



“Effectiveness of BME (4-7-8 Breathing, Meditation, Education) On Health Status, Stress, Burn Out of Nurses in a Selected Hospital of Vijayapur” Karnataka, India.

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KEYWORDS

Stress, burn out, health status, Breathing meditation, education, staff nurses,

ABSTRACT:

Introduction: Nurses have the more work load in hospital settings by taking care of patients. Sometimes they feel stress, burn out in their working area due to many reasons and it having impact on their health status. Some are having good coping strategies and some are not to overcome this kind of stress and burnout sometimes they don't have time to take care of their health status when it is deteriorated.

Objectives: 1) To Find the effectiveness of BME on health status, stress level, burnout level in interventional group. 2) To compare the post test health status scores, stress scores and burn out level scores between experimental and control group.

Methods: A Quasi experimental study with a sample of 180 nursing staffs was selected by Purposive sampling Technique. 90 samples in each group. The data was collected by using Self Administered Nursing Stress Scale, Maslach Burnout Inventory (MBI), Health status was assessed by measuring BMI, BP, and Sugar Level respectively.

Results: Comparison of post test burn out between experimental group and control group shows that The post test emotional exhaustion (The Mann Whitney U test value is 2848.500 and p value is 0.001). So it shows that there is a significant difference in post test emotional exhaustion score in experimental group and in control group. Depersonalization (The Mann Whitney U test value is 3189.500 and p value is 0.013). Personal accomplishment (The Mann Whitney U test value is 1613.500 and p value is 0.001) So it shows that there is a significant difference in post test personal accomplishment score in experimental group and in control group. Comparison of Health status of staff nurses shows that significant difference between post test waist circumference between experimental group and control group. (mann whitney U test is 2610.500 and P is less than 0.05 level of significance). Systolic BP shows that there is significant difference between post test systolic BP between experimental group and control group (mann whitney U test is 3581.000 and P is less than 0.05 level of significance). Regarding stress The mann whitney U test (2856.000, p is less than 0.05 level of significance) shows that there is a significant difference between post test scores in experimental group and control group regarding death and dying, conflict with physician (2469.500, p is less than 0.05 level of significance), inadequate emotional support (2303.000, p is less than 0.05 level of significance). problems with peer support (2801.000, p is less than 0.05 level of significance), problems with supervisor (2519.500, p is less than 0.05 level of significance), work load (2774.000, p is less than 0.05 level of significance). patients and families (3257.500, p is less than 0.05 level of significance) discrimination (2794.000, p is less than 0.05 level of significance) indicates that there is a significant difference between experimental group and control group.

Conclusions: BME is a effective intervention for reducing stress and burn out among staff nurses. It is not having immediate effect on health status of staff nurses. So the intervention can be conducted for prolonged period of time to know its effect.



1. Introduction:

Occupational stress is a recognized problem in health care workers¹. Nursing has been identified as an occupation that has high levels of stress². This seriously impairs the provision of quality care and the efficacy of health services delivery^{3,4}. Stress has a cost for individuals in terms of health, wellbeing, and job satisfaction, as well as for the organization in terms of absenteeism and turnover, which in turn may impact the quality of patient care^{5,6}. Stress is not inherently deleterious, however. Each individual's cognitive appraisal, their perceptions, and interpretations, gives meaning to events and determines whether events are viewed as threatening or positive⁷.

The nurse's role has long been regarded as stress-filled based on the physical labor, human suffering, work hours, staffing, and interpersonal relationships that are central to the work nurses do⁸. The issues of job stress, coping, and burnout among nurses are of universal concern to all managers and administrators in the area of health care². Burnout, first described by Freudenberger⁹, is a negative condition characterized by the gradual depletion of physical, emotional, and mental energy due to excessive work¹⁰. Maslach (1976) later conceptualized burnout as a multidimensional syndrome characterized by emotional exhaustion, depersonalization, and diminished personal commitment¹¹. Burnout occurs during the maintenance of interpersonal relationships and is most prevalent in the fields of nursing, medicine, and education, which deal directly with many people¹¹.

Nursing is an occupation that experiences one of the highest rates of burnout¹². Nurse burnout is defined as a physical, psychological, emotional, and socially exhausted status caused by unsuccessfully managed job stress and limited social support¹³. The globally pooled prevalence of nurse burnout is 11.2%¹⁴. However, in other studies classifying burnout symptoms, nurse burnout was as high as 40.0%^{15,16}. Moreover, nurse burnout in the post-COVID-19 pandemic era has worsened. In a recent study, nurse burnout was as high as 68.0%¹⁷. The causes of nurse burnout were excessive workload; lack of staffing; role conflict; low autonomy; time pressure; interpersonal conflict between patients, guardians, and medical staff; and absence of leadership support¹⁸. Burnout can have a significant impact on the

group and the organization, so prevention and action are required¹⁰. Healthcare workers often are unsatisfied with their working conditions despite declaring to like their jobs. Psychosocial constraints in the workplace have increased recently due to changes in work organization. These psychosocial constraints are linked to cardiovascular diseases¹⁹. Nurses' work is known to be stressful, and many nurses work shifts. Both stress and shift work are factors that can influence how and what nurses eat and may increase nurses' risk for weight gain and obesity²⁰.

Occupational stress is constituted by the association between the various symptoms presented by the organism, and can trigger physical and mental illnesses. Workers with chronic stress have double the chances of developing MetS²¹, sleep disorders, chronic fatigue, diabetes and Burnout syndrome²². The complexity of the relationships between people, the inadequate planning of human and material resources, and the nursing work environment are also factors which contribute to the emergence of stress and anxiety²³. Authors assert that there is a relationship between MetS, anxiety and depression²⁴.

Breathing techniques and meditation have been the subject of study for many decades now, with applications in the military, healthcare industry, addiction treatments, and more. Many of these studies have shown that breathing exercises, such as SKY Breath Meditation, and meditation techniques like mindfulness-based stress reduction, can bring about immediate and long-term stress reduction. Studies published by Harvard Business Review theorize that rationally thinking your way out of stress, anxiety, and burnout is ineffective because these intense emotions can impair your prefrontal cortex (the part of the brain responsible for rational thinking). Therefore, breathing techniques and meditation are more effective, as they can trigger the body's natural physiological responses to relax and relieve stress. According to NPR, breathing exercises and meditation effectively train the body's reaction to stressful situations, therefore dampening the production of stress hormones released by the body's sympathetic nervous system as a fight-or-flight response. Lengthy exposure to elevated levels of stress hormones can lead to poor quality of sleep, poor mental health, reduced life satisfaction, and physical symptoms



such as hypertension, a weakened immune system, and more relating to burnout in nurses²⁸

2.Objectives:

To find the effectiveness of BME on health status, stress level, burnout level in interventional group. To compare the post test health status scores, stress scores and burn out level scores between experimental and control group

3.Methods:

It was a quasi experimental study with an aim to compare the post test health status scores, stress scores and burn out level scores between experimental and control group. A sample of 180 was selected by Purposive sampling Technique (90 in each group).

Study participants:

The study participants were nursing staffs from selected hospital at Vijayapur District.

Setting of the study:

Based on the investigator’s familiarity, availability of the subjects and feasibility to conduct the study, the present study was conducted in selected hospital of Vijayapur.

Sampling technique: The sample was selected by Purposive sampling Technique. will be used to select the sample from selected hospital of Vijayapur.

A total of 180 nursing staffs will be recruited for this study (90 samples are randomly selected in experimental group and 90 samples are selected in control group)

The anticipated Mean ± SD of Stress scale among nursing staff 42.90±11.75 and in control group 50.36±14.48 resp. ^(ref) the required minimum sample size is 84 per group (i.e. a total sample size of 168, assuming equal group sizes) to achieve a power of 95% and a level of significance of 5% (two sided), for detecting a true difference in means between two groups.

$$N = 2 \left[\frac{(Z_{\alpha} + Z_{\beta}) * S}{d} \right]^2$$

Level of significance=95%

Z_β--power of the study=95%

d=clinically significant difference between two parameters

SD= Common standard deviation

Sample size: Minimum 84 per group, 90 samples were taken to round up in each group

Data collection Instrument:

Data collection instruments:

- Stress level of the staff nurses will be assessed by **Self Administered Nursing Stress Scale (Gray-Toft and Anderson)**
- Burn out of Nursing Staffs will be assessed by **Maslach Burnout Inventory (MBI)**
- Health status of staff nurses will be assessed by RBS, BP, BMI, Waist Circumference, other health condition as perceived by the staff nurses (Allergy, Respiratory Problem, Cardiac Disorder).

Translation and reliability of data collection instruments:

The tools were used are standardized tool to assess the nursing personal stress, Burn out and BMI was calculated by assessing the weight in kg and height in meter², BP was recorded by sphygmo manometer and GRBS was recorded by Glucose strip.

Data collection Procedure:

Data collection was done from 29-06-2022 to 20-08-2022 at selected hospital of Vijayapur. A formal Permission was obtained from the Principal and medical superintendent of Shri BM Patil Medical college hospital and research centre Vijayapur. The investigator given self-introduction explained the purpose of data collection to the subjects and subject’s willingness to participate in the study was ascertained. The subject was assured the anonymity and confidentiality of the information provided by them. The 4-7-8 breathing technique, also known as “relaxing breath,” involves breathing in for 4 seconds, holding the breath for 7 seconds, and exhaling for 8 seconds. **How to do it:** Before starting the breathing pattern, adopt a comfortable sitting position and place the tip of the tongue on the tissue right behind the top front teeth.

To use the 4-7-8 technique, focus on the following breathing pattern:



Empty the lungs of air

Breathe in quietly through the nose for 4 seconds

Hold the breath for a count of 7 seconds

Exhale forcefully through the mouth, pursing the lips and making a “whoosh” sound, for 8 seconds. Repeat the cycle up to 4 times in the beginning days later they can extend up to 10

Meditation: The meditation will be given for seven days. Every day 15 minutes with OM chanting Music with the help of expert.

Education: The education content including how to practice the health promoting behaviors, factors affecting stress and burn out and how to relive it.

Ethical clearance:

Ethical clearance certificate was obtained from Institutional ethical clearance committee, B M Patil Institute of Nursing Sciences (ref No. 26/2022-23 Dt:09/04/2022) written consent of participation was obtained from participants before data collection.

Statistical analysis:

The data was analysed using SPSS version 25. The obtained data was entered in MS excel sheet. The data was edited for accuracy and completeness. The categorical responses were coded with numerical codes. The data was presented with frequency and percentage distribution tables and diagrams. The description of **Self Administered Nursing Stress Scale, Maslach Burnout Inventory (MBI), Health Promoting Life style Profile-II**, structured knowledge questionnaire was presented with frequency, and percentage distribution, mean and standard deviation.

Mann Whitneys U test was used to compare the post test of health status scores, stress scores and burn out level scores between experimental and control group.

The chi-square (X²) test will be used to find out the association between the demographic variables with the Stress, Burnout, Health Status scores

Wilcoxon Signed rank test: Used to compare two related samples or to conduct a paired difference test of repeated measurements on a single sample to assess whether their population mean ranks differ

4.Results:-

Table No 1: Demographic data of experimental group and control group N=180

S No	Variables	Experimental group		Control group	
		F	%	F	%
1)	Age in Years				
A	<30 years	04	4.44	15	16.66
B	30-40 years	53	58.88	55	61.11
C	40- 50 years	31	34.44	18	20
d	>50 years	02	2.22	02	2.22
2)	Gender				
A	Male	68	75.55	39	43.33
B	Female	22	24.45	51	56.66
3)	Education Qualification				
A	GNM	79	87.77	69	76.66
B	B Sc Nursing	10	11.11	17	18.88
C	M Sc Nursing	01	1.11	04	4.44
4)	Years of experience				
A	<01 year	01	1.11	10	11.11
B	01-03 year	02	2.22	03	3.33
C	3-6 year	08	8.88	12	13.33
D	>6 year	79	87.77	65	72.22
5)	Working area				
A	General ward	11	12.22	27	30
B	Emergency ward	22	24.44	05	5.55
C	Critical ward	32	35.55	34	37.77
D	OT	21	23.33	23	25.55
E	OPD	00	00	00	00
F	Others	04	4.44	01	1.11
6)	Monthly income in				



	rupees					Meat	2	2	35	39	14	10	2	1	3	4	1	5
A	<10000	26	6.66	23	25.55		4	2						0			2	
B	10001-20000	5	5.55	32	35.55													
C	20001-30000	49	54.44	24	26.66													
D	>30000	10	11.11	11	12.22													
7)	Marital Status																	
A	Married	88	97.77	81	90													
B	Unmarried	02	2.22	07	7.77													
C	Widow	00	00	00	00													
D	Widower	00	00	02	2.22													
8)	Type of family																	
A	Nuclear	25	27.77	23	25.55													
B	Joint	65	72.22	67	74.44													

Table no 3: Shows that staff nurses work activity to get rid of stress in experimental group and in control group N=180

S No	Activities	Experimental group		Control group	
		Yes	No	Yes	No
1	Smoking	15	75	20	60
2	Drinking alcohol	10	80	12	78
3	Drinks beverages	75	15	80	10
4	Watching mobile	70	20	70	20
5	Watching television	37	53	30	60
6	Doing meditation	16	74	20	70
7	Stay alone	67	23	60	30
8	Talking to others	74	16	75	15
9	Discuss the problems with other	59	31	55	35
10	Takes life casually	12	78	15	75
11	Going for walk	23	67	21	69
12	Eats sweets	34	56	26	64
13	Go for sleep	41	49	49	41
14	Pray to god	67	23	72	18
15	Doing excess work	10	80	10	80
16	Gets angry and quit the work	06	84	10	80

Table No 2: Staff nurses distribution on the basis of how often they usually eat in experimental group and control group N=180

Items	Never		Once in month		Several times a month		Once a week		Several times a week		Every day	
	E	C	E	C	E	C	E	C	E	C	E	C
Sweets	0	0	21	25	30	34	26	18	8	10	5	3
Vegetables	0	0	8	10	10	15	4	10	6	4	6	51
Fruits	0	0	10	11	16	19	28	29	3	2	5	5
Fast foods	6	6	6	8	14	14	29	30	5	5	1	07
Dairy	0	0	11	15	15	30	6	15	1	1	4	15



	place				
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		3	0	7	9	6	.	6
				7		6	9	
				2			2	

Objective wise data analysis:

a) Assess the health status, stress level, burnout level before and after intervention of BME in experimental and control group

Table no 4: Shows that Assessment of the health status of nurses before and after intervention of BME in experimental and control group N=180

Health status	Experimental group				Control group			
	Before		After		Before		After	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
BMI	26.43	4.540	26.45	4.377	25.204	3.844	25.886	3.346
WC	90.08	6.425	90.08	6.425	86.17	3.70	86.21	4.079
SYS TOLIC BP	118.16	8.996	115.22	6.442	118.31	8.59	117.33	8.580
DIO STOLIC BP	76.20	7.350	74.36	6.192	75.24	7.19	75.44	7.199
RBS	113.82	20.30	107.8	12.1	105.4	13.6	110.4	11.71

Table no 5: Depicts that categorical Assessment of burn out scores in experimental group and in control group N=180

Comparison of	EXPERIMENTAL GROUP		CONTROL GROUP	
	Mean	SD	Mean	SD
EE PRE TEST	17.74	6.272	17.49	6.699
DP PRE TEST	9.24	3.390	9.28	3.240
PA PRE TEST	18.19	6.379	17.13	4.358
EE POST TEST	13.50	3.548	15.87	4.696
DP POST TEST	7.67	2.303	8.70	2.810
PA POST TEST	11.70	3.282	15.19	3.331

EE: Emotional exhaustion, DP: Depersonalization, PA: Personal Accomplishment

Table no 6: Shows that Assessment of stress before and after intervention in experimental group and in control group N=180

Stress Scale	Experimental group				Control group			
	Pre test		Post test		Pre test		Post test	
	Mean	±SD	Mean	±SD	Mean	±SD	Mean	±SD
DEATH and DYING	2.34	0.823	1.6927	0.851	2.18	0.931	2.038	0.803



				1				
CONFLICT WITH PHYSICIAN	2.44	0.863	1.73778	0.903250	2.46	0.996	2.3244	0.9121294
INADEQUATE EMOTIONAL PROMOTION	2.08	1.008	1.67767	0.87305	2.47	1.073	2.2444	0.9170326
PROBLEMS WITH PEER SUPPORT	2.23	0.900	1.78164	0.84132	2.41	1.044	2.1033	0.8380764
PROBLEMS WITH SUPERVISOR	2.44	0.913	1.61748	0.813041	2.20	0.864	1.9476	0.6965042
WORK LOAD	2.24	0.903	1.72334	0.66487	2.33	0.972	2.11859	0.772831

UNCERTAINTY CONFIRMING TREATMENT	2.44	1.082	1.98019	0.82998				
PATIENTS & FAMILIES	2.40	1.252	1.80139	0.9674				
DISCRIMINATION	2.28	1.227	1.70000	1.122914				

A] To compare the post test health status scores, stress scores and burn out level scores between experimental and control group

Table no 7: Shows that Comparison of Burn out scales between Experimental and Control groups with mean and SD. N=90

Comparison of	EXPERIMENTAL GROUP		CONTROL GROUP		Mann - Whitney U test	P value
	Mean	Std. Deviation	Mean	Std. Deviation		
EEPR EST	17.74	6.272	17.49	6.699	3865.500	0.597



DP PR E TE ST	9.2 4	3.3 90	9.2 8	3.24 0	4015. 000	0.92 7
PA PR E TE ST	18. 19	6.3 79	17. 13	4.35 8	3660. 000	0.26 3
EE PO ST TE ST	13. 50	3.5 48	15. 87	4.69 6	2848. 500	0.00 1*
DP PO ST TE ST	7.6 7	2.3 03	8.7 0	2.81 0	3189. 500	0.01 3*
PA PO ST TE ST	11. 70	3.2 82	15. 19	3.33 1	1613. 500	0.00 01*
*: Statistically Significant						

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

Table no 8: Explains that Comparison of Health status of staff before and after intervention in Experimental group **N=90**

Health status	Before		After		Wilcoxon Signed Rank Test	P Value
	Mean	Std. Deviation	Mean	Std. Deviation		
BMI	26.43	4.540	26.45	4.377	1.340	0.180
WC	90.	6.42	90.	6.425	0.00	1.00

	08	5	08		0	0
SY ST OLI C BP	11 8.1 6	8.99 6	11 5.2 2	6.442	3.63 6	0.00 1*
DI OS TO LIC BP	76. 20	7.35 0	74. 36	6.192	3.15 2	0.00 2*
RB S	11 3.8 2	20.3 03	10 7.8 0	12.772	4.01 0	0.00 1*
*: Statistically Significant						

Table no 9: Comparison of Health status of staff nurses before and after intervention in Control group **N=90**

Health status	Before		After		Wilcoxon Signed Ranks Test	P Value
	Mean	Std. Deviation	Mean	Std. Deviation		
BMI	25.204	3.284	25.286	3.346	1.279	0.201
WC	86.17	3.970	86.211	4.079	0.618	0.537



SYSTOLIC BP	118.33	8.569	117.33	8.580	1.750	0.880
DIOSTOLIC BP	75.44	7.199	75.24	7.199	0.000	1.000
RBS	105.92	13.662	104.72	13.662	0.412	0.681
*Statistically Insignificant						

Table no 10: Shows that Comparison of Health status of staff nurses between Experimental and Control group (Pre test) N=180

Health status	Experimental group		Control group		Man-Whitney U Test	P Value
	Mean	Std. Deviation	Mean	Std. Deviation		
BMI	26.43	4.540	25.204	3.284	3610.000	0.208
WC	90.08	6.425	86.17	3.970	2557.500	0.001*
SYSTOLIC BP	118.16	8.996	118.31	8.569	3939.500	0.738
DIOSTOLIC BP	76.20	7.350	75.24	7.199	3823.500	0.604
RBS	113.82	20.303	105.49	13.666	3129.000	0.008*

***: Statistically Significant**

Table no 11: Shows that Comparison of Health status of staff between Experimental and Control group (Post test) N=180

Health status	Experimental group		Control group		Man-Whitney U Test	P Value
	Mean	Std. Deviation	Mean	Std. Deviation		
BMI	26.45	4.377	25.286	3.346	3664.500	0.270
WC	90.08	6.425	86.21	4.079	2610.500	0.001*
SYSTOLIC BP	115.22	6.442	117.33	8.580	3581.000	0.001*
DIOSTOLIC BP	74.36	6.192	75.24	7.199	3747.000	0.353
RBS	107.80	12.772	104.92	11.716	3575.000	0.172
*: Statistically Significant						

Table no 12: Explains that Comparison of Stress Scale Before and After in Experimental Group N=90

Stress Scale	Pre test		Post test		Wilcoxon signed rank test	P value
	Mean	±SD	Mean	±SD		



DEATH and DYING	2.34	.823	1.69207	.853911	4.540	0.001*
CONFLICT WITH PHYSICIAN	2.44	.863	1.73778	.903250	4.924	0.001*
INEDEQUATE EMOTIONAL PROMOTION	2.08	1.008	1.67767	.873305	2.975	0.003*
PROBLEMS WITH PEER SUPPORT	2.23	.900	1.71864	.841132	3.906	0.001*
PROBLEMS WITH SUPERVISOR	2.44	.913	1.61748	.813041	5.796	0.001*
WORK LOAD	2.24	.903	1.72334	.664587	4.124	0.001*
UNCERTAINTY CONFIRMING TREATMENT	2.44	1.082	1.98019	.829998	3.116	0.002*
PATIENTS & FAMILIES	2.40	1.252	1.80139	1.096774	3.624	0.001*
DISCRIMINATION	2.28	1.227	1.70000	1.11291	3.247	0.001*

				4		
*: Statistically Significant						

Table no 13: Represents that Comparison of Stress Scale Before and After in Control Group

Stress Scale	Pre test		Post test		Wilcoxon signed rank test	P value
	Mean	±SD	Mean	±SD		
DEATH and DYING	2.18	.931	2.052381	0.8220338	2.933 ^b	0.003*
CONFLICT WITH PHYSICIAN	2.46	.996	2.324444	0.9121294	1.659	0.097*
INEDEQUATE EMOTIONAL PROMOTION	2.47	1.073	2.244444	0.9170326	2.313	0.021*
PROBLEMS WITH PEER SUPPORT	2.41	1.004	2.133333	0.8380764	4.547	0.001*



FAMILIES						
DESCRIPTION	2.28	1.227	2.51	1.326	3734.500	0.358
*: Statistically significant						

Table no 15: Explains that Comparison of Stress Scale between Experimental (After) and Control (After) groups

N=180

Stress Scale	Experimental group		Control group		Mann Whitney U test	P value
	Mean	±SD	Mean	±SD		
DEATH and DYING	1.69207	.853911	2.052	0.8220	2856.000	0.001*
CONFLICT WITH PHYSICIAN	1.73778	.903250	2.324	0.912	2469.500	0.001*
INADEQUATE EMOTIONAL PROMOTION	1.67767	.873305	2.244	0.917	2303.000	0.001*
PROBLEMS WITH PEER SUPPORT	1.71864	.841132	2.133	0.838	2801.000	0.001*
PROBLEMS WITH	1.6174	.81304	1.990	0.696	2519.500	0.001*

SUPERVISOR	8	1				
WORKLOAD	1.72334	.664587	2.118	0.772	2774.000	0.001*
UNCERTAINTY CONFIRMING TREATMENT	1.98019	.829998	2.0197	-0.736	3689.500	0.302
PATIENTS & FAMILIES	1.80139	1.09674	1.970	0.919	3257.500	0.023*
DESCRIPTION	1.70000	1.112914	2.177	1.105	2794.000	0.001*
*: Statistically significant						

AJ To find the association between stress, burn out scores with selected demographic variables in experimental group and in control group.

Table no 16: Explains that Association between total burn out score with selected demographic variables of nursing personal in Experimental group
N=90

S No	Demographic variables	Chi square	P value	Significance
1	Age	4.263	0.41	NS
2	Gender	0.734	0.694	NS
3	Education	3.789	0.428	NS
4	Years of experience	2.198	0.819	NS



5	Working area	7.858	0.447	NS
6	Monthly income	5.205	0.518	NS
7	Marital status	5.205	0.518	NS
8	Type of family	0.512	0.774	NS

Table no 17: Shows that Association between total burn out score with selected demographic variables of nursing personal in control group N=90

S No	Demographic variables	Chi square	P value	Significance
1	Age	4.412	0.621	NS
2	Gender	0.354	0.838	NS
3	Education	6.083	0.193	NS
4	Years of experience	4.121	0.663	NS
5	Working area	9.756	0.283	NS
6	Monthly income	9.756	0.283	NS
7	Marital status	5.850	0.211	NS
8	Type of family	4.495	0.106	NS

Table no 18: Shows that Association between overall stress scores with selected demographic variables of nursing personal in experimental group N=90

S No	Demographic variables	Chi square	P value	Significance
1	Age	7.861	0.796	NS
2	Gender	5.584	0.232	NS
3	Education	3.848	0.871	NS
4	Years of experience	9.665	0.645	NS
5	Working area	20.991	0.179	NS

6	Monthly income	11.814	0.461	NS
7	Marital status	2.338	0.674	NS
8	Type of family	5.006	0.287	NS

Table no 19: Represents that Association between overall stress scores with selected demographic variables of nursing personal in control group N=90

S No	Demographic variables	Chi square	P value	Significance
1	Age	25.585	0.002	S
2	Gender	6.660	0.084	NS
3	Education	15.693	0.016	S
4	Years of experience	6.715	0.667	NS
5	Working area	13.348	0.334	NS
6	Monthly income	14.319	0.112	NS
7	Marital status	9.007	0.183	NS
8	Type of family	3.301	0.483	NS

5. Discussion:-

The present study shows that The pre test mean score of BMI of staff nurses were 26.43 and SD is 4.54 in experimental group, In control group it shows that SD (3.284) and mean BMI score was before (25.204). The similar study shows that the prevalence of normal BMI, underweight, overweight, and obesity was 69.2%, 7.5%, 18.2%, and 5.2%, respectively²⁵. The pre test emotion exhaustion mean score and SD in experimental group is 17.74 and 6.272 where as in control group the mean score and SD is 17.49 and 6.699. the Mann Whitney U test value is 3865.500 and p value is 0.597. The post test emotional exhaustion mean score and SD in experimental group is 13.50 and 3.548 where as in control group it is 15.87 and 4.696. The Mann Whitney



U test value is 2848.500 and p value is 0.001. So it shows that there is a significant difference in post test emotional exhaustion score in experimental group and in control group. The similar study shows that The prevalence of high emotional exhaustion, high cynicism, and low personal accomplishment among nurses was 26.1%, 38.7%, and 35.6%, respectively. Nurses who were obese were more likely to have high levels of emotional exhaustion (OR=1.493, 95% CI: 1.011 to 2.206) and cynicism (OR=1.511, 95% CI: 1.014 to 2.253), and nurses who were underweight were more likely to have high levels of cynicism (OR=1.593, 95% CI: 1.137 to 2.232) compared with those who were normal weight²⁵. The present study shows that stress scores among staff nurses as the mean score and SD of death and dying in experimental group is (2.34, 0.823) and in control group (2.18, 0.931). The mean score and SD of conflict with physician in experimental group is (2.44, 0.863) and in control group is (2.46, 0.996). The mean score and SD of inadequate emotional promotion in experimental group is (2.08, 1.008) and in control group (2.47, 1.073). The mean score and SD in problems with peer support in experimental group is (2.23, 0.9) and in control group is (2.41, 1.004). The mean score and SD of problems with supervisor in experimental group is (2.44, 0.913) and in control group (2.20, 0.864). The mean score and SD of work load in experimental group is (2.24, 0.903) and in control group (2.33, 0.972). The mean score and SD of uncertainty confirming treatment in experimental group is (2.44, 1.082) and in control group (2.08, 0.951). the mean score and SD of patients and families in experimental group is (2.4, 1.252) and in control group (1.89, 0.977). The mean score and SD of discrimination in experimental group is (2.28, 1.227) and in control group (2.51, 1.326). A similar study shows that staff nurses are having an average 64.27% of stress in each domain. i.e. for Inadequate preparation, skill and knowledge (59.28%), work load and organization (63.36%), interpersonal conflict at work (63.56%), uncertainty in working environment (64.20%), Working with patient and families (65.48%) and safety and security (69.72%)²⁶. The present study shows that there is a significant association between overall stress cores with selected demographic variables like age ($X^2=25.585$, $p<0.05$), education ($X^2=15.693$, $p<0.05$). The remaining demographic variables are not having significant association with over all stress score at 0.05 level of

significance in control group. There is no significant association between over all stress scores with selected demographic variables at 0.05 level of significance in experimental group. The similar study shows that professional stress was not significantly associated with socio-demographic factors like age, marital status, no of children and gender of the staff nurse²⁷

Conclusion and Recommendation:

The study concludes that BME (4-7-8 Breathing, Meditation and education) intervention was effective in reducing stress and burn out among staff nurses in a short period of time. This intervention is not having much influence on health status like weight, height, BP, RBS and BMI in a short period of time. This intervention can be used effectively for reducing stress and burn out among staff nurses in day to day basis.

Recommendations:

- 1) The study can be conducted for longer period of time
- 2) The study can be replicated in other settings
- 3) The study can be conducted with larger samples
- 4) The study can be conducted for other variables of staff nurses like quality of life, health promoting behaviour etc

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References:

- [1] Burbeck R, Coomber S, Robinson SM, Todd C. Occupational stress in consultants in accident and emergency medicine: A national survey of levels of stress at work. *Emerg Med J.* 2002;19:234–8. [PMC free article] [PubMed] [Google Scholar]
- [2] Xianyu Y, Lambert VA. Investigation of the relationships among workplace stressors, ways of coping, and the mental health of Chinese head nurses. *Nurs Health Sci.* 2006;8:147–55. [PubMed] [Google Scholar]



- [3] Lee JK. Job stress, coping and health perceptions of Hong Kong primary care nurses. *Int J Nurs Pract.* 2003;9:86–91. [PubMed] [Google Scholar]
- [4] Farrington A. Stress and nursing. *Br J Nurs.* 1995;4:5748. [PubMed] [Google Scholar]
- [5] Price JL, Mueller CW. Professional turnover: The case for nurses. New York: New Medical and Scientific Books; 1981. [PubMed] [Google Scholar]
- [6] Cronin-Stubbs D, Brophy EB. Burnout: Can social support save the psychiatric nurses? *J Psychosoc Nurs Mental Health Serv.* 1985;23:8–13. [PubMed] [Google Scholar]
- [7] Lazarus RS, Folkman S. Stress appraisal and coping. New York: Springer; 1984. [Google Scholar]
- [8] Jennings BM. Stressors of critical care nursing. In: Thelan LA, Davie JK, Urden LD, editors. *Critical care nursing Diagnosis and management.* St Louis, MO: Mosby; 1994. pp. 75–84. [Google Scholar]
- [9] Freudenberger, H. J. Staff burn-out. *J. Soc. Issues* 30(1), 159–165 (1974).
- [10] Stamm, B. H. The Concise ProQOL Manual. In Pocatello: ProQOL.org (2010).
- [11] Maslach, C. Burned-out. *Hum. Behav.* 5(9), 16–22 (1976).
- [12] Kim, S. H. & Yang, Y. S. A Meta analysis of variables related to Burnout of nurse in Korea. *J. Dig. Converg.* 13(8), 387–400 (2015).
- [13] Nabizadeh-Gharghozar, Z., Adib-Hajbaghery, M. & Bolandianbafghi, S. Nurses' job burnout: A hybrid concept analysis. *J. Caring Sci.* 9(3), 154–161 (2020).
- [14] Woo, T., Ho, R., Tang, A. & Tam, W. Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *J. Psychiatr. Res.* 123, 9–20 (2020).
- [15] Pradas-Hernández, L. et al. Prevalence of burnout in paediatric nurses: A systematic review and meta-analysis. *PLoS ONE* 13(4), e0195039 (2018).
- [16] Ramirez-Baena, L. et al. A multicentre study of burnout prevalence and related psychological variables in medical area hospital nurses. *J. Clin. Med.* 8(1), 92 (2019).
- [17] Bruyneel, A., Smith, P., Tack, J. & Pirson, M. Prevalence of burnout risk and factors associated with burnout risk among ICU nurses during the COVID-19 outbreak in French speaking Belgium. *Intensive Crit. Care Nurs.* 65, 103059 (2021).
- [18] Morgantini, L. A. et al. Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround global survey. *PLoS ONE* 15(9), e0238217 (2020).
- [19] Régis de Gaudemaris¹, Aude Levant, Virgine Ehlinger, Fabrice Hérin, Benoît Lepage, Jean-Marc Soulat, Annie Sobaszek, Michelle Kelly-Irving, Thierry Lang. Blood pressure and working conditions in hospital nurses and nursing assistants. The ORSOSA study. *Arch Cardiovasc Dis.* 2011 Feb;104(2):97-103.
- [20] Julia Buss¹. Associations between obesity and stress and shift work among nurses. *Workplace Health Saf.* 2012 Oct;60(10):453-8;
- [21] Chandola T, Brunner E, Marmot MG. Chronic stress at work and the metabolic syndrome: prospective study. *BMJ.* 2006;332:521–525.
- [22] Limongi-França AC, Rodrigues AL. Stress e trabalho: uma abordagem psicossomática. 4. São Paulo: Atlas; 2005.
- [23] Lindhol MM. Working conditions, psychosocial resources and work stress in nurses and physicians in chief managers' positions. *J Nurs Manag.* 2006;14:300–300.
- [24] Rosolová H, Podlipný J. Anxious-depressive disorders and metabolic syndrome. *Vnitřní lékařství.* 2009;55:650–652.
- [25] Liangzhuang Miao,¹ Xiaogui Niu,² Minxiang Huang,³ Gaofang Cao,⁴ and Chang Fu⁵. **Association between body mass index and burnout among nurses in China: a cross-sectional study.** *BMJ Open.* 2024; 14(3): e081203.
- [26] Abhishek Nair. A study to assess the occupational stress among staff nurses at selected private hospitals in Raipur. *International Journal of Nursing Education and Research.* Volume - 4, Issue - 2, Year - 2016
- [27] Parul Sharma, Anuradha Davey, Sanjeev Davey,¹ Arvind Shukla, Kajal Shrivastava,² and Rahul Bansal. Occupational stress among staff nurses: Controlling the risk to health. *Indian J Occup Environ Med.* 2014 May-Aug; 18(2): 52–56.
- [28]. [https://healingbreaths.org/how-breath-and-meditation-can-help-prevent-burnout-among-nurses.](https://healingbreaths.org/how-breath-and-meditation-can-help-prevent-burnout-among-nurses)