

**A RESEARCH PROTOCOL OF AN EXPERIMENTAL STUDY ON IMPACT OF INTERVENTION PACKAGE ON STRESS MANAGEMENT AMONG NURSES WORKING AT TERTIARY CARE HOSPITAL.**

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**ABSTRACT**

**BACKGROUND-** Stress is a part of everyday life for health professionals such as nurse's physicians and hospital administrators. Review of literature has revealed that there are various factors responsible for stress among nurses working in hospital areas. The researcher intends to understand the nurses' experiences and perceptions related to stress & stressors and develop an interventional package on stress management related to stressors. With this intervention package nurses will be understand how stress at work can be effectively managed, reduced, or prevented in order to enhance the health of the nurses, as well as improving their work behavior. **Methodology:-** A quantitative approach using one group pretest and post-test design has been planned in order to accomplish the main objective of this study. A non probability convenience sampling technique will be used to select 300 registered nurses from different working area of Krishna Hospital & Medical Research Centre, Karad. Selected Nurses should attend 6 sessions of stress management intervention package each for 30 minutes once in a week. **Discussion** - aim of this research study protocol is to evaluate the impact of intervention package on stress management among nurses working at tertiary care hospital. Findings of this study will be greatly beneficial to

the nurses who can take steps to avoid aggravating their burnout levels and to the patients, they will receive a quality nursing care from highly satisfied and blissful nurses.

**Keywords:** Protocol, impact, intervention package, stress.

**Introduction** - Nursing profession is one of the largest groups in the health care profession. The main aim of this profession is the nurturing of, and caring for people in the human health experience. Nurses provide 24 hrs services in multidimensional role to the patient in primary, secondary & tertiary care hospitals. Nurses always present with patient, provide comfort, advocate, guide, help and support with loneliness, pain, incapacity, disease and even death. This is the fact that nursing profession is recognized worldwide as stressful profession by its nature of work<sup>1</sup>.

According to the International Labor Organization, stress is the harmful physical and emotional response caused by an imbalance between the perceived demands and the perceived resources and abilities of individuals to cope with those demands. Work related stress is determined by work organization, work design and labor relations and occurs when the demands of the job do not match or exceed the capabilities, resources, or needs of the worker, or when the knowledge or abilities of an individual worker or group to cope are not matched with the expectations of the organizational culture of an enterprise. For a while Stress is having a positive effect, like spurring motivation and awareness, providing the stimulation to cope with challenging situations. But when the pressure is greater than the resource shows harmful effect on mental, physical and spiritual health<sup>2</sup>.

According to WHO reports 50% employees in India Including Health care professionals are under stress, 30% have problems of marital discord, 20% suffer from depression, 49% of people under stress say they suffer from upset stomach or nausea, 71% people under stress are not productive and cry regularly. Study done in NIMHANS says 36 % professional nurses show signs of psychiatric disorder due to Job related stress<sup>3</sup>.

Mahdi KarimyarJahromi, et.al. Assess the effect of stress management on occupational stress and job satisfaction. Findings revealed that there was a significant difference between the mean of scores of occupational stress between the two groups before and after the workshop ( $p=0.001$ ). There was, however, no significant difference between the scores of satisfactions across the two groups<sup>4</sup>.

There are many more books; literatures are available on different kinds of coping strategies to reduce the stress. Many literatures are there on assessment of stress level that is prevalence, severity and various stressors & coping strategies but very few literatures on stress management. Even such studies have been not conducted in Maharashtra & also in Krishna Hospital & Medical Research Centre Karad. Despite of this many authors Mohite, N., Shinde, M., and Gulavani, A. (2014)& P. Selva Kumar (2014)&Parul Sharma, Anuradha Davey, Sanjeev Davey, ArvindShukla, Kajal Shrivastava, Rahul Bansal(2014) reported nurses having high stress & recommended that hospitals should take counter measures to relieve stress among nurses<sup>5,6,7</sup>. Rebekah K. et. al. provides evidence of the benefits of using a web-based program to help hospital-based nurses manage the stress often associated with nursing. Nurses who received access to the *BREATHE* program showed significant improvement in perceived nursing related stress. In addition to showing significant improvement in perceived stress as measured by the overall

Nursing Stress Scale (NSS), nurses showed reductions in specific areas of nursing stress including the stress related to Death and Dying, Conflict with Physicians, Inadequate Preparation, Conflict with Other Nurses, Work Load, and Uncertainty Concerning Treatment<sup>8</sup>.

With this background present study is planned to develop & test specific strategies to equip nurses with competencies to cope with stress. Intervention package on stress management developed on the basis of review of literatures, books, and by discussing with the experts which includes how stress impacts on the body; assessing stress and identifying stressors; various coping styles which helps to changing one's views of stressors, changing one's response to stressors, or changing the stressful situation. From various coping strategies few selective strategies, such as deep breathing & muscle relaxation exercise, discussion on stress, its origin, stages of stress & sign symptoms of stress, coping mechanism, assertive communication & time management were taken in the study according to stressors among nurses, which will be helpful to them to reduce their stress level. Sessions will be very interactive and nurses were encouraged to clarify doubts and participate actively. Various teaching strategies will be used such as lecture cum discussion, video slides brain storming, role play, games, and group work and behavior rehearsal. Nurses will directly interacting with the experts & explore their stress related issues. If this Intervention package is effective for this population then this will be redesigned as per the evidence based nurses needs and experts opinion who is directly interacting with nurses on their stress related issues and then it will be advocated for nurses working in clinical practice.

**Aim** –To evaluate the impact of intervention package on stress management among nurses working at tertiary care hospital.

**OBJECTIVES:**

1. To assess the existing score of stress among nurses working at tertiary care hospital.
2. To evaluate the impact of intervention package on stress management among nurses working at tertiary care hospital.
3. To study association between existing score of stress and socio-demographic variables among nurses working at tertiary care hospital.

**MATERIALS AND METHODS OF THE STUDY-**

**Type of research** :-Evaluative research

**Research approach** :- Quantitative research approach.

**Research design** :- Experimental One group Pre test post test design.

**Research setting** :- Krishna Hospital &Medical Research Centre, Karad. It is 1100 bedded tertiary care hospital in Karad city. More than 488 nursing staff working in the hospital. The setting of this study were Krishna Hospital &Medical Research Centre, Karad is located in Western Maharashtra, India against the background of mountains and valleys. The green, eco-friendly campus is spread over 57 acres and is well connected by rail, road & air.

The hospital is accredited by ISO 9001: 2015 certification and National Accreditation Board for Hospitals & Healthcare Providers (NABH) in the year 2016 and then re-accredited in the year 2019. KH & MRC, Karad had a self-effacing beginning with 200 beds hospital in one of the remotest areas in southern Maharashtra in the year 1982. Over the span of last 3 and a half decades

the hospital has grown to an 1125 beds multi-specialty tertiary care hospital with facilities for Critical Care, Endoscopic Surgeries, Dialysis, Cardiology, Cardio-vascular-thoracic-surgery, Oncology, Urology, Neurosurgery, Plastic surgery, Oral and Maxillofacial Surgery and a recognized Renal Transplant Unit. It has fully equipped major operation theaters, minor theaters, labour rooms, blood bank accredited by NABH, radio diagnosis and radiotherapy, computerized medical records, counseling services etc. There are separate intensive care units like Medical, Surgical, Coronary care, Pediatric, Neonatal (accredited by Neonatology Forum of India), Respiratory and Obstetrics. The neonatal ICU is recognized by Neonatology Forum of India. Krishna hospital is committed to provide standard treatments and quality care. Quality care involves specialized techniques, instrumentation, infrastructure and knowledgeable and skilled professionals. A team of expert doctors with decades of experiences highly trained nursing and ancillary staff, latest equipment and machines handled by skilled technical staff and a strong backbone of support services has helped elevate Krishna Hospital to a premier health care institute. The hospital with a capacity of 1125 beds, 32 wards, 8 different ICUs has added a number or various capabilities over the years, more than 500 nursing staff working in the hospital.

**Study population** : - All nursing professionals Registered with state nursing council.

**Study subjects** : - Registered GNM, BSc, P.B.BSc nurses, working in Krishna Hospital & Medical Research Centre, Karad.

**Sample size** : -

According to study done by Gandhi Sailaxmi & Krishnasamy Lalitha on impact of stress management programme on stress perception of nurses working with psychiatric patients, post test SD -16.51,  $\bar{X}$  - 41.06 used to calculate sample size<sup>9</sup>.

Sample size calculated by using following Formula

$$n = \frac{4SD^2}{(\bar{X} \times E)^2} = \frac{4 \times 16.51^2}{(41.06 \times 0.05)^2} = 258$$

SD - 16.51

$\bar{X}$  - 41.06

E Expected Sample (%) (If E=0.05 i.e. 5%)

Calculated sample size is minimum 258 samples. As researcher going to compare the stress level among Nurses working in different area total 300 samples will be included in the study.

#### **CRITERIA FOR SAMPLE SELECTION:-**

##### **Inclusion criteria:-**

1. Nurses who have been completed 1 year experience.

##### **Exclusion criteria:-**

1. Nurses having post graduate degree & working as director, assistant to director, superintendent, nurse educator & teaching staff.

#### **TOOLS FOR DATA COLLECTION:-**

- The structured questionnaire will be used to collect the base line data from nurses.
- The structured questionnaire format contains question of the following sections.

**Section 1: Socio Demographic data-** To collect base line data such as age, gender, education, years of experience, designation, employment status, current working area/ department, marital status, family type, number of children, family income, enjoyed more than 8 days leave in last month and attended any programme related to stress management in last six months.

No score allotted for the baseline variables.

- **Section 2: Modified Expanded nurses stress scale to assess stress level.**

The Modified expanded nurses stress scale is self report questionnaire that no longer than 15 minutes to complete. The expanded nurses stress scale was developed using factor analysis of nurses responses to a list of stressful nursing situation that had been identified on nursing stress (Healy and McKay, 1999, tylerand cushway 1995;1992, gray toft and Anderson,1981).The Modified expanded nursing stress incorporates 63 item with ten subscales<sup>3</sup>,each item required respondent to rate on four point likert type ranging from 0 for never stressful or not applicable to 3 for extremely stressful. The higher score more respondent agree that the situation was stressful. Based on a Likert-scale, type of response is set in four ranges: from never to extremely stressful and based on their understanding of what happened in the workplace. Scores below 63 indicate mild stress; scores between 64 to 126 show moderate stress and scores higher than 127-189 indicates severe stress.

Total and subscale score can be derived from this instrument. The subscale include

- Uncertainty by concerning treatment
- Conflict with physician
- Work Load
- Death and dying
- Conflict with supervisors
- Inadequate emotional preparation
- lack of social support
- Discrimination
- Conflict with peers
- Dealing with patient and families

The Modified expanded nursing stress scale (MENSS) is designed in simple and understandable English language. Though it is in English, as GNM nurses were included in present study it will be converted in respondent's mother tongue (Marathi) and then will be validated from expert in the field.

- **Section 3:**To assess the impact of Stress among nurses on health by using three point Likert-scale on difficulties of nurses sometimes have after stressful life events.

The self structured three Point Likert-scales consists total 35 items based on review of literatures.

Never =0

Sometimes =1

Frequently =2

**Scoring** – Total scoring = 70

Mild symptoms – 0-23

Moderate symptoms – 24-47

Severe symptoms – 48- 70

**Section 4: Section 4:** Yes No type scale to assess Stress management techniques adopted by nurses.

With this Daily practice log on stress relief technique will be taken from participants to confirm the adherence of nurses with stress management intervention package.

### **Data Collection Method**

The steps used for data collection were as follows:-

The total duration of data collection process was two years.

The steps used for data collection were as follows:-

1. The study will be initiated after obtaining ethical clearance from ethics committee; and prior permission from the concerned authorities.
2. The investigator will introduce herself to subject.
3. The investigator will explain the purpose of the study to subject.
4. Informed written consent will be taken from the each subject's.
5. Structured questionnaire will use to collect data.
6. The nurses will be enrolled for 6 sessions, first and last session taken for 30 minutes and middle 4 sessions for 40 minutes. Each session will be conducted on minimum 30 and maximum 70 nurses group, once in a week. Various teaching strategies were used such as lecture cum discussion, demonstration, video, brain storming, etc. Sessions will be very interactive and nurses will encourage to clarify doubts and participate actively and to prepare case scenarios based on their experience of stressful situations in the wards and then discuss how these stress management techniques could be implemented during these situations.
7. The post-test conducted on the last session of each group and collected were tabulated and analyzed.
8. Sessions of stress management intervention package will be as follows-

Sr. No.	Session	Time	Activity
1	Session 1	30 min	Group introduction, introduction of research work, consent, pre-test, planning of the sessions. Encourage for performing deep breathing exercise & muscle relaxation technique daily for 10 min in the morning. Sent them link of online videos on deep breathing & muscle relaxation exercise by watching this video they can perform this exercise daily. Provided a sheet on which they should make a tick mark & write the time of performing deep breathing & muscle relaxation exercise & if they don't then cross line.

2	Session 2	40 min	To understand about stress, general stress adaptation syndrome, various stressors & sign symptoms of stress PowerPoint presentation with various day to day examples, remembering of stressful situations they experienced, how they feel & cope up with that. Video Demonstration of deep breathing exercise and re-demonstration by the participant
3	Session 3	40 min	Individual & group activities will be conducted by providing a content of stressful situation. Participant should go through it & identify & note stressors, triggers due to stressors, mention & evaluate coping strategy suitable for this problem. Video Demonstration of Progressive muscle relaxation technique and re-demonstration by the participant
4	Session 4	40 min.	Assertive communication skill PowerPoint presentation with drama on small situations
5	Session 5	40 min.	PowerPoint presentation on Time management skill with examples of day to day practices.
6	Session 6	30 min.	Illicit feedback, Administer post-test

### PLAN FOR DATA ANALYSIS

The obtained data will be analyzed in terms of objectives of the study using descriptive and inferential statistics. Statistical packages SPSS were used to analyze the data. The plan of data analysis will be as follows-

1. Organize data in a master sheet in computer.
2. Socio demographic data will be analyzed in terms of frequencies and percentage.
3. Classify the stress level score in terms of frequencies and percentage & in mild, moderate & severe stress categories.
4. Pre- test and post-test stress level analyzed by mean and Standard Deviation
5. The paired 't' test was used to find the difference in mean scores before and after intervention.
6. Chi-square ( $\chi^2$ ) test is used to determine association between pre test stress score with selected demographic variables.

### Expected Results:

First session will help to identify various stressors & stress level among nurses. many literatures explore that nurses facing stress due to various factors like patient's death and suffering, workload, demands of patients and relatives, home stress, conflict at work, poor teamwork, Uncertainty of concerning treatment, Inadequate emotional preparation and poor supervision, Staff shortage, cause emotional exhaustion in nurses and lead to negative feelings toward those in their care. Based on this factors planned to use modified expanded nurses stress scale having 63 item with ten sub scales such as Uncertainty by concerning treatment, Conflict with physician, Work Load, Death

and dying, Conflict with supervisors, Inadequate emotional preparation, lack of social support, Discrimination, Conflict with peers, Dealing with patient and families.

Through second session nurses will be able to know that little stress is essential in life, it spurring motivation and awareness, providing the stimulation to cope with challenging situations. Nurses will remember a time when they perceived stress, cause of stress, signs and symptoms they feel & how they cope up with that.

Practicing of deep breathing exercise induces stress-releasing neurotransmitters endorphins that make them feel calmer. It will help to control the emotions, avoid conflict, acceptance of situation & feel energetic. Nurses can perform deep breathing exercise at any time, any place, in standing or sitting position for a few minutes will help them to tolerate, minimize & reduce stress due to Conflict with physician, Work Load, Death and dying, Conflict with supervisors.

Third session will help nurses to be aware about various positive & negative stress coping strategies, healthy life style to reduce stress, so that they can adopt positive coping strategies according to stressors. Individual & group activity helps to them to identify & note stressors, triggers due to stressors & evaluate coping strategies used by them & find out the best coping strategy for the provided content. Thus group will be able to understand & use best one practical strategy for stress management according to their stressors.

Practice of Progressive muscle relaxation (PMR) helps to control stress and anxiety, relieve insomnia, and reduce symptoms of certain types of chronic pain. Progressive muscle relaxation is based upon the simple practice of tensing, or tightening, one muscle group at a time followed by a relaxation phase with release of the tension.

Through next session nurses will be enhance their understanding about the issues related to communication & time management. This will help to reduce the stress due to Conflict with physician, Work Load, Conflict with supervisors, Conflict with other nurses, Lack of social Support ,Inadequate preparation. Nurses have three typical situations where they have difficulty in behaving assertively: communicating with senior or head nurses, doctors, with patients or their family members, and with other health care professionals. Assertive communication style is considered an important behavior for today's professional nurse and the key to successful relationships with senior or head nurses, doctors, with patients or their family members, and with other health care professionals.

I hope this Intervention package will be effective to reduce stress score and impact of stress on health of the nurses and it can be advocated for all the nurses working in clinical practice as it is easy to administer, not required any invasive process, and inexpensive.

### **Discussion:**

The aim of the study is to evaluate the impact of intervention package on stress management among nurses working at tertiary care hospital.

Stress is a part of everyday life for health professionals such as nurse's physicians and hospital administrators. Review of literature has revealed that there are various factors responsible for stress among nurses working in hospital areas. Workload, decreased job autonomy, inadequate

supervisor support, less opportunities of learning on job and inappropriate feedback to be significant predictors of stress among nurses<sup>5</sup>.

The researcher intends to understand the nurses' experiences and perceptions related to stress & stressors and develop an interventional package on stress management related stressors like Uncertainty by concerning treatment, conflict with physician, Work Load, Death and dying, Conflict with other nurses, Lack of staff Support, Inadequate preparation. With this intervention package nurses will be understand how stress at work can be effectively managed, reduced, or prevented in order to enhance the health of the nurses, as well as improving their work behavior. Satisfied workers tend to be more productive, creative, and committed. Therefore, a highly satisfied and free from burnout nurses' will eventually be effective in rendering a quality nursing care. Some of the strategy tested by many researchers like muscle relaxation technique, deep breathing exercise in other places and proved that these are more effective to reduce stress<sup>3</sup>.

Findings of this study will be greatly beneficial to the nurses who can take steps to avoid aggravating their burnout levels and to the patients who are the main beneficiary of a quality nursing care from highly satisfied and blissful nurses.

#### **Ethics & Dissemination:**

The ethical committee approval will be obtained prior to initiation of the study. Participant will be select as per inclusion & exclusion criteria. Respondents must be treated with the respect, all the study protocol will be explain to the participant with aims and objectives.

#### **Financial support & sponsorship:None**

#### **Conflict of interest - None**

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