during this COVID-19 situation** i.e. 145 respondents from total 148 respondents had felt stressed. 50% of the participants had responded **sometimes** as their attribute when they had felt stressed under this pandemic outbreak. 24% had selected the attribute of **fairly often** and 9% had felt

stressed very often under COVID-19 pandemic. Only 2% of the total subjects had responded rarely to the stress under COVID-19 situation.

Graph 7: Percentages of various responses for ques16- 'Frequency of stress'



For the Key Stressor question, 5- Attributes were given as options, the responses are as follows:

- Also, 145 responses were considered valid because 3 respondents had selected 'No' for stress in the previous question

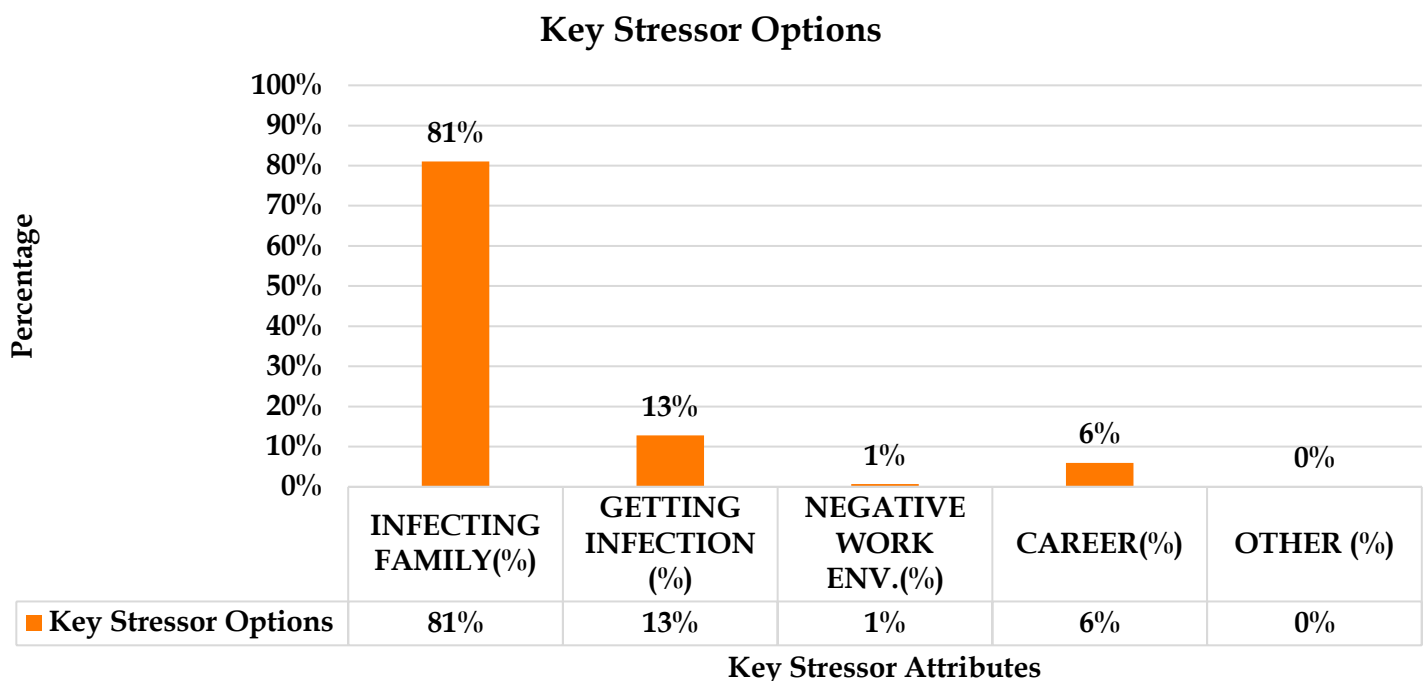
Only 2% of the 148 respondents had felt **no stressed** under pandemic crises while rest 98% had **experienced stress at some point of time during this COVID-19 pandemic**. 81% of the total respondents who had selected 'Yes' had responded for "**fear of infecting family**" as their key stressor amidst COVID-19 pandemic situation followed by "**fear of getting infection**". Only 1% of the total participants had felt the "**fear of negative work environment**" in this COVID-19 situation while 6% had felt the "**fear of career**".

Thus, "**Fear of infecting the family members**" has found to be the major cause of stress among all other attributes.

Table 11: Percentages of various responses for each key stressor in ques17

Key Stressor Attributes	No. of Responses	Percentage
Infesting Family	117	81%
Getting Infection	19	13%
Negative work Environment	1	1%
Career	8	6%
Other (Please Specify)	0	0%

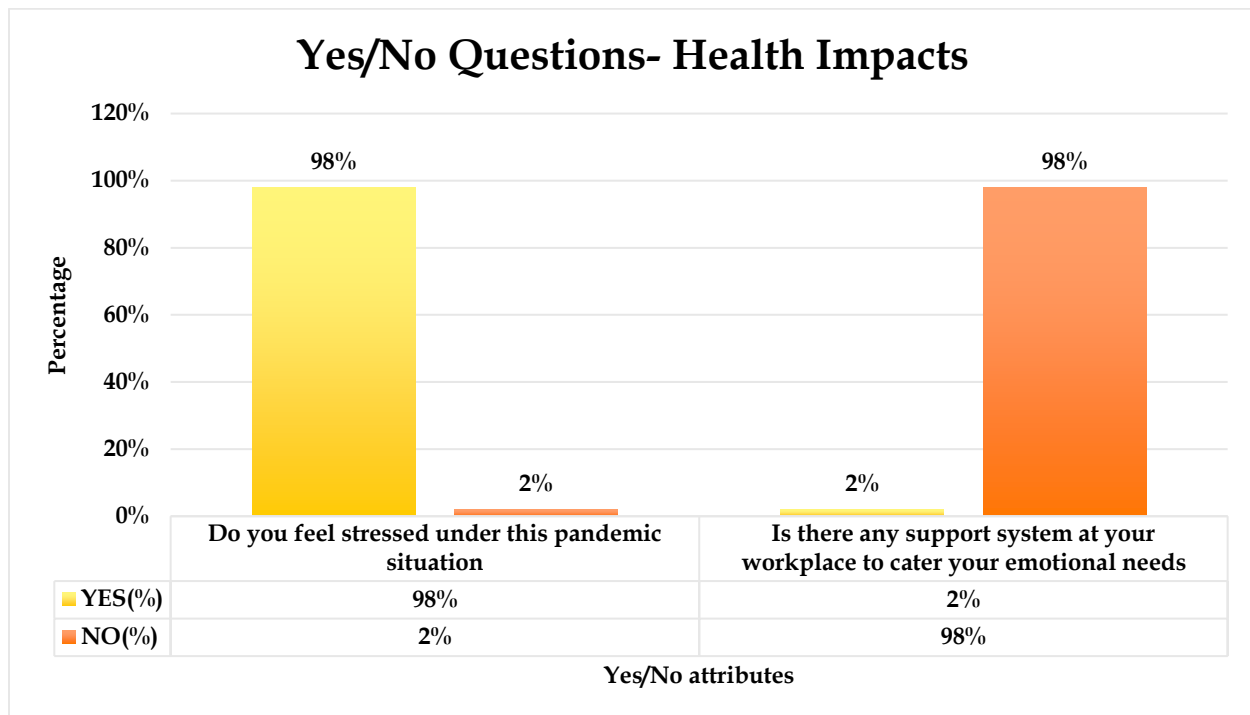
Graph 8: Percentages of various responses for ques17- 'Key Stressor'



There were two Yes/No questions under the dimension of “health impacts”. **One measured whether nurses are feeling stressed under this COVID-19 pandemic situation and the other measured whether nurses are provided with support system facility at workplace for catering their emotional needs or not.** 98% of the total respondents **responded about the feeling of stress under this pandemic situation**, while only 2% of the respondents **reported no**

stress feeling under COVID-19 pandemic situation. 98% of nurses responded **unavailability** of support system facility at their workplace and only 2% of the total respondents had responded 'Yes' for the availability of support system facility at workplace for catering their emotional needs.

Graph 9: Various responses of Yes/No questions for dimension 3- Health Impacts



Cross-Tabulation was done between 'loss of appetite' and 'sleep trouble' during COVID-19 crisis. The Results are tabulated below, from this tabulation we can infer that **6 respondents** who had responded moderately disagree for 'sleep trouble' 3 out of them had responded **neutral** for 'appetite loss' and 3 had responded either strongly agree or moderately agree for 'appetite loss' after COVID-19 outbreak. 31 respondents, who were moderately agreeing for 'sleep trouble' 14 strongly agreed to the 'appetite loss' after the emergence of COVID-19 crisis, 12 out of 31 chose moderately agree and 3 selected neutral for 'appetite loss' in COVID-19 pandemic. 98 respondents out of 148 had selected strongly agree for 'sleep trouble' out of which 51 had chosen strongly agree for 'appetite loss' too. Also, cumulatively 87 respondents had selected either strongly agree or moderately agree for 'appetite loss' out of these 98 strongly agree respondents of 'sleep trouble'.

- Tabulation of the results are as follows:

Table 12: Cross-Tabulation of Ques12 and Ques13

Count of RESPONDENT You feel trouble sleeping at night under this Covid-19 workload.	Have you lost your appetite due to current COVID-19 workload.				
	MD	N	MA	SA	Grand Total
MD		3	1	2	6
N	1	2	3	7	13
MA	2	3	12	14	31
SA	3	8	36	51	98
Grand Total	6	16	52	74	148

Frequency of two incidents resulting due to work demand of COVID-19 Pandemic;

Majority of the participants had responded **sometimes** when they were asked about “**how often they had to bear the negative sentiments of patients and/or their attendants/relatives**”.

While median being 3 signifies that 50% of the participants had responded **3 or more than 3 i.e. 4 or 5 (4= fairly often and 5= very often)**. Majority of nurses responded with **sometimes** when they were asked about “**how often they had to maintain working unit of other nurses due to workload of COVID-19 pandemic**”. Also, median being 3 signifies that 50% of the subjects had responded **3 or more than 3 i.e. 4 or 5 (4= fairly often and 5= very often)**.

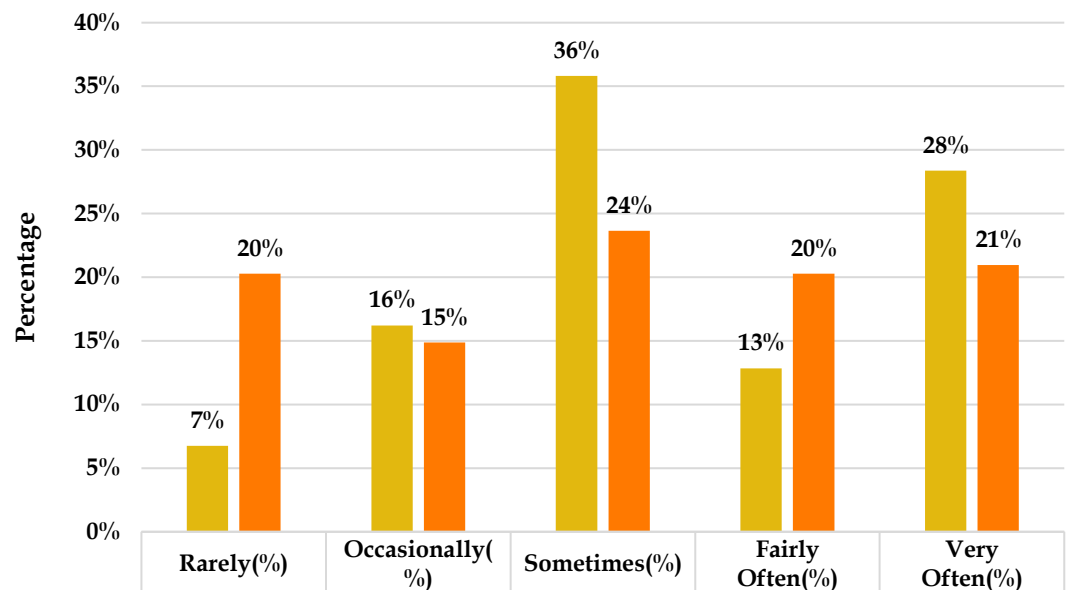
Table 13: Fourth psychological dimension question's inference in terms of mode, median and standard deviation (SD)

How often nurses bear the negative sentiments of patients and/or their attendants/relatives		
Mode	Median	SD
3	3	1.24
How often nurses maintain working unit of other nurses due to COVID-19 workload		
Mode	Median	SD
3	3	1.41

36% of the participants had responded **sometimes** when they were asked about **“how often they had to bear the negative sentiments of patients and/or their attendants/relatives”** While 28% had reported **very often** in this question variable of consequences dimension. Overall, 41% respondents cumulatively had responded for **fairly often and very often** attributes, when **“they had to bear negative sentiments of patients and/or their attendants/relatives due to COVID-19 situation”**. Meanwhile, 23% respondents cumulatively **had responded rarely and occasionally** for this work-demand consequence dimension’s variable. 24% of the participants had responded **sometimes** when they were asked about **“how often they had to maintain working unit of other nurses due to workload of COVID-19 pandemic”**. While 21% had reported **very often** in this question variable of consequences dimension. Overall, 41% respondents cumulatively had responded **for fairly often and very often** attributes, when they **“had to maintain working unit of other nurses due to workload of COVID-19 pandemic”**. Meanwhile, 35% respondents cumulatively had **responded rarely and occasionally** for this work-demand consequence dimension’s variable.

Graph 10: Percentages of various responses for Dimension 4- Frequency of two incidents due to COVID-19 Pandemic

Frequency of two Incidents due to COVID-19 Workload



■ Incident 1: Bearing of negative sentiments of patients and/or their attendants/relatives	7%	16%	36%	13%	28%
■ Incident 2: Maintaining working unit of other nurses	20%	15%	24%	20%	21%

Likert Scale Attributes

8. Discussion

The study prospectively assessed the psychological instances and incidents of nurses providing care to patients with COVID-19 using Likert scale and Pearson analysis method for making inferences about their chosen attributes, then the data was summarized according to 4 dimensions: workplace environment, work-life balance, health impacts and work-demand consequences. The nursing staff of various branches of Columbia Asia Hospital was found to be constant and consistent with the researches on the epidemics of MERS-CoV and Ebola. [27, 28] The study had also observed about fear and concerns towards family members as the key stressor among all the other criteria which was consistent with other studies where healthcare workers were not allowed to return to families from hospital because they had susceptibility of transmitting infection to family. [29, 7, 34]

The study also revealed that most of the nurses are suffering from stress due to COVID-19 pandemic. Therefore, it is very important to provide adequate early intervention of psychological aid to nurses in catastrophes like; COVID-19 outbreak. For best results early, psychological stress assessments and evaluation for caregivers should be provided as soon as any epidemic or pandemic crisis occurs in order to prevent them against negative health impacts. The intervention should be immediate for appropriate and continuous support for catering nurse's emotional needs and improvise overall mental health of the nurses. [29, 30, 3]

🧑‍💼 The workplace environment;

The findings of the study revealed the presence of harmony among nursing colleagues with majority of respondents disagreeing to the incidents of bickering at workplace over who should do the work, presented a complement aspect to other studies results which mainly emphasized on negative trauma, sentiments and largely negative emotions amidst epidemic outbreaks. [21, 31] For workplace variable *harmony within colleagues was negatively correlated with incidents of bickering over who should do work and agitation from doctor's temperament*, which is consistent with the previous studies. [35]

🏠 Work-life balance;

Due to COVID-19 pandemic outbreak, nurses had responded increase in their workload and working hours and many had experienced fewer breaks for their basic health amenities like; water and pee breaks and most of the respondents are not allowed to visit their family amid

COVID-19 circumstances. Also, previous studies had shown that professionals with fewer breaks and more workload along with increased working hours leads to higher level of stress. Earlier findings have also suggested that prolonged working hours and increased workloads and work-demands are predictors of stress.^[7,36]

♥ **Health impacts;**

Majority of nurses were found to be stressed under COVID-19 pandemic due to its contagious property. There has always been instances of increased stress and anxiety among nurses when there is an emergence of foreign infectious agent whose infectious nature is entirely unknown. Thus, COVID-19 possessed high probability of causing panic among nurses about them and their family members, subsequently making them more prone to negative psychological impact due to COVID-19 pandemic.

Past researches had revealed that positive emotions have vital significance in the healing and ailment psychological stress and staying optimized provides a protective effect on stress under disastrous conditions which can promote the improvised conditions post stress trauma of epidemic and pandemic outbreaks. Thus, adequate support system facility should be provided to the nurses in order to cater their requisite emotional needs.^[32,33]

🏢 **Consequences work demand;**

Also, there had been responses of rapid frequency in the cases where nursing staff had to bear negative sentiments of patients and/or their relatives/attendants in this COVID-19 catastrophe along with incidents of maintaining working units of other nurses. Past studies had reported that voluntarily serving other working units causes less stress as compared to those who are purposely appointed.³⁷

Limitations:

The study was conducted with only 148 respondents and taking only different Columbia Asia nursing staff members. Secondly, the cross-sectional nature of the study restrains from making conclusions regarding causing factor of psychological stress. Finally, the source of information was only self-administered questionnaire resulting in insufficiency of adequate objective source in data collection.

9. Conclusion

With the sudden outburst and strong morbidic of COVID-19 presents a great challenge in the medical prevention and cure of the pandemic. The results of the study pose that the COVID-19

pandemic outbreak in India has psychological impact on nursing staff of several branches of Columbia Asia hospitals to certain extent. Appropriate psychological intervening is essential and adequate effective, yet efficient measures should be taken, which should include provision of support system at workplace for catering emotional and psychological needs of nurses, reducing the number of working hours and ensuring adequate time for fulfilling basic health amenities. Moreover, prominent attention should be given to nurses who are staying with their families. The study was conducted at the increasing verge of COVID-19 outbreak in India, when information of the pandemic was limited and was rapidly changing. Further, researches are necessary to infer better understanding about psychological impact on nursing staff of India due to COVID-19 pandemic.

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16. Mental Well-Being of Nursing Staff During the Coronavirus Disease 2019 Outbreak: A Cultural Perspective

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