



# A STUDY TO ASSESS THE SLEEP DEPRIVATION AND QUALITY OF LIFE AMONG FRONTLINE NURSES DURING COVID 19 PANDEMIC IN A SELECTED HOSPITAL

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## ABSTRACT

This study was carried out to Assess the Sleep Deprivation and Quality of Life among Frontline Nurses during COVID 19 Pandemic in a selected Hospital, Salem. This study was conducted in Kauvery hospital, Salem. The sample size was 100, who were selected by non probability convenient sampling technique. The tool used for the study comprised of Demographic Variables, Pittsburgh Sleep Quality Index to assess the quality of sleep and Modified World Health Organization Quality of Life Questionnaire-Brief Version (WHOQOL-BREF) to assess the quality of life. The collected data were analyzed by using both descriptive and inferential statistical methods, and interpretations were made based on the objectives of the study. The study findings revealed that there is a significant association between the demographic variables with their level of sleep deprivation. There is significant association between the demographic variables with their level of quality of life. There is a negative correlation between quality of sleep and quality of life which indicated that if level of sleep deprivation increases, quality of life will get decreases and vice versa. The researcher concluded that the significant association between the sleep deprivation and quality of life with their demographic variables of the nurses. There was a negative correlation between the quality of life and sleep deprivation.

## INTRODUCTION

Nurses are playing vital role in fighting against COVID 19. Nurses are exposed to various infectious diseases, including those transmitted through the blood or other body fluids and airborne infectious agents. During the COVID 19 pandemic, nurses faced highest rate of risk among all the health care team. This pandemic situation caused not only morbidity and mortality but also psychological and social problems. Quality of life is a component associated with job and life satisfaction. Work-related Quality of Life refers to the time and ability to do the thing enjoy. Good quality sleep is essential to maintain critical body functions, restore energy and allow the brain to process new information. Sleep deprivation can cause a range of mental and physical problems. It also can affect a registered nurse's ability to deliver optimal patient care. Fatigue is linked to several types of

performance deficits, including an increased risk of errors; a decline in short-term and working memory; a reduced ability to learn; a negative impact on divergent thinking, innovation, and insight; increased risk-taking behavior; and impaired mood and communication skills.

## NEED FOR THE STUDY

During pandemic health care workers were struggled a lot including nurses, most of the nurses had COVID 19 Positive, due to professional workload, they may have insomnia and also had impact on their quality of life. So the researcher eagerly presented the topic, “A study to assess the sleep deprivation and quality of life among frontline nurses during Covid 19 pandemic in a selected hospital at Salem District”

## OBJECTIVES

1. To assess the sleep deprivation among frontline nurses during COVID 19 pandemics.
2. To assess the quality of life among frontline nurses during COVID 19 pandemics.
3. To find out the association between the sleep deprivation with their selected demographic variables
4. To find out the association between the quality of life with their selected demographic variables.
5. To find out the correlation between sleep deprivation and quality of life among frontline nurses during COVID 19 pandemics.

## Research Variable:

According to **Polit and Beck (2010)** a variable is an attribute of a person or object that is, taken on different values.

In this study, **the dependent variable** was the sleep deprivation and quality of life among frontline nurses during COVID 19 Pandemic. Demographic variables such as gender, age, marital status, number of children's, monthly household income, residence, education, clinical experience, working durations as frontline nurse during COVID 19 Pandemic, position in hospital, prior training about caring patients with infectious diseases, confidence in caring COVID 19 patients and willingness to participate in frontline work during the COVID 19 outbreak was **independent variable**.

## STUDY SETTING

The study was conducted in Kauvery Multi Speciality Hospital, Salem Kauvery Hospital has 100 bedded multi specialty hospital in Salem.

## RESEARCH DESIGN

Research design is the overall planning for collecting and analyzing data, including specifications for enhancing the internal and external validity of the study. (**Polit and Hungler, 2010**)

The research design adopted for this study was cross sectional research design.

## SAMPLE SIZE

Sample for this study comprised of 100 frontline nurses who was working in selected hospital

**SECTION - A: DISTRIBUTION OF NURSES ACCORDING TO THEIR DEMOGRAPHIC VARIABLES**

**Frequency and percentage distribution of nurses according to their selected demographic variables (n=100) Characteristics Frequency (f) Percentage (%)**

Characteristics	Frequency(f)	Percentage(%)
<b>Gender</b>		
Male	31	31.0
Female	69	69.0
<b>Age in years</b>		
Less than 20	9	9.0
20 or above	91	91.0
<b>Marital status</b>		
Single	39	39.0
Married	60	60.0
Widower	1	1.0
<b>Number of children</b>		
No	52	52.0
1	28	28.0
More than 1	20	20.0
<b>Monthly income</b>		
Less than 10000	22	22.0
10000 or above	78	78.0
<b>Residence</b>		
Staying inside the hospital - hostel	26	26.0
Staying outside the hospital - hostel	41	41.0
Coming from house	33	33.0
<b>Education</b>		
Diploma or lower	32	32.0
Bachelor's degree or higher	68	68.0
<b>Clinical experience</b>		
Less than 1 year	9	9.0
1 year – 5 years	70	70.0
5 years or above	21	21.0
<b>Working duration as frontline nurse during the COVID-19 outbreak (Per day)</b>		
Less than 12 hrs	37	37.0
12 hrs – 18 hrs	63	63.0
<b>Position in hospital</b>		

Bedside nurse	95	95.0
Head nurse	3	3.0
Nurse director	2	2.0
<b>Prior training about caring patients with infectious diseases</b>		
No	100	100.0
<b>Confidence in caring COVID-19 patients</b>		
Unconfident	27	27.0
Confident	73	73.0
<b>Willingness to participate in frontline work during the COVID-19 outbreak</b>		
Yes	6	6.0
No	94	94.0

Table shows that 69(69%) of the nurses were female and 31(31%) of them were male. 91(91%) of them were above the age of 20 and 9(9%) of them were under the age of 20. 60(60%) of the nurses were married, 39(39%) of them were 40 single and 1(1%) of the nurse was widower. 52(52%) of them were had no children, 28(28%) of them having 1 children and 20(20%) of them had more than 1 children.

78(78%) of them were working with the monthly salary of Rs.10000 and above and 22(22%) of them were working with the monthly salary of below Rs.10,000. Among the nurses,41(41%) of them staying outside the hospital in hostel,26(26%) of them staying inside of the hospital in hostel and 33(33%) of them were coming from house. Among them, 68(68%) of them completed Bachelor degree or higher in Nursing and 32(32%) of them were completed diploma or lower in nursing. Among the nurses, 70(70%) were having 1-5 years of experience, 21(21%) were having more than 5 years of experience and 9(9%) were having less than 1 year of experience. Among the nurses, 63(63%) of nurses were worked 12-18 hours per day and 37(37%) of them were worked for less than 12 hours. Among the nurses, 95(95%) of nurses were bedside nurses, 3(3%) of them were head nurse and 2(2%) were nurse director. 100(100%) of the nurses were prior training about caring patients with infectious diseases. 73(73%) of the nurses were confident in caring COVID 19 Patients and 27(27%) of them were unconfident over taking care of COVID 19 patients. 94(94%) of them were not willingness to participate in frontline work during the COVID 19 Outbreak and 6(6%) of them having willingness to participate in frontline work during the COVID 19 Outbreak.

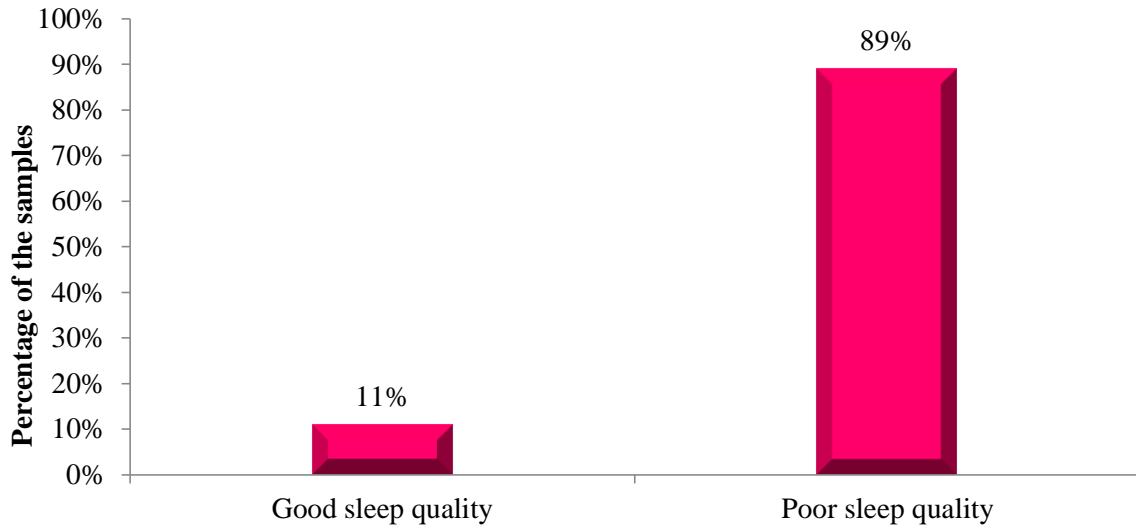
## **SECTION- B: (A) DISTRIBUTION OF NURSES ACCORDING TO THEIR LEVEL OF SLEEP DEPRIVATION**

**Frequency and percentage distribution of frontline nurses according to their level of sleep deprivation.**

<b>Pittsburgh Sleep Quality Intex (PSQI)</b>	<b>Frequency</b>	<b>Percentage</b>
Good sleep quality	11	11.0
Poor sleep quality	89	89.0
<b>Grand Total</b>	<b>100</b>	<b>100.0</b>

Table shows that the level of sleep deprivation among the staff nurses worked in COVID 19 Outbreak. In that 89(89%) of the nurses were coming under poor sleep quality and 11(11%) of the nurses were coming under good sleep quality.

### level of sleep deprivation



Percentage wise distribution of nurses according to their level of sleep deprivation

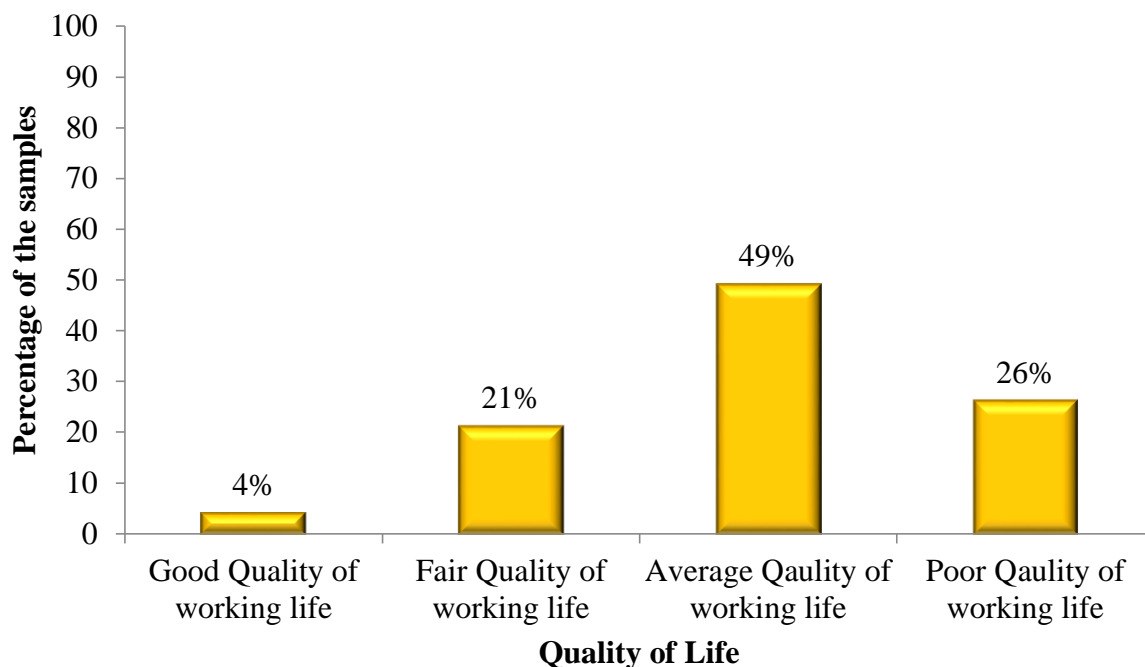
#### a) Distribution of nurses according to their level of quality of life.

#### b) Frequency and distribution of nurses according to their level of quality of life.

(n=100)

Quality of Life (WHOQOL -BREF)	Frequency	Percentage
Good Quality of working life	4	4.0
Fair Quality of working life	21	21.0
Average Quality of working life	49	49.0
Poor Quality of working life	26	26.0
<b>Grand Total</b>	<b>100</b>	<b>100.0</b>

Table shows that the frequency and distribution of nurses according to their level of quality of life. Among the front line nurses worked in COVID 19, 49(49%) of them were coming under average quality of working life, 26(26%) of them were coming under poor quality of working life, 21(21%) of them were coming under fair quality of life and 4(4%) of them were coming under good quality of working life.



Percentage wise distribution of nurses according to their level of sleep deprivation

Section –C:

- a) Association between the level of sleep deprivation among the frontline nurses with their selected demographic variables.

Chi-square test on level of sleep deprivation among frontline nurses with their selected Demographic Variables.

(n=100)

Socio-demographic variables	Quality of Sleep				Chi-square	p-value
	Good sleep quality		Poor sleep quality			
	N	%	N	%		
<b>Gender</b>						
Male	2	2%	29	29.0%	0.949	.495 (NS)
Female	9	9%	60	60.0%		
<b>Age in years</b>						
Less than 20	1	1%	8	8.0%	0	1.000 (NS)
20 or above	10	10%	81	81.0%		
<b>Marital status</b>						
Single	9	9%	30	30.0%	9.536	.008 (S)
Married	2	2%	58	58.0%		
Widower	0	0%	1	1.0%		
<b>Number of children</b>						
No	10	10%	42	42.0%	7.794	.020 (S)
1	0	0%	28	28.0%		
More than 1	1	1%	19	19.0%		

<b>Monthly income</b>						
Less than 10000	3	3.0%	19	19.0%	0.2	.703 (NS)
10000 or above	8	8.0%	70	70.0%		
<b>Residence</b>						
Staying inside the hospital - hostel	1	1.0%	25	25.0%	1.955	.376 (NS)
Staying outside the hospital -hostel	6	6.0%	35	35.0%		
Coming from house	4	4.0%	29	29.0%		
<b>Education</b>						
Diploma or lower	3	3.0%	29	29.0%	0.127	1.000 (NS)
Bachelor's degree or higher	8	8.0%	60	60.0%		
<b>Clinical experience</b>						
Less than 1 year	0	0.0%	9	9.0%	5.054	.080 (NS)
1 year – 5 years	6	6.0%	64	64.0%		
5 years or above	5	5.0%	16	16.0%		
Less than 12 hrs	5	5.0%	32	32.0%	0.379	.530 (NS)
12 hrs -18 hrs	6	6.0%	57	57.0%		
<b>Position in hospital</b>						
Bedside nurse	8	8.0%	87	87.0%	25.165	.000 (S)
Head nurse	3	3.0%	0	0.0%		
Nurse director	0	0.0%	2	2.0%		
Unconfident	1	1.0%	26	26.0%	2.011	.280 (NS)
Confident	10	10.0%	63	63.0%		
Yes	3	3.0%	3	3.0%	9.917	.017 (S)
No	8	8.0%	86	86.0%		

Table shows that Chi-square test on level of sleep deprivation among frontline nurses with their selected Demographic Variables. There is significant association between the demographic variables with their level of sleep deprivation such as marital status, number of children, position in hospital and willingness to participate in frontline work during the COVID 19 Outbreak.

**b) Association between the level of quality of life among the frontline nurses with their selected demographic variables.**

Table Chi-square test on quality of life among frontline nurses with their selected Demographic Variables.

Socio-demographic variables	Quality of Life								Chi-square	p-value
	Good		Fair		Average		Poor			
	N	%	N	%	N	%	N	%		
<b>Gender</b>										
Male	1	1%	6	6.0%	21	21.0%	3	3.0%	7.95	.047 (S)
Female	3	3%	15	15.0%	28	28.0%	23	23.0%		
<b>Age in years</b>										

Less than 20	0	0%	1	1.0%	6	6.0%	2	2.0%	1.54	.673 (NS)
20 or above	4	4%	20	20.0%	43	43.0%	24	24.0%		
<b>Marital status</b>										
Single	3	3%	9	9.0%	17	17.0%	10	10.0%	6.67	.353 (NS)
Married	1	1%	11	11.0%	32	32.0%	16	16.0%		
Widower	0	0%	1	1.0%	0	0.0%	0	0.0%		
<b>Number of children</b>										
No	4	4%	10	10.0%	24	24.0%	14	14.0%	4.17	.654 (NS)
1	0	0%	6	6.0%	15	15.0%	7	7.0%		
More than 1	0	0%	5	5.0%	10	10.0%	5	5.0%		
<b>Monthly income</b>										
Less than 10000	0	0%	9	9.0%	8	8.0%	5	5.0%	7.49	.058 (NS)
10000 or above	4	4%	12	12.0%	41	41.0%	21	21.0%		
<b>Residence</b>										
Staying inside the hospital - hostel	0	0%	5	5.0%	15	15.0%	6	6.0%	7.722	.259 (NS)
Staying outside the hospital -hostel	4	4%	8	8.0%	20	20.0%	9	9.0%		
Coming from house	0	0%	8	8.0%	14	14.0%	11	11.0%		
<b>Education</b>										
Diploma or lower	0	0%	5	5.0%	13	13.0%	14	14.0%	8.906	.031 (S)
Bachelor's degree or higher	4	4%	16	16.0%	36	36.0%	12	12.0%		
<b>Clinical experience</b>										
Less than 1 year	0	0%	2	2.0%	5	5.0%	2	2.0%	3.6	.733 (NS)
1 year – 5 years	2	2%	16	16.0%	35	35.0%	17	17.0%		
5 years or above	2	2%	3	3.0%	9	9.0%	7	7.0%		
<b>Working duration (Per day)</b>										
Less than 12 hrs	1	1%	7	7.0%	17	17.0%	12	12.0%	1.41	.702 (NS)
12 hrs -18 hrs	3	3%	14	14.0%	32	32.0%	14	14.0%		
<b>Position in hospital</b>										
Bedside nurse	4	4%	21	21%	46	46%	24	24%	4.982	.546 (NS)
Headnurse	0	0%	0	0%	1	1%	2	2%		
Nurse Director	0	0%	0	0%	2	2%	0	0%		
<b>Confidence in caring COVID-19 patients</b>										
Unconfident	1	1%	9	9%	15	15%	2	2%	7.9	.047 (S)
Confident	3	3%	12	12%	34	34%	24	24%		
<b>Willingness to participate in frontline work during the COVID-19 outbreak</b>										
Yes	0	0%	1	1%	2	2%	3	3%	2.046	.56 (S)
No	4	4%	20	20%	47	47%	23	23%		



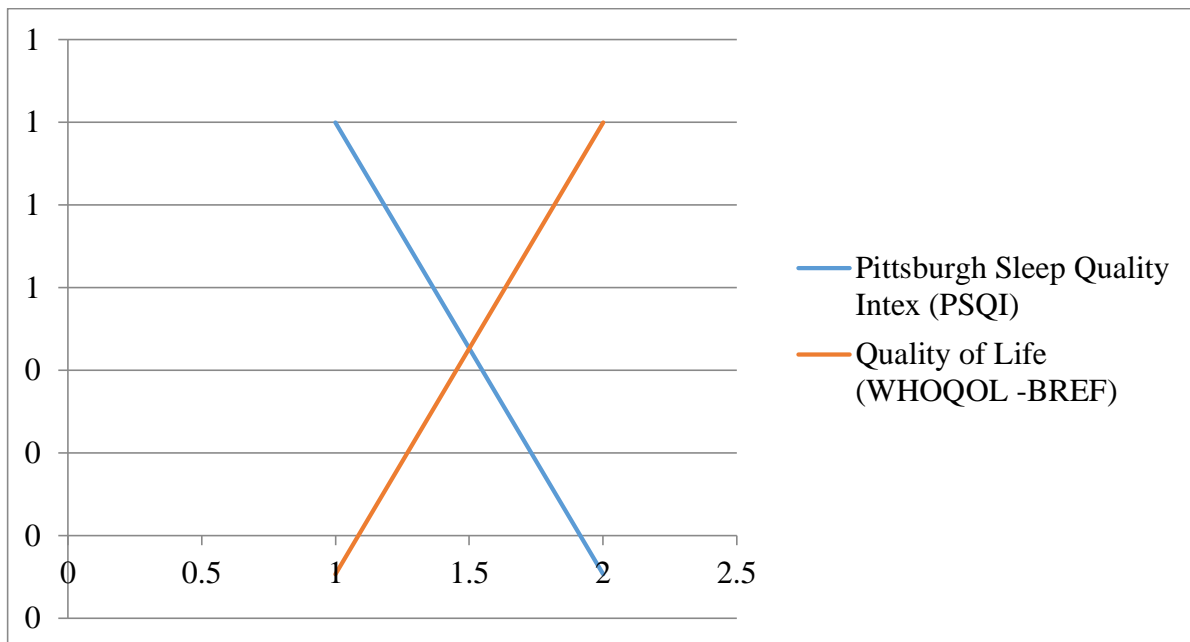
Table shows that Chi-square test on level of quality of life among frontline nurses with their selected Demographic Variables. There is significant association between the demographic variables with their level of quality of life such as gender, education, confidence in caring COVID 19 Patients and Willingness to participate in frontline work during the COVID 19 Outbreak.

#### Section-D:

##### Correlation between the sleep deprivation and quality of life of frontline nurses.

Correlations	"r" value	"p" value
Quality of sleep	1	< 0.05 (NS)
Quality of Life	-.094	< 0.05 (NS)
Correlation is not significant at the 0.05 level (2-tailed).		

Table shows that correlation between the sleep deprivation and quality of life of frontline nurses. There is a negative correlation between quality of sleep and quality of life with the "r" value of 1, -.094 respectively with the "p" value of <0.05 which indicated that if level of sleep deprivation decreases, quality of life will get increases and vice versa. It is found to be not significant at the level of <0.05.



## Summary:

This chapter dealt with the data analysis and interpretation in the form of statistical value based on the objectives. Frequency and percentage were used to assess the demographic variables, sleep deprivation and quality of life. The chi-square test was used to find out the association between the sleep deprivation and quality of life among frontline nurses with their demographic variables. The result showed that the most of the nurses in poor quality of sleep and average level of quality of life.

## CONCLUSION

The study was conducted to assess the Sleep Deprivation and Quality of Life among Frontline Nurses during Pandemic in a Selected Hospital. The study findings showed that the significant association between the sleep deprivation and quality of life with their demographic variables of the nurses. There was a negative correlation between the quality of life and sleep deprivation.

## NURSING IMPLICATION

The findings of the study have implications in different aspects of nursing practice.

### Nursing Practice

- Structured teaching programme regarding risk factors and prevention of sleep deprivation need to be provided to nurses which will reduce the risk of sleep deprivation in their quality of life among nurses.
- Occupational nurses who work closer to colleges can teach the nursing students on different aspects of sleep deprivation.
- Student nurses can disseminate information on prevention of sleep deprivation among the risk group

## RECOMMENDATION

Based on the research findings the recommendations are as follows:

- Similar study can be conducted as comparative study between nurses working in non COVID ward and COVID ward nurses in different settings.
- Similar study can be conducted for various positions.
- Similar study can be conducted to find ways or methods to reduce the sleep deprivation among nurses.
- Similar study can be conducted in different populations such as professional and non professional students and workers.

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