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Assessment of Effectiveness of Self-Instructional Module (SIM) on Knowledge Regarding Stress Management among Nursing Officers Working in ICU in Selected Hospital at Hassan"

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ABSTRACT

Nursing is a highly demanding and stressful profession that requires the ability to cope with critically ill or dying clients and medical emergencies. Nurses often encounter tough situations that demand dedication, sound academic knowledge, clinical skills, and time management to complete multiple tasks effectively. Coping strategies and resilience are essential to maintain well-being and ensure quality patient care. The objectives of present works are To assess pre-existing knowledge regarding stress management among ICU nursing officers in a selected hospital at Hassan. To evaluate the effectiveness of a self-instructional module (SIM) on stress management. To determine the association between pre-test knowledge scores and demographic variables. An interventional one-group pre-test post-test pre-experimental design was adopted. Forty participants were selected using purposive sampling. Data was collected through a structured knowledge questionnaire. The SIM was administered after the pre-test, and the post-test was conducted after 7 days. Data was analyzed using descriptive and inferential statistics. The mean post-test knowledge score (72.18%) was significantly higher than the pre-test score (36%) (Paired $t = 21.915$, $df = 39$, $p < 0.001$). Pre-test knowledge levels were significantly associated with number of children. The study concluded that the self-instructional module was effective in improving knowledge regarding stress and its management among ICU nursing officers.

Keywords: Effectiveness, SIM, Knowledge, Occupational stress, Management, Nursing officers.

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INTRODUCTION

"Worry and stress affects the circulation, the heart, the glands, the whole nervous system, and profoundly affects heart action." **Charles W. Mayo, M.D.**

Nursing is one of the largest health care professions, dedicated to nurturing and caring for individuals across all stages of the health care experience. Nurses provide 24-hour comprehensive care, comfort, and support in primary, secondary, and tertiary settings. The profession is highly demanding and stressful, requiring strong knowledge, skills, dedication, and effective time management to handle critically ill patients, emergencies, and challenging situations while maintaining resilience.[1]

Nurses often experience occupational stress when job demands exceed their abilities and available resources, leading to emotional and physical exhaustion. Prolonged exposure to such stress can cause burnout—a condition marked by reduced physical and emotional well-being, loss of self-worth, and developing a cynical attitude toward patients and colleagues.[2]

Nursing is ranked among the top 40 most stressful professions in the United States, largely due to high-stress demands in healthcare. Caring for dying patients is a significant stressor, as nurses frequently encounter death and are expected to maintain professional composure, despite the emotional impact. The nature of nursing exposes them to death-related stress more than most other professions.[3]

Occupational stress occurs when job demands exceed a nurse's abilities and resources, causing physical and emotional strain. Nurses, particularly in elder care settings, face stressors such as patient agitation, heavy workloads, and patient-related difficulties. Prolonged exposure can negatively affect physical and psychological health, including irritability, anxiety, and fatigue, which in turn impact quality of life—a multidimensional concept encompassing physical and mental well-being. Identifying these stressors is essential to develop interventions that reduce occupational stress among nurses.[4]

Nursing care is central to nurses' clinical practice, aiming to provide high-quality services that improve patient and societal outcomes. As key members of healthcare teams, nurses are ethically and legally accountable for the quality of care they deliver. Quality nursing care encompasses meeting patients' physical and psychosocial needs, ensuring patient satisfaction, fostering trust, and maintaining effective communication. Continuous improvement of care quality is a major challenge for nurse managers, requiring services to be effective, efficient, and economical.[5]

ICU nurses experience higher stress than those in other wards due to heavier workloads, longer patient contact, and multiple roles in interventions and care. Most nurses are female and also

manage roles as mothers, spouses, and homemakers, making prolonged work stress detrimental to patient care. Effective stress management—through techniques like cognitive restructuring, relaxation, time management, anger control, problem-solving, and communication skills—is essential. Maintaining nurses' mental and psychological well-being in ICU settings is critical for delivering efficient and high-quality clinical care.[5]

Personnel are vital assets in any organization, and occupational stress significantly affects their health and performance. ICU nurses face particularly high and persistent stress due to complex work environments, heavy workloads, sophisticated equipment, urgent care demands, and professional responsibilities, as well as interpersonal and management-related challenges. This frequent exposure increases the risk of work-related injuries, burnout, job dissatisfaction, functional disorders, and physical and psychological health problems. Maintaining a healthy nursing workforce is essential for both their well-being and quality patient care.[6]

NEED FOR THE STUDY

It's not about perfect. It's about EFFORT.

And when you bring that effort every single day,

that's where TRANSFORMATION happens.

-Jillian Michaels

"Reality is the leading cause of stress amongst those in touch with it"

- Jane Wagner Global

Stress has become a pervasive and chronic condition due to global uncertainties, constant media exposure, and the ongoing drive for advancement, competitiveness, and a better lifestyle. This "stress epidemic" affects individuals, organizations, and health professionals, prompting the search for strategies to manage its widespread impact.[7]

Work experiences can impact family life, and family dynamics can affect work, creating a conflict that negatively influences psychological health. High work-family conflict among nurses reduces job satisfaction, professional effectiveness, and commitment, while increasing stress and affecting physical, mental, and psychological well-being.[8]

About 30% of the workforce in developed countries experiences occupational stress, with even higher rates in developing nations. In the U.S., absence due to stress is nearly four times higher than that from illness or nonfatal injuries. Health professionals, particularly nurses, face greater stress due to demanding work conditions, teamwork requirements, and 24-hour patient care. A study in Sweden found that over 80% of nurses reported higher stress levels than other professionals.[6]

Work-related stress among nurses is a major global concern. A study in the United States revealed that 93% of nurses experienced high stress levels, while in China, 68.3% reported high occupational stress. In Iran, 63.47% of nurses experienced stress, and in Saudi Arabia, 34.7% suffered from work-related stress. Dobnik M reported a 56.5% prevalence of occupational stress among nurses in Slovenia, while Maphangela T found that 74% of nurses in Gaborone clinics had experienced occupational stress. In Ethiopia, nurse workload remains high due to staff shortages, with studies showing that 37.8% to 66.2% of nurses experience work-related stress.[9]

A survey conducted in Wuhan city revealed that nurses working in intensive care units experienced poor communication among colleagues and feelings of loneliness. Many reported decreased appetite or indigestion (59%), fatigue (55%), sleep disturbances (45%), nervousness (28%), frequent crying (26%), and even suicidal thoughts (2%). The study also found that younger nurses without prior experience in caring for critically ill patients faced a greater psychological crisis.[10]

Due to the high demands of the healthcare profession, the health status of nurses is expected to be better than that of the general population. However, several studies have shown that many nurses are unhealthy. Zapka et al. reported that 13.6% of nurses had high blood pressure, 21.5% had high cholesterol, and 65.4% had a body mass index (BMI) over 25. Most nurses were not engaging in regular exercise, and 1 in 10 used negative coping strategies such as tobacco consumption. Similarly, Bhatia et al. found that the prevalence of work-related stress among nurses was 87.4%, with 32.2% experiencing severe or extreme stress.[1]

A survey conducted in Turkey aimed to assess the levels of depression, anxiety, and burnout among intensive care unit nurses. The findings revealed that 53.3% of nurses experienced burnout, and 27% were exhausted and required professional help. A moderately significant positive correlation was found between anxiety and burnout as well as depression and burnout. The researchers emphasized the need to protect nurses' mental health to enhance both quality of care and work productivity.[11]

A moderate level of stress, known as "eustress," acts as a motivating force and is considered normal and beneficial. However, when stress becomes intense, continuous, and repetitive, it turns into "distress," leading to physical illness and psychological disorders, thereby diminishing quality of life.[12] Occupational stress can arise from various factors such as poor working conditions, excessive workload, shift duties, long working hours, role ambiguity, role conflict, and poor interpersonal relationships at work. A survey among registered nurses in the United States revealed that 59% found their job highly stressful and felt burned out.[12]

Studies by Abdi and Shahbazi and Rahmani et al. on intensive care unit (ICU) nurses revealed that 49.2% experienced high levels of occupational stress related to their work environment. Analysis across six stress dimensions showed that stress prevalence ranged as follows: workload (25–27.4%), incompetence (26.3–54.1%), dichotomy (40.5%), role range (31.3–62.5%), role responsibility (33.3–48.9%), and physical environment (48.4–54.2%).[6]

A study conducted in Tehran, Iran, analyzing 16,000 COVID-19 cases, reported that the mortality rate in ICU and CCU was 62.7% among confirmed cases and 52.2% among suspected cases. Nurses and physicians, being on the frontline of the pandemic, experienced significant anxiety, fear, and stress due to the virus's high transmissibility and widespread prevalence.[3]

A study on perceived stress among 310 nurses in Jordan revealed that ICU, CCU, and ER nurses experienced the highest levels of stress, while medical and surgical nurses reported the lowest stress levels. Such high stress can negatively impact patient care and safety, particularly for ICU patients. The study emphasized that nurse managers and policymakers should closely monitor this issue and investigate the underlying causes of elevated stress.[12]

Research Methodology

Research methodology is a systematic way of solving research problems. It involves defining the problem, formulating hypotheses, selecting data collection methods, and applying statistical techniques for analysis. Methodological decisions affect the validity and credibility of study findings. This chapter describes the methodology adopted to evaluate the effectiveness of a Self-Instructional Module (SIM) on stress management among nursing officers working in ICU at Hassan Institute of Medical Sciences, Hassan. It includes research design, setting, population, sample, tool development, validity, reliability, pilot study, data collection and data analysis plan.

Research approach

A Quantitative Evaluative Research Approach was used. Evaluation research assesses the success of a program, practice, or policy.

Research design

The study adopted a **one group pre-test and post-test pre-experimental design**, represented as:

O_1 – Pre-test knowledge assessment

- X – Intervention (SIM on stress management)
- O_2 – Post-test knowledge assessment (on 8th day)

Variables

- **Independent variable:** Self-Instructional Module (SIM)
- **Dependent variable:** Knowledge of nursing officers regarding stress management.

- **Extraneous variables:** Age, sex, marital status, experience, income, previous knowledge, health status, etc.

Setting and population

The study was conducted at HIMS Hospital, Hassan. Target population was nursing officers working in ICU.

Sample and sampling technique

A sample of 40 nursing officers was selected using non-probability purposive sampling**.**

- **Inclusion criteria:** ICU nursing officers present and willing to participate
- **Exclusion criteria:** Nursing officers not present during data collection

Development of SIM

The SIM was developed through literature review and expert consultation. Content covered:

- General information on stress
- Predisposing factors and stressors
- Occupational stress, causes, signs, and symptoms
- Effects of stress
- Work–family balance
- Coping strategies and unhealthy practices

Tool development

A **Structured Knowledge Questionnaire** was developed with:

- **Section I:** 11 items on demographic data
- **Section II:** 40 questions on knowledge (5 aspects of occupational stress and management)

Scoring:

- Inadequate: ≤20 (≤50%)
- Moderate: 21–30 (51–75%)
- Adequate: 31–40 (76–100%)

Validity: Reviewed by 10 experts; modifications made as per suggestions.

Reliability: Tested using split-half Karl Pearson's correlation, yielding r = 0.99, indicating high reliability.

Pilot study

Conducted from 04-04-2024 to 13-04-2024 on 5 nursing officers. Post-test mean score (96.6%) was significantly higher than pre-test (40%), proving feasibility of the study.

Data collection procedure

- **Pre-test (O1):** Knowledge assessed using questionnaire (45 minutes).

- **Intervention (X):** SIM administered on same day.
- **Post-test (O2):** Conducted on 8th day (40 minutes).

Data analysis

- ✧ **Descriptive statistics:** Frequency, percentage, mean, mean percentage, SD.
- ✧ **Inferential statistics:**
- ✧ Paired 't' test → effectiveness of SIM
- ✧ Chi-square test → association between knowledge and demographic variables

RESULTS AND DISCUSSION

Presentation of the data

To begin with, the data was entered in a master sheet for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

Section I: Analysis of demographic characteristics of respondents under study.

Section II: Analysis of pre-test and post-test knowledge scores of respondents and effectiveness of self-instructional module.

1. Analysis of pre-test knowledge scores.
2. Analysis of post-test knowledge scores.
3. Effectiveness of self-instructional module on knowledge scores of whole tests.
4. Effectiveness of Self-instructional Module area wise knowledge scores.

Section III: Analysis of association between demographic variables with pre-test knowledge scores.

Section-1: Socio-demographic characteristics of respondents under the study

The data from the Table 1 shows the following findings:

1. Majority of the subjects (55%) were in the age group of 31-40 years followed by 32.5% in the age group of less than 30 years and remaining 12.5% of them were in the age group of 41-50 years. (Figure-1).
2. Majority of the participants (77.5%) were females and remaining 22.5% were males. (Figure-2).
3. Majority (75%) of the respondents belonged to Hindu religion and remaining 25% of them were belonged to Christian. (Figure-3).
4. Majority (57.5%) of the respondents were belonged to nuclear family, 37.5% of them to joint family and remaining 5% of the respondents to single parent family. (Figure-4).

5. Majority (90%) of the respondents was married while 10% of them were unmarried. (Figure -5).
6. Majority (65%) of the respondents professional qualification was GNM, 15% of them BSc (N), 15% of them are PBBSc (N) and remaining 5% are MSc(N) qualified. (Figure-6).
7. Majority (67.5%) of the respondents have 1-10 years of professional experience and remaining 32.5% have 11-20 years of professional experience. (Figure-7).
8. Majority (52.5%) of the respondents have one child, 25% are have two children, 20% of them don't have child and remaining 2.5% of them are have more than two children. (Figure-8).
9. Socio-economic status of majority (42.5%) of the respondents was Rs. 15000-25000/ month, while 37.5% of them had an income of Rs. 10000-15000, 12.5% of them had Rs. 25000-35000 and remaining 7.5% of them had an income above Rs.35000. (Figure-9).
10. Majority (55%) of the respondents has some previous knowledge regarding stress and its management, and remaining 45% of respondents has no previous knowledge. (Figure-10).
11. Majority (90%) of the respondents were not suffering from any medical/psychological disorders and remaining 10% were suffering. (Figure-11).

Table 1: Classification of study participants by socio-demographic variables.

Sl. No	Socio demographic variables	Categories	N=40 Frequency	%
1	Age in a year	Less than 30	13	32.5%
		31 - 40	22	55%
		41 -50	5	12.5%
		51 - 60	0	0%
2	Gender	Male	9	22.5%
		Female	31	77.5%
		Transgender	0	0%
3	Religion	Hindu	30	75%
		Christian	10	25%
		Muslim	0	0%
		Others	0	0%
4	Type of family	Nuclear family	23	57.5%
	Marital status	Joint family	15	37.5%
		Single parent family	2	5%
		Extended family	0	0%
5	Marital status	Married	36	90%
		Unmarried	4	10%
		Others	0	0%
6	Professional Qualification	GNM	26	65%
		BSc(N)	6	15%
		PBBSC(N)	6	15%
		MSc(N)	2	5%

		PHD	0	0%
7	Years of professional experience	1-10 years	27	67.5%
		11-20 years	13	32.5%
		21-30 years	0	0%
		More than 30 years	0	0%
8	Number of children	Nil	8	20%
		One	21	52.5%
		Two	10	25%
		More than two	1	2.5%
9	Socio economic status	Rs.10,000-15000/month	15	37.5%
		Rs.15000-25000/month	17	42.5%
		Rs.25000-35000/month	5	12.5%
		More than Rs.35000/month	3	7.5%
10	Previous knowledge about stress and its management	Yes	22	55%
		No	18	45%
11	Suffering from any medical / psychological disorders	No	36	90%
		Yes	4	10%

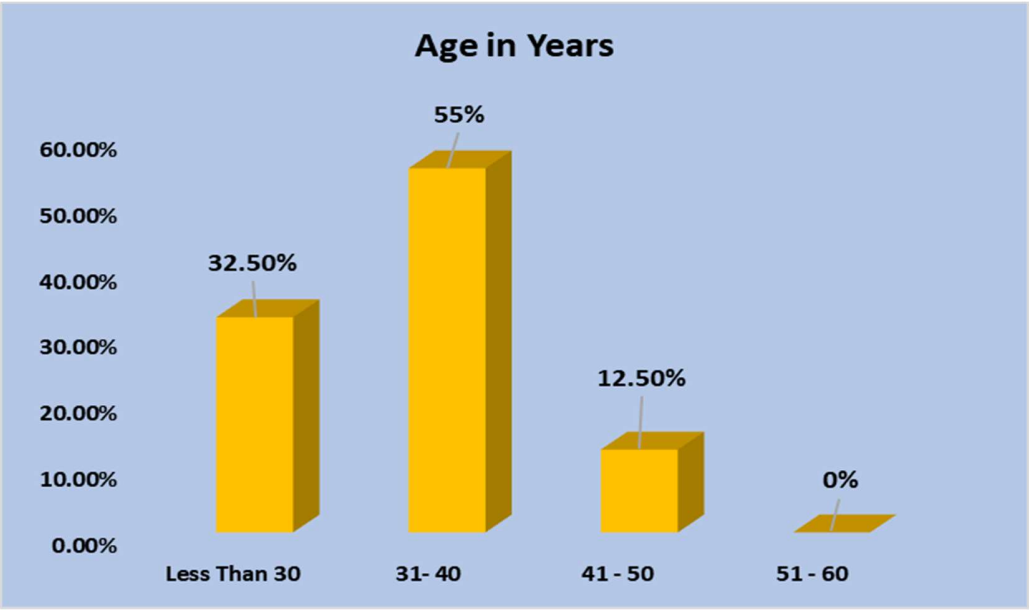

Figure 1: Classification of study participants by their age in years.

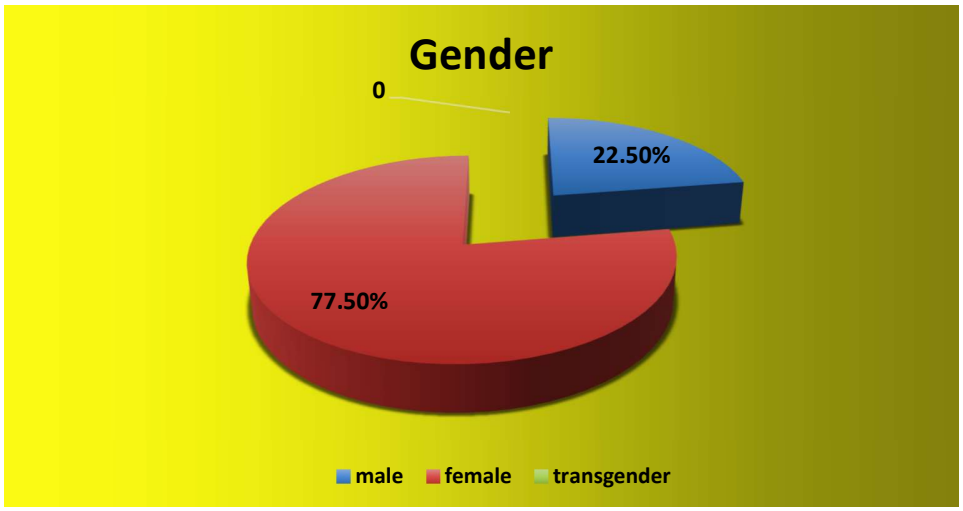

Figure 2: Classification of study participants by their gender.

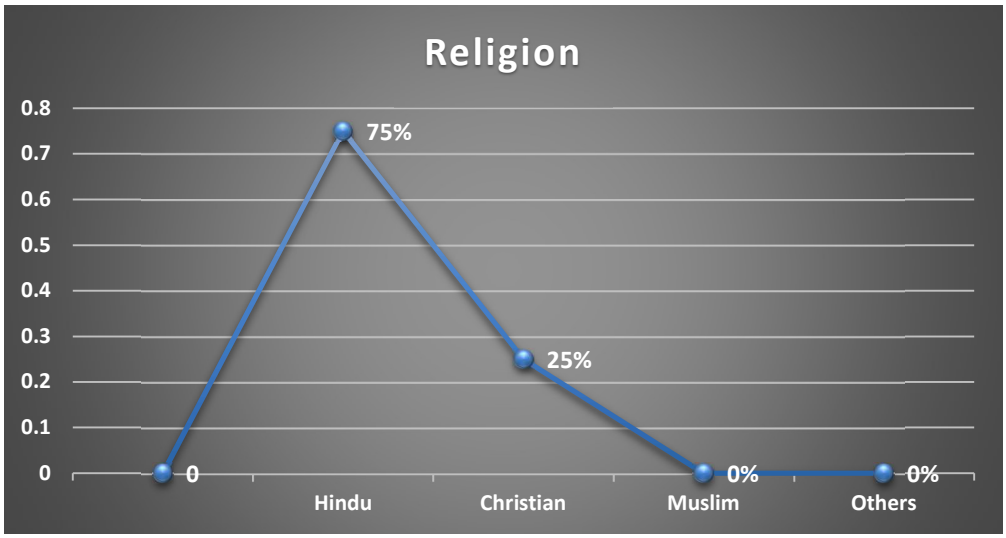

Figure 3: Classification of study participants by their religion.

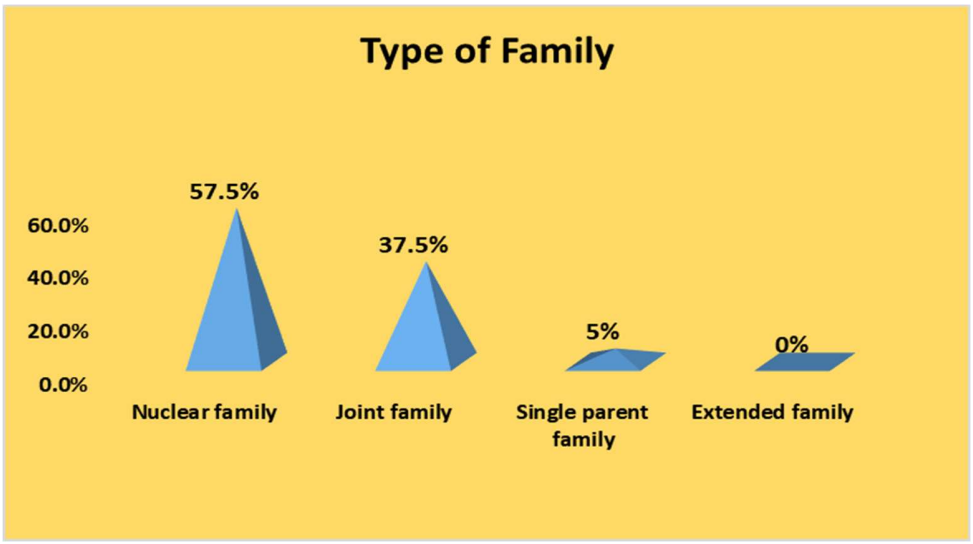

Figure 4: Classification of study participants by their type of family.

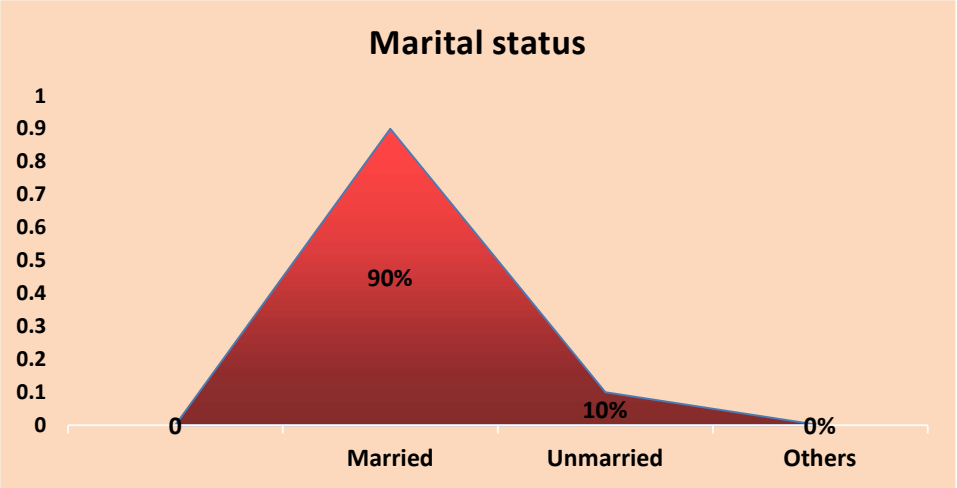

Figure 5: Classification of study participants by their marital status.

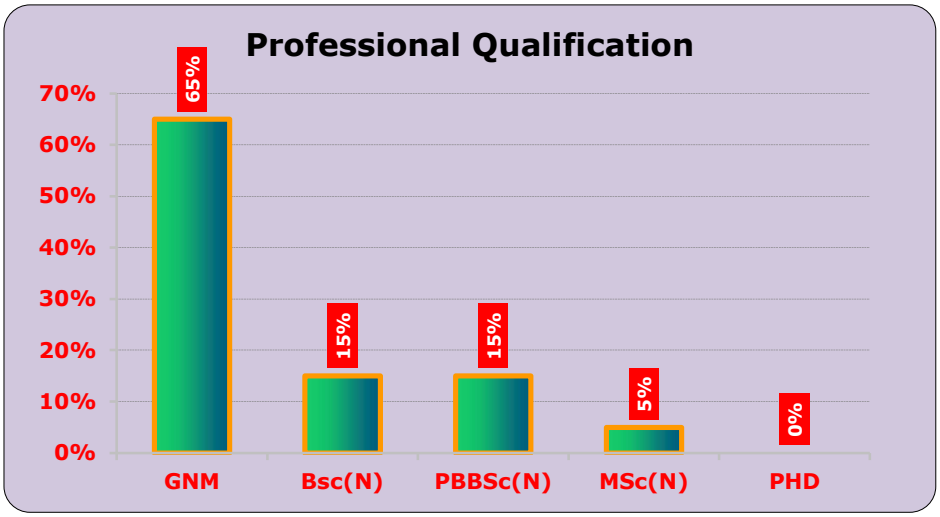

Figure 6: Classification study participants by their professional qualification.

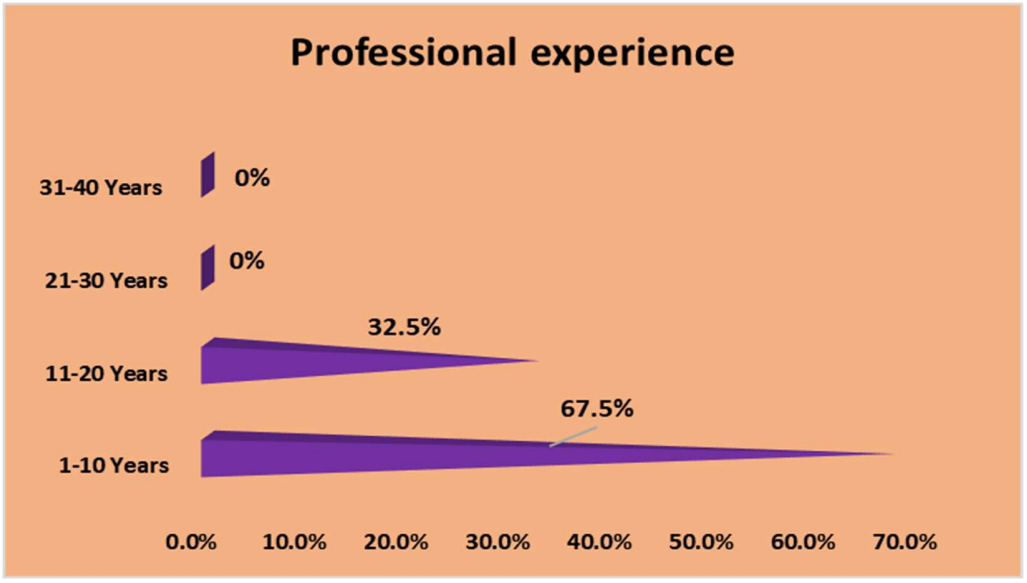

Figure 7: Classification of study participants by their professional experience in years.

Figure 8: Classification of study participants by having their number of children.

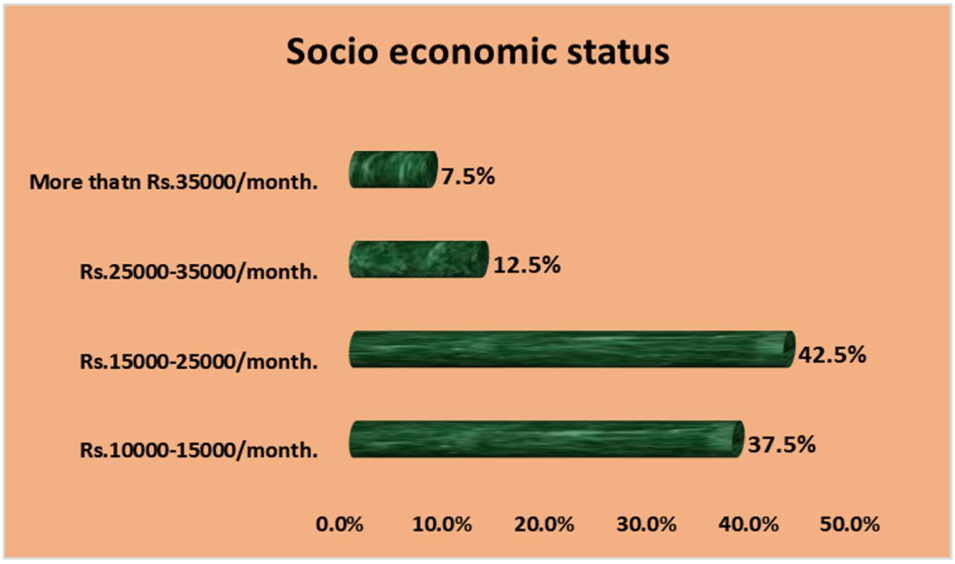

Figure 9: Classification of study participants by their income.

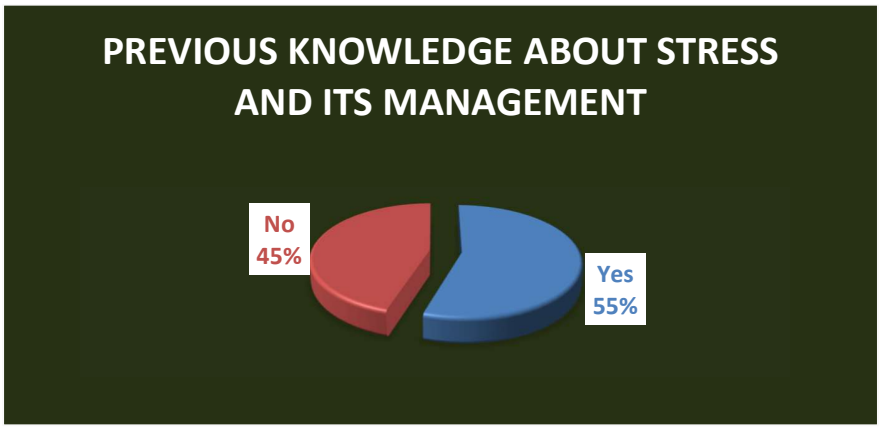

Figure 10: Classification of study participants by their previous knowledge about stress and its management.

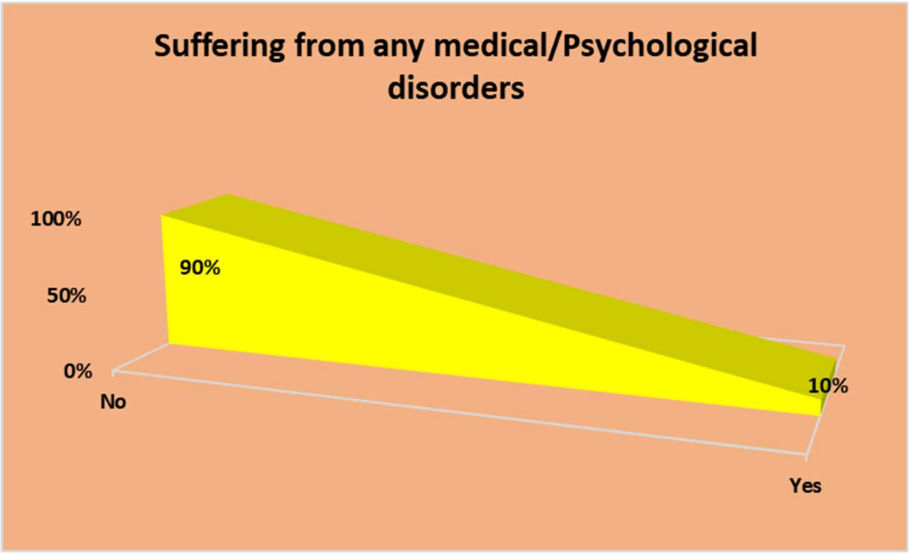

Figure 11: Classification of study participants by suffering from any medical/psychological disorders.

Section-II: Analysis of pre-test and post-test scores and effectiveness of self-instructional module.

Analysis of Pre-test knowledge level

Table 2 shows the classification of respondent's knowledge according to their knowledge level in the pretest. The data showed that, majority of the respondents (85%) had inadequate knowledge, 15% of them had moderate knowledge regarding stress and its management. None of them had adequate knowledge. (Figure 12)

Table 2: Classification of Respondents Pre-test Knowledge level on Stress and its management.

N=40

Knowledge Level	Scores	Percentage	No. Of study participants	Percentage of frequency
Inadequate	1-20	<50%	34	85.00%
Moderate	21-30	50-75%	6	15.00%
Adequate	31-40	>75%	0	0.00%
Total			40	100.00%

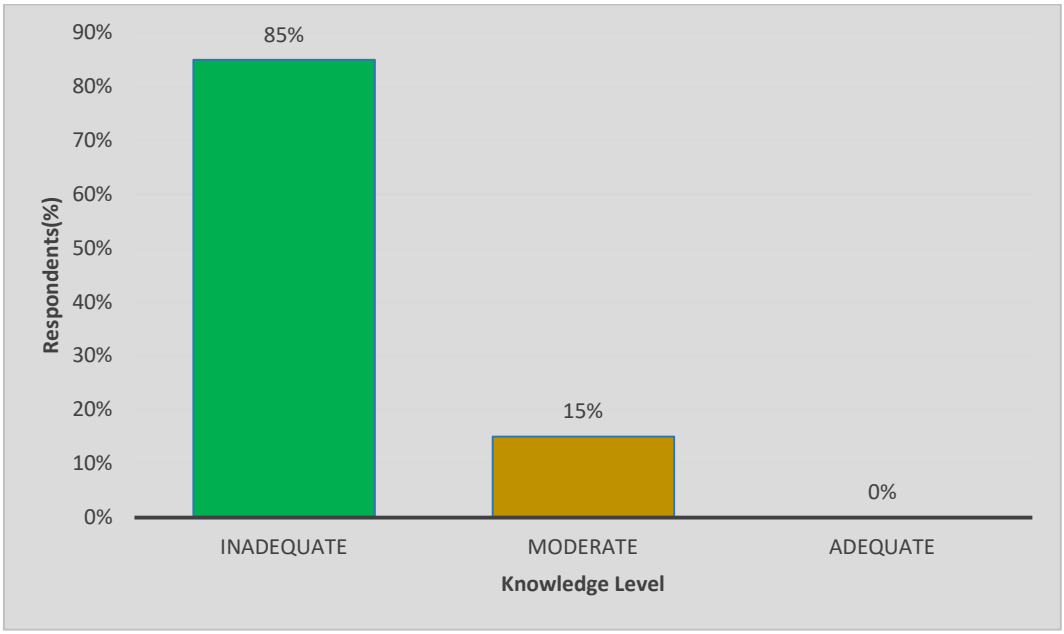

Figure 12: Classification of respondents based on their pre-test knowledge level regarding stress and its management.

Table 3 reveals the aspect wise mean percentage of pretest knowledge scores of respondents in different aspects studied. The highest mean percentage 38.6% of knowledge scores of respondents was found to be in the aspects of general Information about stress and its management, followed by 35.8% in the aspect of predisposing factors, 33.1% in the aspect of indicators, signs and symptoms of stress, 33.7% in the aspect of affects of occupational stress and 37% in the aspect of Coping strategies and unhealthy ways of stress management. The mean percentage of overall pretest knowledge score was 36%. (Figure 13)

Table 3: Aspect wise Pre-test, Mean, Mean%, SD, and CV of knowledge scores of respondents on stress and its management.

(N=40)

Aspects	No. of Items	Minimum	Maximum	Range	Mean	Mean%	Standard Deviation	Co-efficient of variation
Aspect I: General information about stress	9	1	7	6	3.475	38.611%	1.69445	48.7611%
Aspect II: Predisposing factors of stress	9	1	6	5	3.225	35.833%	1.54401	47.8762%
Aspect III: Indicators, signs and symptoms of stress	8	1	5	4	2.65	33.125%	1.14466	43.194%
Aspect IV: Affects of occupational stress	4	0	3	3	1.35	33.75%	0.97534	72.2474%
Aspect V: Coping strategies and unhealthy ways of stress management	10	1	6	5	3.7	37%	1.06699	28.8375%
OVERALL	40	7	24	17	14.4	36%	4.22932	29.3702%

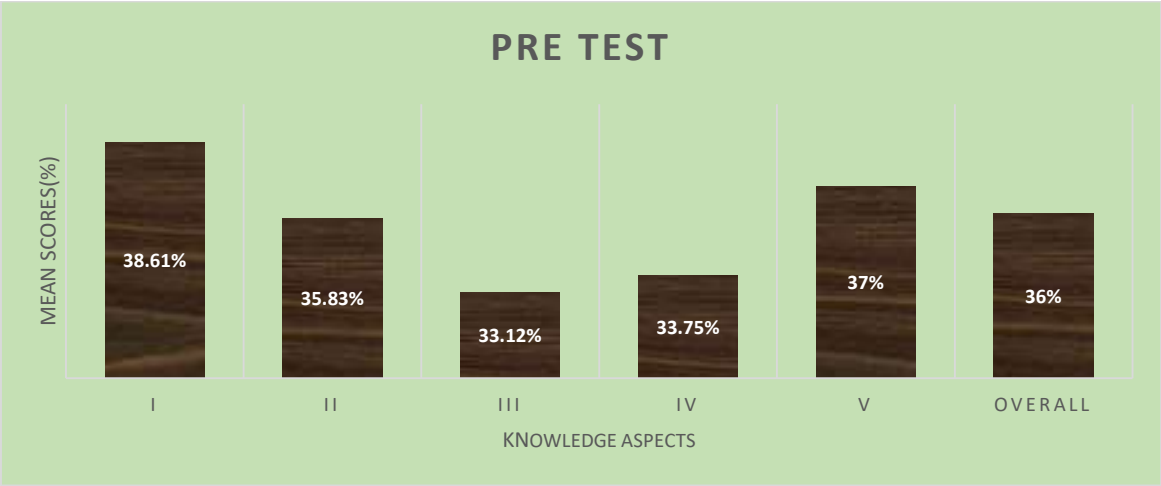

Figure 13: Aspect wise Pre-test mean of knowledge scores of respondents on stress and its management.

Analysis of Post-test Knowledge Level

Table 4 shows the classification of respondent's knowledge according to their knowledge level in the post test. The data showed that, majority 57.5% of the respondents had moderate knowledge and 42.5% of them has adequate knowledge regarding stress and its management and none of them had the inadequate knowledge. (Figure.14)

The data from Table 5 and Figure 15 shows that the highest mean percentage 75.83% of knowledge scores of respondents was found to be in the aspect of general information about stress and its management, followed by 69.72% in the aspect of predisposing factors, 68.75% in the aspect of indicators, signs and symptoms of stress, 67.5% in the aspect of affects of occupational stress and 75.75% in the aspect of Coping strategies and unhealthy ways of stress management. The overall mean percentage of post-test knowledge score of respondents was 72.18%.

Table 4: Classification of Respondents on Post-test knowledge level on Stress and its Management.

(N=40)

Knowledge Level	Scores	Percentage	No. Of study participants	Percentage of frequency
Inadequate	1-20	<50%	0	0.00%
Moderate	21-30	50-75%	23	57.5%
Adequate	31-40	>75%	17	42.5%
Total			40	100.00%

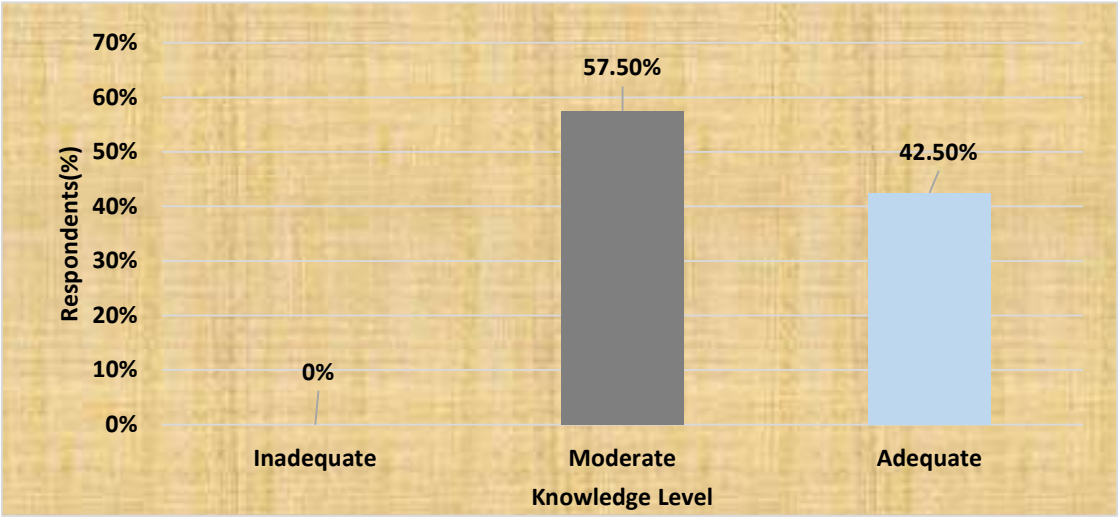

Figure 14: Classification of Respondents of Post-test Knowledge level on Stress and its management.

Effectiveness of Self-Instructional Module on Knowledge scores of Whole test

Table 6 and figure 16 depicts the overall pretest mean knowledge scores of respondents on stress and its management was 36% and post-test mean was 72.18% with an enhancement of 36.18% mean knowledge score. The calculated paired 't' test value (t=21.915*) is greater than the table value at 0.05 level of significance which indicates that there is a significance difference between pre-test and post-test knowledge scores of whole test of respondents. Hence the stated research hypothesis H_1 is accepted. It was concluded that the Self-Instructional Module was effective in increasing the knowledge of nursing officers regarding Stress and its management.

Table 6: Over all pre-test and post-test mean knowledge scores on stress and its management. (N=40).

	Minimum	**Maximum**	**Range**	**Mean**	**Mean %**	**Std. Deviation**	**Co-efficient of variance**	**Paired t test value**
Pretest	7	24	17	14.4	36%	4.229	29.37%	21.915(s)
Posttest	20	37	17	28.87	72.18%	3.155	10.92%	P<0.0001
Enhancement	4	24	20	14.47	36.18%	4.361	10.90%	Df=39

(s)= significant at 0.05 level **t (0.05, 39df) =2.042**

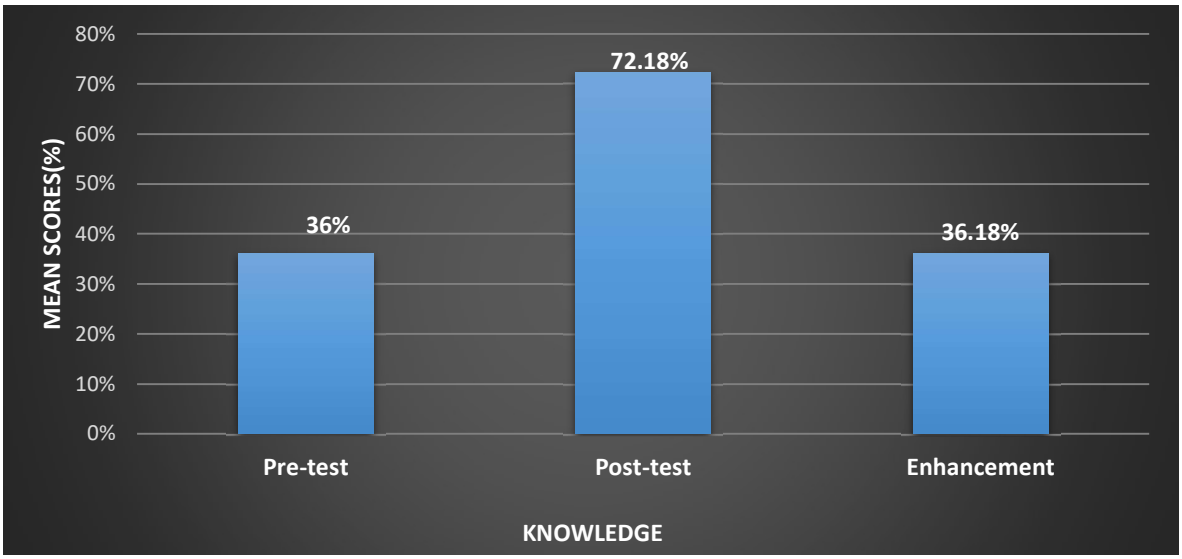

Figure.16: Over all Pre-test, Post-test and Enhancement Mean Knowledge scores on stress and its management.

The above table reveals aspect wise pre-test and post-test knowledge scores on stress and its management. In the aspect wise knowledge regarding general information about stress the mean % in pretest was 38.611% and in post-test was 75.833% with the enhancement of 37.22%. Which is significant (t=13.505*) at 0.05 level of significance.

In the aspect wise Predisposing Factors of Stress mean % in the pre-test was 35.833% and in post-test was 69.72% with the enhancement of 33.88% which is significant (t=14.104*) at 0.05 level of significance.

In the aspect wise Indicators, signs and symptoms of stress the mean % in the pretest was 33.125% and in post-test was 68.75% with the enhancement of 35.62% which is significant (t=15.380*) at 0.05 level of significance.

In the aspect wise Affects of occupational stress the mean % in the pretest was 33.75% and in post-test was 67.5% with the enhancement of 33.75% which is significant (t=9.458*) at 0.05 level of significance.

In the aspect wise Coping strategies and unhealthy ways of stress management the mean % in the pretest was 37% and in post-test was 75.75% with the enhancement of 38.75% which is significant (t=21.777*) at 0.05 level of significance.

The overall mean percentage in pre-test was 36%, and post-test was 72.187% with the enhancement of 36.18%, which is significant (t=21.915*) at 0.05 level of significance.

However the enhancement of knowledge found to be higher in knowledge regarding Stress and Its Management.

The calculated paired't' test values based on pre-test and post-test knowledge scores of all the aspects were more than the table value(2.042) at 0.05 level of significance with 39 degrees of freedom. It indicates that there is a significant difference between pre-test and post-test knowledge score. Hence the stated null hypothesis H_0 is rejected and the research hypothesis H_1 is accepted.

Table.7 & Figure 17 reveals the aspect wise mean pre-test and post-test knowledge score on stress and its management, highest enhancement (38.75%) in mean percentage is obtained in the aspect of "Coping strategies and unhealthy ways of stress management", followed by 37.22% enhancement in the aspect of "General information about stress", 35.62% in the aspects of "Indicators, signs and symptoms of stress", 33.88% in the aspect of "Predisposing factors of stress" and 33.75% in the aspect of "Affects of occupational stress". The overall enhancement was 36.18%. The calculated paired't' test values based on pre-test and post-test knowledge scores of all the aspects were more than the table value at 0.005 level of significance with 39 degree of freedom. It indicates that there is a significant difference between pre-test and post-test knowledge scores in all aspects.

Table 8 & Figure 18 depicts that in pre-test 34% of respondents had inadequate knowledge, 15% of them had moderate knowledge and none of them had adequate knowledge. In post-test none of them had inadequate knowledge, 57.5% had moderate knowledge and 42.5% had adequate knowledge. Which indicates that Self-instructional Module was effective.

Table 7: Aspect wise Mean and Mean% of pre-test, post-test, and Enhancement knowledge scores among nursing officers working in ICU.

(N=40)

Aspects	Mean Pretest	Post test	Enhancement	Mean% Pretest	Post test	Enhancement	Calculated Paired t-test value
Aspect I: General information about stress	3.475	6.825	3.35	38.611%	75.833%	37.22%	13.505 (S) P<0.001 df=39
Aspect II: Predisposing factors of stress	3.225	6.275	3.05	35.833%	69.72%	33.88%	14.104(S) P<0.001 df=39
Aspect III: Indicators, signs and symptoms of stress	2.65	5.5	2.85	33.125%	68.75%	35.62%	15.380 (S) P<0.001 df=39
Aspect IV: Affects of occupational stress	1.35	2.7	1.35	33.75%	67.5%	33.75%	9.458 (S) P<0.001 df=39
Aspect V: Coping strategies and unhealthy ways of stress management	3.7	7.575	3.875	37%	75.75%	38.75%	21.777(S) P<0.001 df=39

OVERALL	14.4	28.875	14.475	36%	72.187%	36.18%	21.915 (S) P<0.001 df=39

(S)Significant at 5% level, t (0.05, 39df) = 2.042

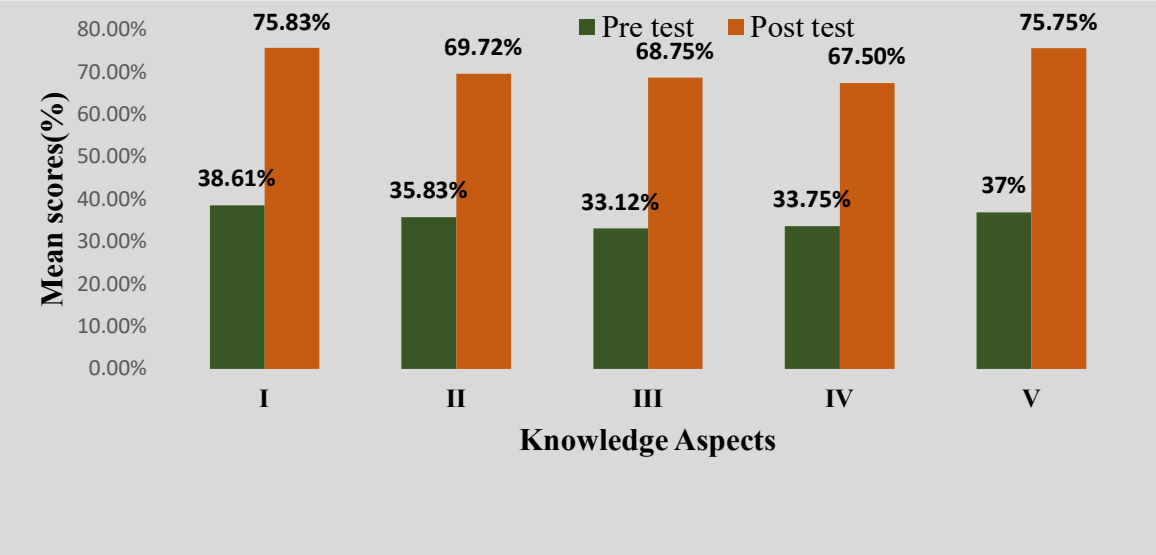

Figure 17: Aspect wise mean pre-test and post-test knowledge scores on Stress and its management.

Section III: Association between demographic variables and pre-test knowledge level on stress and its management.

Table 9 Association between pre-test level of knowledge of study participants and their socio-demographic variables and calculated χ^2 values. The calculated χ^2 values with regard to the socio-demographic variables viz. Age in years (χ^2=4.020), Gender (χ^2=2.049), Religion (χ^2=0.261), Type of family (χ^2=2.671), Marital status (χ^2=0.349), Professional qualification (χ^2=3.801), Years of professional experience (χ^2=0.807), Socio economic status (χ^2=3.153), Previous knowledge about stress and its management (χ^2=0.388), suffering from any medical/psychological disorders (χ^2=0.784), were less than the table value at 0.05 level of significance. Hence the stated null hypothesis H_o is accepted and the research hypothesis H_2 is rejected with regard to these socio demographic variables and pretest level of knowledge of study participants. But the calculated χ^2 values with regard to Number of children (χ^2=14.849) was more than the table value at 0.05 level of significance at respective degrees of freedom and hence were statistically significant. Hence the stated null hypothesis H_0 is rejected and the research hypothesis H_2 is accepted with regard to the number of children pretest level of knowledge of study participants. (Figures 19).

Table 8: Classification of Respondents on Pretest and Post-test Knowledge level on Stress and its management.

N=40

Level	Scores	Percentage	Pre-test	Post test	Pre-test	Post test
Inadequate	1-20	<50%	34	0	85%	0%
Moderate	21-30	50-75%	6	23	15%	57.5%
Adequate	31-40	>75%	0	17	0%	42.5%
Total			40	40	100%	100%

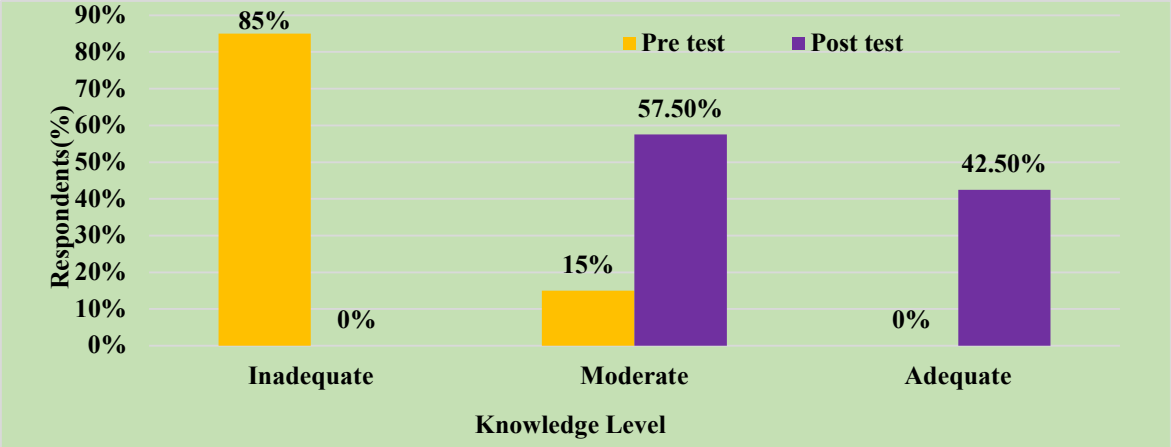

Figure.18: Classification of Respondents on Pre-test and Post-test Knowledge level on Stress and its management.

Table 9: Association between pre-test level of knowledge of study participants and their socio-demographic variables.

Sr no	Socio demographic variables	Categories	Pretest level of knowledge				Calculated chi square value	Df	P value
			Inadequate		Moderate				
			N	%	N	%			
1	Age in years	Less than 30	9	22.5	4	10	4.020 (NS)	2	0.133
		31 - 40	20	50	2	5			
		41 - 50	5	12.5	0	0			
		51 - 60	0	0	0	0			
2	Gender	Male	9	22.5	0	0	2.049 (NS)	1	0.152
		Female	25	62.5	6	15			
		Transgender	0	0	0	0			
3	Religion	Hindu	25	62.5	5	12.5	0.261 (NS)	1	0.609
		Christian	9	22.5	1	2.5			
		Muslim	0	0	0	0			
		Others	0	0	0	0			
4	Type of family	Nuclear family	21	52.5	2	5	2.671 (NS)	2	0.263
		Joint family	11	27.5	4	10			
		Single parent family	2	5	0	0			
		Extended family	0	0	0	0			

5	Marital status	Married	31	77.5	5	12.5	0.349	1	0.554
		Unmarried	3	7.5	1	2.5	(NS)		
		Others	0	0	0	0			
6	Professional qualification	GNM	20	50	6	15	3.801	3	0.283
		BSc(N)	6	15	0	0	(NS)		
		PBBSc(N)	6	15	0	0			
		MSc(N)	2	5	0	0			
		PHD	0	0	0	0			
7	Years of professional experience	1-10 years	22	55	5	12.5	0.807	1	0.369
		11-20 years	12	30	1	2.5	(NS)		
		21-30 years	0	0	0	0			
		More than 30 years	0	0	0	0			
8	Number of children	Nil	2	5	3	7.5	14.849	3	0.0019
		One	19	47.5	2	5	(S)		
		Two	10	25	0	0			
		More than two	0	0	1	2.5			
9	Socio economic status	Rs.10000-15000/month	11	27.5	4	10	3.153	3	0.368
		Rs.15000- 25,000/ month	15	37.5	2	5	(NS)		
		Rs.25,000-35000/ month	5	12.5	0	0			
		More than Rs.35000/month	3	7.5	0	0			
10	Previous knowledge about stress & its management	Yes	18	45	4	10	0.388	1	0.533
		No	16	40	2	5	(NS)		
11	Suffering from any medical/psychological disorders	No	30	75	6	15	0.784	1	0.375
		Yes	4	10	0	0	(NS)		

(NS)= NOT SIGNIFICANT **(S) = SIGNIFICANT AT 0.05 LEVEL**

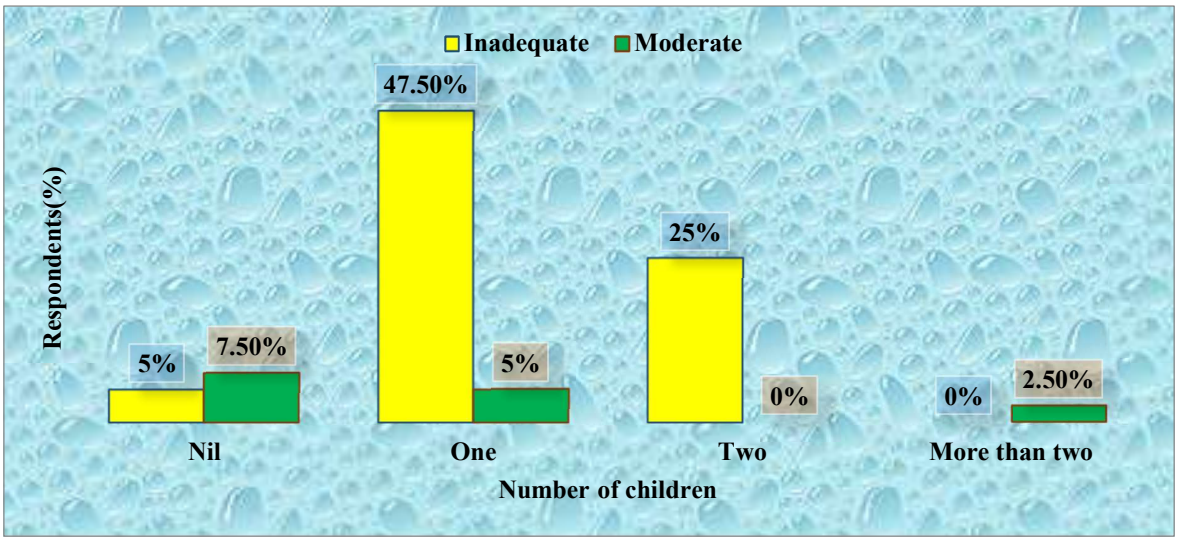

Figure 19: Association between Number of children and Pretest Knowledge level on Stress and its management

It is concluded that, pre-test knowledge level of respondents are significantly associated with only number of children and no significant association with other variables.

This chapter discusses the major findings of the study in relation to similar studies. The study aimed to assess the effectiveness of a Self-Instructional Module (SIM) on knowledge regarding stress and its management among 40 nursing officers working in ICU at a selected hospital in Hassan. A one-group pre-test and post-test pre-experimental design was used. Data were collected using a Structured Knowledge Questionnaire. The SIM was implemented after the pre-test, and post-test was conducted on the 8th day to evaluate its effectiveness. Findings are discussed under the following sections:

Section I: Demographic Characteristics

- ✧**Age:** 55% were 31–40 years, 32.5% <30 years, 12.5% 41–50 years.
- ✧**Gender:** 77.5% females, 22.5% males.
- ✧**Religion:** 75% Hindu, 25% Christian.
- ✧**Family type:** 57.5% nuclear, 37.5% joint, 5% single-parent.
- ✧**Marital status:** 90% married, 10% unmarried.
- ✧**Professional qualification:** 65% GNM, 15% BSc Nursing, 15% PBBSc, 5% MSc Nursing.
- ✧**Experience:** 67.5% had 1–10 years, 32.5% had 11–20 years.
- ✧**Children:** 52.5% had one child, 25% two children, 20% none, 2.5% more than two.
- ✧**Income:** 42.5% Rs. 15,000–25,000, 37.5% Rs. 10,000–15,000, 12.5% Rs. 25,000–35,000, 7.5% > Rs. 35,000.
- ✧**Previous knowledge of stress management:** 55% had some knowledge, 45% had none.
- ✧**Medical/psychological disorders:** 90% reported none, 10% reported disorders.

Section II: Existing Knowledge Regarding Stress Management

Pre-test results revealed 85% of nursing officers had inadequate knowledge, 15% had moderate knowledge, and none had adequate knowledge. This indicates that most nursing officers lacked sufficient knowledge regarding stress management. These findings are consistent with a similar study among pediatric nurses in Nagercoil, which also reported low knowledge levels regarding stress management techniques.

Section III: Effectiveness of Self-Instructional Module

- ✧ **Pre-test mean knowledge:** 36%
- ✧ **Post-test mean knowledge:** 72.18% (increase of 36.18%)

- ✧ **Post-test results:** 57.5% moderate knowledge, 42.5% adequate knowledge, none inadequate.
- ✧ **Statistical significance:** Calculated t-value = 21.915*, greater than t-table value 2.042, indicating SIM was effective.
- ✧ Similar studies also reported significant improvement in knowledge after SIM implementation among nurses and other professional groups, such as bank employees.

Section IV: Association Between Demographic Variables and Pre-Test Knowledge

- ✧ Significant association was found only for **number of children** ($\chi^2 = 14.849 > \chi^2$ table value).
- ✧ No significant association was found for age, gender, religion, family type, marital status, qualification, years of experience, socioeconomic status, previous knowledge, or medical/psychological disorders.
- ✧ This aligns with other studies, which found limited demographic variables affecting stress or knowledge levels, except income, experience, or working hours in some cases.

Section V: Hypotheses Testing

H1: There is a significant difference between pre- and post-test knowledge scores.

Pre-test: 36%, Post-test: 72.18%, t = 21.915* > 2.042.

Conclusion: H1 accepted; SIM significantly improved knowledge.

H2: There is a significant association between pre-test knowledge and demographic variables.

Only **number of children** showed a significant association ($\chi^2 = 14.849$*).

Other variables showed no significant association.

Conclusion: H2 accepted for number of children; rejected for all other variables.

CONCLUSION

The study assessed the knowledge of nursing officers on stress management through a Self-Instructional Module (SIM). The module covered stress, predisposing factors, signs and symptoms, effects, coping strategies, and unhealthy management methods. Findings revealed that:

- ✧ Knowledge was inadequate before SIM.
- ✧ Post-test scores showed significant improvement.
- ✧ SIM is an effective teaching strategy.
- ✧ It helps nursing officers recognize stress early and seek mental health support.

Limitations

- ✧ Small purposive sample limits generalization.
- ✧ No control over extraneous variables between pre- and post-test.

- ✧ Knowledge retention was not assessed.

Recommendations

- ✧ Replicate with a larger sample and control group.
- ✧ Compare government and private nursing officers.
- ✧ Explore other teaching strategies.
- ✧ Extend training duration and provide more in-depth content.

Implications

- ✧ **Education:** Integrate stress management in nursing curricula to improve knowledge and attitudes.
- ✧ **Practice:** Nurses can promote stress prevention and coping strategies in hospitals, schools, and communities.
- ✧ **Administration:** Plan continuing education programs, allocate resources, and evaluate effectiveness.
- ✧ **Research:** Further studies are needed to improve stress management training and practical application in nursing education.

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