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A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF INTERVENTION PACKAGE IN REDUCING STRESS AND IMPROVING GENERAL WELL BEING AMONG CLIENTS ADMITTED IN ICU

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ABSTRACT
This present study was done to evaluate the effectiveness of intervention package in reducing stress and improving general well-being among clients admitted in ICU. A quasi experimental study with control group pretest and posttest design was adopted. A total sample of 200 clients admitted in ICU were selected , out of which 100 were allotted to the interventional group remaining allotted to the control group using purposive sampling technique. psychoacoustic therapy was given along with tactile touch therapy for five days to the interventional group. on sixth day level of stress and general well-being were assessed by the Modified stress scale and Modified general well being questionnaire. The research findings revealed that majority of the samples had high level of stress in interventional [54%] and control group [51%]. Maximum number of samples had low positive level well being in experimental [53%] and control group [55%]. After the intervention the level of stress was reduced and general well being of the samples were improved only in the interventional group.

KEYWORDS
Stress, General well being, Psychoacoustic Therapy, Tactile touch therapy and ICU.

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INTRODUCTION
"Health is a condition in which all the parts and subparts must be harmony with the client". It is often felt better when we can rest, relax and sleep. Ironically it can be difficult in one of the places where it is most needed: is the Intensive Care Unit. Stress is a type of epidemic that strikes million down. Acute stress reaction is a psychological

condition that can develop after exposure to a stressful event. Patients in ICU experience significant level of anxiety. Not only unrelieved stress, fear and unpleasant symptoms but also sympathetic nervous system activity which can cause dyspnea and increased oxygen demand[1].

A situation may be perceived as stressful by one person and merely challenging by someone else. Wellness includes overall physical and emotional health, lifestyle that include healthy habits and promoting calm environment. Wellness requires basic needs are met, good health, financial, personal security and an attractive environment[2]. Research showed that physical, functional and emotional well being are declined during the stay in the ICU.

John Hopkins University in Baltimore found that one quarter of ICU survivors exhibited symptoms of stress. ICU stay could be distressing for both patients and families which could affect the well being[3].

According to National Institute for Health and Clinical Excellence stated that about five million patients stay in Intensive Care Units in the developed countries. Studies showed that patients with abdominal surgeries and prolong stay are the risk to develop stress since everyone pays attention to the physical need of the patients[4].

Rubert Renee[5] has stated that a critical care unit provides a cold and excellent environment. A unit invoked images of critically ill patient with latest bio medical equipments, monitoring device and code carts. The images could raise the feeling of stress in patients and families because the patients are admitted to ICU unexpectedly. Judy[6] described the physical and cognitive problems of clients during ICU stay. He reported that 35% of mechanically ventilated had functional deficit, 50% developed sepsis and cognitive impairment was observed between 30 to 80% of ICU clients. Studies have proved that stress and well being are negatively correlated. Stress management plan includes a mix of stress relievers that address the stress both physically and psychologically.

According to Christina Callahan[7] reported that critically ill patients are not only fighting for their lives but also surviving a very emotional and psychological hardship through the treatment and recovery in ICU.

Mahadeo shinde[8] identified the effectiveness of slow stroke back massage on stress and quality of sleep in ICU survivors. The result revealed that the level of stress was reduced in experimental group.

Ander ersson[9] investigated the effect of tactile touch therapy on stressors in ICU clients. Study concluded that tactile touch lowered the level of stress and increased the circulatory stability. The investigator has found that even though with the availability of beneficial complementary therapies they are not practiced regularly in the clinical area. So the investigator has chosen the study.

OBJECTIVES

- To assess the pre test and post test level of stress and general well being among patients admitted in ICU in the experimental and control group.
- To evaluate the effectiveness of Intervention Package on stress and general well being among patients admitted in ICU.
- To find out the relationship between post test level of stress and general well being among patients admitted in ICU.

MATERIAL AND METHODS

The present study was a quasi-experimental study undertaken to evaluate the effectiveness of intervention package in reducing stress and improving general wellbeing among clients admitted in ICU. A quasi experimental study with control group pretest and posttest design was adopted for this study. The sample size was 200 clients admitted in ICU out of which and 100 were allotted to the interventional group and 100 to the control group. Purposive sampling technique was used for this study. Modified stress scale was developed to assess the level of stress (Physical factors, psychological factors and social factors) and modified General well being questionnaire was developed to assess the general wellbeing of the clients admitted in ICU. Tactile touch therapy was given by using the techniques such as effleurage, Petri sage, Percussion and Friction. Psychoacoustic therapy was given

along with touch therapy. The music is integrated with natural sounds such as river, water, waves etc. Both interventions were administered for five days. Post test assessment was done on sixth day. The modified stress scale responses were scaled as low level (0-33%) Moderate level (34-67%) High level (68-100%). The modified general wellbeing questionnaire was scaled as distress (0-33%) low positive level well being (34-67%) positive level wellbeing (68-100%).

RESULTS

Table No.1 reveals that in pretest majority of the samples have high level of stress in the experimental (54%) and control group (51%). However in experimental group during post test 49(49%) samples have low level stress and 51(51%) samples have moderate level stress. No samples has found to have high level stress. In control group, nearly half of the samples 48 (48%) have high level stress. 38(38%) samples have moderate level of stress and only 14% (14%)sample found to have low level stress.

Table No.2 shows that, in experimental group during pre test 39(39%) samples have distress and only 8 samples are found to have positive level well being. In control group 36(36%) samples have distress and only 9(9%) samples have positive level well being.However in experimental group posttest majority of the samples (ie) 49(49%) samples have low positive level well being and only 5(5%)samples had distress. But there is no difference found between pre test and post test level of General well being in control group.

Table No.3 denotes that there is a significant difference between post test mean score of physical, psychological and social factors of ICU stress in experimental and control group, since the overall obtained t value 27.21 which statistically significant at P<0.001** level.

Table No.4 depicts that the post test mean score of general well being in experimental group is 81.6 (SD 4.03) and the mean score in control group is 50.90 (SD 5.80). The t value is 16.57 which is statistically significant at 0.05 level. The researcher conclude that there is a significant difference between post test mean score of General well being in experimental and control group.

Figure No.1 It has been observed that the variables namely ICU stress and general well being are negatively correlated. Karl Pearson's [r = - 0.707**] which is significant at P<0.01** level.

- Physical factor and general well being are negatively correlated (r = - 0.570**)
- Physical factor and overall ICU stress are positively correlated (r = 0.871**)
- Physical factor and social factors are positively correlated (r = 0.074)
- Physical factor and psychological factors are positively correlated (r = 0.692**)

The findings revealed that there is a positive and significant relationship between the sub dimensions of stress such as physical, psychological and social factors.

DISCUSSION

Stress is considered as subjective when an individual has physical and psychological demand. Being a patient in ICU is stressful more than other wards. Stress can be relieved by incorporating appropriate use of complementary therapies in conjunction with medical therapies. Various stressors have been Intesive Care Unit such as light, smell, pain, noise, tubes…..etc. Researches suggest the release of oxytocin and relaxing aspect of massage help to relieve stress. Touch is considered as the basic human need and it bridge the gap between sensation of perception and feeling.

Psychoacoustic therapy has it impact over physiological response and psychological impact on patients. American music therapy association states that music provides an opportunity to let out the emotions associated with traumatic experiences.

The major strength in the present study is that the complementary therapies such as psychoacoustic and tactile touch therapies are practiced in the Indian ICU setup. Yet another major strength is that both interventions were given at same time.

It was observed in the present study majority of the samples had high level stress in both experimental (54%) control group(51%). But in the interventional group after intervention no sample found to have

high level stress. In control group 48% had high level stress. Similarly 53% had low positive level well being in experimental group and 55% in control group. After intervention only5% had distress in interventional group but 36% in control group. It proves that the samples who had psychoacoustic therapy and tactile touch therapy reduction in the stress level and improved the general well being.

It was also observed that there is a significant difference found between interventional and control group on various dimensions of stress such as physical factors (t-14.21 $p<0.01^{**}$) psychological factors (t-41.83 $p<0.01^{**}$) social factors (t-27.21 $p<0.01^{**}$).

The above findings are congruent with the study done by Rose Admas[10]. The result revealed that after massage and music therapy the mean post test score of stress 2.33(SD2.10) was reduced than the mean pretest score 5.18 (SD2.01).

The present study findings shows that there is a significant difference in the level of general well being between interventional and control group.

The mean difference is 30.71(t-16.57 $p<0.05^{**}$) these findings are consistent with the study done by Polyxeni Mangoulia[11] identified the role of music in promoting physiological parameters and psychological well being in ICU clients. The researcher concluded that music influence wide range of physiological parameters and psychological well being.

The investigator identified the relationship between dimensions of stress and general well being. It has been observed that the variable namely ICU stress and general well being are negatively correlated (r= -0.707 $p<0.01^{**}$).

The researcher concludes that the samples with high level of stress have low level well being. It is also noted that the dimensions of stress are related to each other. The above findings are supported by Nathalia Perazzo Tereran[12] assess the quality of life among patients admitted in ICU within 72 hours were interviewed. The result showed that the quality of life was related to physical and psychological factors.

Table No.1: Distribution of samples based on the level of stress in the Experimental and Control group of Patients admitted in ICU N=200

S.No	Level of stress	Experimental group				Control group			
		Pre test		Post test		Pre test		Post test	
		F	%	f	%	f	%	f	%
1	Low level	10	10%	49	49%	12	12%	14	14%
2	Moderate level	36	36%	51	51%	37	37%	38	38%
3	High level	54	54%	0	0	51	51%	48	48%

Table No.2: Distribution of samples based on the level of general well being in the Experimental and Control group of Patients admitted in ICU N=200

S.No	Level of General well being	Experimental group				Control group			
		Pre test		Post test		Pre test		Post test	
		f	%	f	%	f	%	f	%
1	Distress	39	39	5	5	36	36	38	38
2	Low positive level well being	53	53	49	49	55	55	52	52
3	Positive level well being	8	8	46	46	9	9	10	10

Table No.3: Comparison of posttest mean scores of stress between experimental and control group of patients admitted in ICU N=200

S.No	Dimensions of stress	Experimental group		Control group		Mean difference	t value	P value
		Post test		Post test				
		mean	SD	mean	SD			
1	Physical factors	31. 33	11.95	55.29	11.87	23.95	14.21	P<0.001
2	Psychological factors	38.10	10. 33	85.93	4.83	47.83	41.83	P<0.001
3	Social factors	45.0	8.07	54.85	9.54	9.85	9.85	P<0.001
4	Over all	38.14	7.54	65. 33	4.611	27.21	27.21	P<0.001

P<0.001**

Table No.4: Comparison of post test mean score of General well being between experimental and control group of patients admitted in ICU N=200

S.No	General well being	Mean	SD	Mean difference	t value
1	Post test experimental group	81.64	4.03		16.57
2	Post test control group	50.90	5.80	30.71	P<0.05

P<0.05*

Table No.5: correlation matrix for the Dimensions of stress and General well being in experimental group of clients admitted in ICU

S.No	Dimension	ICU Stress physical factors	ICU stress Psychological factors	ICU stress Social factors	ICU stress total score	General well being total score
1	ICU stress physical factors	1				
2	ICU stress Psychological factors	0.692(**)	1			
3	ICU stress Social stress	0.074	0.069	1		
4	ICU stress total score	0.871(**)	0.847(**)	0.428(**)	1	
5	General well being total score	-0.570(**)	-0.752(**)	-0.714	-0.714	-0.704

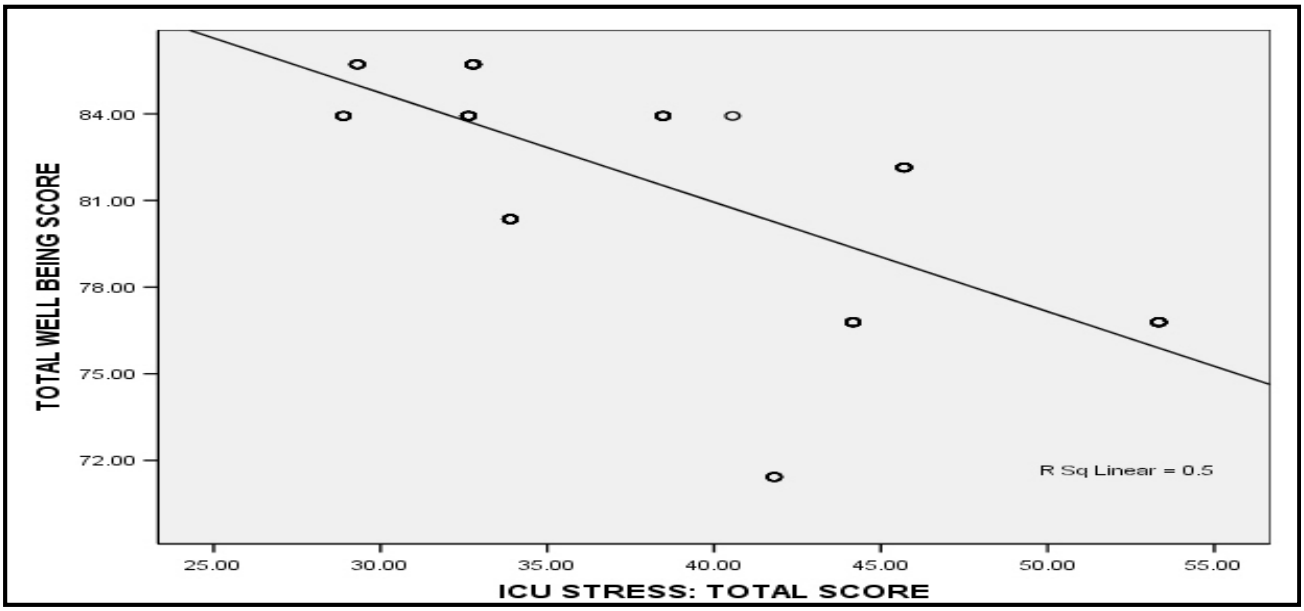

Figure No.1: Correlation between ICU stress and general well being of patients admitted in ICU

CONCLUSION

Evidence of recent study suggested that ICU experience can be very stressful to the patient. Not only they are critically ill fighting for their lives but also they are surviving a very emotional and psychological hardship through the treatment and recovery in the ICU.

Traditional or routine ICU treatments have its benefit over the physical need of the client and not the psychological and psychosocial needs of the patient. Hence the complementary therapies such as psychoacoustic therapy and tactile touch therapy need to be prescribed to relieve stress and improve general well being among clients in ICU.

The researcher has concluded that, the psychoacoustic and tactile touch therapy are proved to be effective on stress and well being of the ICU client. She also added that physical, psychological and social dimensions of ICU stress are related to each other. To improve the well being the dimensions of stress need to be reduced.

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CONFLICT OF INTEREST

We declare that we have no conflict of interes.

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