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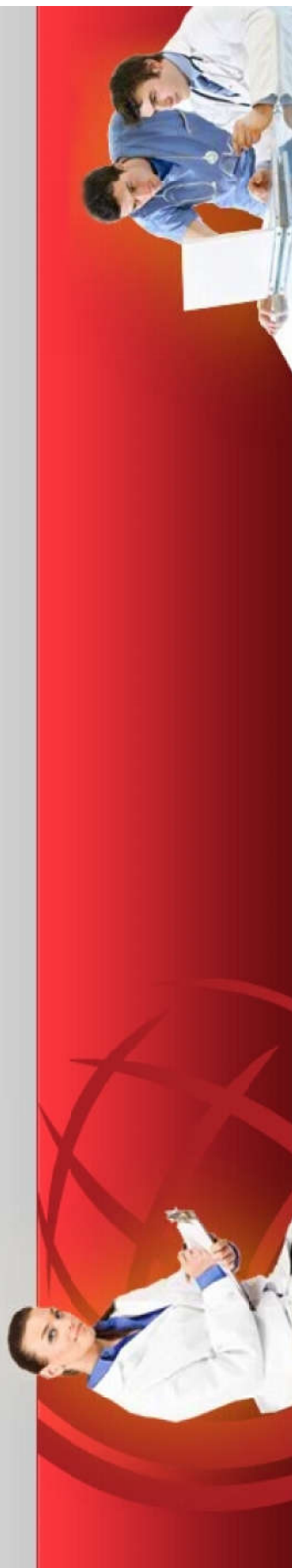
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# Effectiveness of Information Booklet on Knowledge, Attitude and Practice on Cardiac Rehabilitation among Myocardial Infarction Patients

Vikranth V. Bhingardive\*, T. Sivabalan\*\*

## Abstract

**Background:** Myocardial infarction is a dynamic process where region of heart muscle have severe and prolonged decrease in O<sub>2</sub> supply due to inadequate blood flow lead to necrosis of myocardium. MI leads to physical, social and mental impairment, and contributes to considerable impairment in quality of life of patient and family. The impairment may coped well with help of cardiac rehabilitation, which is sum of activity required to ensure the physical, psychological, social and mental condition of patient. Thus present study was carried out to assess the effectiveness of information booklet on knowledge, attitude and practice regarding cardiac rehabilitation among MI patients. **Material and Methods:** A quasi experimental study where pre test post test design without control group approach was undertaken in medical wards of Pravara Rural Hospital. A total of 30 MI patients were selected with help of systematic random sampling technique. The structured interview schedule was used to collect the data (where dichotomous questionnaire, rating scale and check list was used to assess the knowledge, attitude and practice on cardiac rehabilitation respectively). The information booklet was distributed to myocardial infarction patients immediately after the pre test. Effectiveness of booklet was done by conducting post test on the first follow up visit of patient to hospital after discharge. The data was analyzed with descriptive and inferential statistic wherever required. **Result:** The result of the study revealed that information booklet was effective as the knowledge score shows improvement from 'average' (40%) to 'good' (74%) from pre test to post test respectively. In relation to attitude of patient towards cardiac rehabilitation was found to be neutral after administration of booklet as attitude score was increased from pre test (35%) to post test (62%); practice regarding cardiac rehabilitation found to be significantly increased from pre test (39%) to post test (62%). There was a significant difference found between pre test and post test knowledge, attitude and practice scores at  $p < 0.05$  level. A significant association found between knowledge and demographic variable like age ( $\chi^2 = 16.75$ ) at  $p < 0.05$  level. **Conclusion:** Majority of myocardial infarction patients had significant improvement in knowledge, attitude and practice regarding cardiac rehabilitation after implementation of information booklet. Hence the information booklet is considered to be an effective tool in order to bring a positive health outcome in myocardial infarction patients.

**Keywords:** Effectiveness; Knowledge; Attitude; Practice and Information Booklet.

## Introduction

Heart is a nonstop pump which maintains

circulation of fluid i.e. 'blood' to circulate every part of body, and the heart beat represents life and lack of it pronounces death. Amongst the common heart diseases coronary heart disease especially myocardial infarction does have greater impact on health and quality of life of individual and family. It is a sudden occlusion of coronary artery and abrupt cessation of blood and oxygen flow to heart muscles which leads to angina pectoris and other manifestations of ischemic heart disease [1].

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World Health Organization reported that 16.7 million people around the globe die of cardiovascular disease (CVD) each year. This is over 29% of all deaths

globally and it is reported that coronary artery disease is an emerging health problem in India [2]. In India 31.7% of deaths occur due to MI, and 17.3 million deaths in 2008 were attributable to cardiovascular disease, with 7.3 million (42% of all cardiovascular deaths) being due to the result of a myocardial infarction [3].

It was also noted that the incidence of myocardial infarction is alarmingly high in rural population because of poor dietary habits, smoking and tobacco chewing. Myocardial infarction has a negative impact on patient's quality of life and does have severe problems such as chest pain, discomfort, anxiety, depression, self care and activity of daily living problems [4,5].

Studies on patient's knowledge and understanding regarding cardiac rehabilitation revealed that patients had limited understanding and neutral concern regarding cardiac rehabilitation measures [6]. The cardiac rehabilitation is proven to be effective tool in the care of patient with coronary artery disease and reducing the cardio vascular mortality. However it remains considerably underutilized mainly because of poor enrollment and poor attitude towards cardiac rehabilitation [7].

Education is a process of importing the instructions, and there are varieties of ways to educate patients in hospital and community settings. The information booklet and modules are proven to be one of the most important tools to educate the patient, and evidence shows that the information booklet found to be effective in improving the knowledge and attitude on cardiac rehabilitation of MI patients [8]. Thus the information booklet was devised and tested the effectiveness regarding knowledge, attitude and practice regarding cardiac rehabilitation among MI patients.

## Materials and Methods

A quasi experimental study, pre test post test design without control group approach was undertaken in the medical wards of Pravara Rural Hospital, Loni (Bk), Maharashtra. A total of 30 myocardial infarction patients were selected with help of probability method, systematic random sampling technique. MI patients above 35 years of age, and willing to participate in the study were enrolled whereas the patients admitted in ICU, CCU and acutely ill, unable to respond to tool were excluded from the study. The study was approved by institutional ethics and research committee of PIMS (DU), and written permission from Medical

Superintendent and informed consent was obtained from the MI patients before enrollment.

The pre tested structured interview schedule was used to collect data, it consists of a) dichotomous questionnaire (34 items) each item has two alternatives, and correct response carries 1 and wrong response carries 0 score respectively. The maximum score was 34 and based on score the knowledge was categorized as poor, average, good, very good; b) rating scale (10 items) each item has 5 options like never, rarely, sometimes, frequently, always and the maximum obtained score was 40. Based on scores the attitude was grouped into category like negative, neutral and positive attitude; and c) checklist (28 items) each item has two alternatives, and the correct response carries 1 and wrong response carries 0 score respectively. The maximum score was 28 and based on score the practice was categorized as not adoptive, partially adoptive, completely adoptive practice.

A simple, comprehensive and easy to understand information booklet was prepared in local language (Marathi) with illustrations. It comprised of a) Heart and its function b) Etiopathogenesis of MI c) Diagnostic tests d) Management e) Cardiac rehabilitation such as physical, nutritional, psychological, sexual, social rehabilitation and lifestyle modification and f) Follow up care. A pre tested structured interview schedule was used for conducting the pre test, followed by the information booklet was distributed to the MI patients, and instructed to read, understand and follow the instructions provided for betterment of knowledge and practice on cardiac rehabilitation. Effectiveness of information booklet was done by conducting post test on the first follow up visit of patient to hospital. The collected data were complied, tabulated and analyzed based on objectives with help of descriptive (mean, SD and mean %) and inferential (t test, chi square test and coefficient of co relation test) statistical methods wherever required.

## Results

### *Socio Demographic Profile of MI Patients*

Half (50%) of patients were >55 years of age followed by 37% of them were 36 to 45 years, majority (73%) were male patients. Higher percent (47%) had primary education and (33%) had secondary school education, one third (33%) of patients under study were daily wagers, and (40%) had monthly income of Rs. 6001 to 9000, and significantly (27%) had <3000 Rs of income. Most (83%) of them were residing in rural areas.

### Clinical Characteristics of MI Patients

Higher percent (37%) had anterior wall and posterior wall MI respectively followed by (16%) had inferior wall MI, majority (73%) of patients had first episode of heart attack, and remaining (27%) had repeated attacks. One third (33%) of patients had diabetes as co morbid illness and (23%) had hypertension. Half (50%) of them had habit of tobacco consumption, and significant proportion (37%) had alcohol consumption.

### Effectiveness of Information Booklet on Knowledge, Attitude and Practice on Cardiac Rehabilitation

Findings revealed that in pre test the overall mean

knowledge score was  $(13.63 \pm 3.34)$  i.e. 40%, mean attitude score was  $(14.2 \pm 4.53)$  i.e. 35%, and the mean practice score was  $(10.8 \pm 2.55)$  i.e. 39% of the total score. It was noted that during post test, the knowledge, attitude and practice scores was significantly higher than the pre test scores i.e.  $(25.1 \pm 1.83)$ ,  $(25 \pm 2.34)$  and  $(17.1 \pm 2.13)$  respectively. The effectiveness for knowledge was (33%), attitude (27%) and the practice area was (23%). It interprets that the information booklet was effective in improving the various knowledge, attitude and practice areas on cardiac rehabilitation at  $p < 0.05$  level (Table 1, 2 and 3). A significant association was found between the knowledge score and demographic variable such as age ( $\chi^2 = 16.75$ ) at  $p < 0.05$  level.

**Table 1:** Mean scores of pre and post test knowledge of MI patients regarding cardiac rehabilitation (N=30)

S. No	Knowledge Areas	Pre test		Post test		't' value
		Max score	Mean	SD	Mean	SD
1	Introduction of MI	5	1.96	0.71	39	3.91
2	Physical rehabilitation	5	2.16	1.36	43	3.45
3	Nutritional rehabilitation	4	2.16	0.87	54	3.32
4	Psychological rehabilitation	4	1.13	1.12	27	3.39
5	Lifestyle modification	7	2.61	1.49	37	5.33
6	Sexual rehabilitation	4	1.27	1.03	30	2.71
7	Social rehabilitation	5	2.49	1.06	48	3.28
	<b>Overall</b>	<b>34</b>	<b>13.6</b>	<b>3.34</b>	<b>40</b>	<b>25.1</b>

df - 29 \* Significant  $p < 0.05$  level

**Table 2:** Mean scores of pre and post test attitude of MI patients regarding cardiac rehabilitation (N=30)

S. No	Area	Pre test		Post test		't' value
		Max score	Mean	SD	Mean	SD
1	Attitude	40	14.2	4.53	35	2.34

df - 29 \* Significant  $p < 0.05$  level

**Table 3:** Mean scores of pre and post test practice of MI patients regarding cardiac rehabilitation (N=30)

S. No	Practice Areas	Pre test		Post test		't' value
		Max score	Mean	SD	Mean	SD
1	Physical rehabilitation	5	1.16	1.14	23	3.1
2	Nutritional rehabilitation	5	2.73	1.20	24	3.26
3	Psychological rehabilitation	5	1.37	0.98	26	2.9
4	Life style modification	5	2.39	0.79	46	2.99
5	Sexual rehabilitation	4	1.66	0.80	41	2.43
6	Social rehabilitation	4	1.73	1.25	43	2.56
	<b>Overall</b>	<b>28</b>	<b>10.8</b>	<b>2.55</b>	<b>38</b>	<b>17.1</b>

df - 29 \* Significant  $p < 0.05$  level

## Discussion

Study result revealed that half of MI patients under study were above 55 years of age and significant percent of them were middle adults. This fact was consistent with the study conducted by Kato N, Kinugawa K, Sano M, Seki S, Kogure A and Kobukata K who also observed that highest percentage of patients mean age was 63 years [9]. A significantly equal proportion of MI patients had anterior and posterior wall MI respectively. It was well supported by Pandey S, Pandey S, Jhanwar P and Jhanwar A that the location wise most common type of MI encountered was anterior wall MI [10].

Half of MI patients under study consume tobacco; it was in congruence with Camila S, Hans L and Beng F findings that the most common type of risk factor was chewing tobacco and smoking [11]. One third of MI patients had diabetes mellitus as co morbid illness. This result was in line with Richard W, Christopher P, David M and Gordon M that diabetes is associated with an increased risk of myocardial infarction [12].

The results showed that the MI patients had significant gain in the knowledge on cardiac rehabilitation. It was consistent with the study done by Shalet A, Ancy R and Vidya S who also found that education through information booklet significantly enhances the knowledge on cardiac rehabilitation of MI patient [13]. Similarly there was an enhancement in the attitude of MI patients which is incremental in direction. This finding was coincide with the study of Gallagher R, Roach K, Belshaw J, Kirkness A, Sadler L and Warrington D that there is a significant improvement in appropriate responses regarding cardiac rehabilitation after educational intervention on cardiac rehabilitation [14].

It was recorded that the information booklet was effective in improving the practice on cardiac rehabilitation i.e. statistically significant. Alongside it was consistently noted by Sumathy B that the self management skills were significantly developed after implementation of education [15]. The study offers substantial evidence to prove that information booklet on cardiac rehabilitation would increase knowledge, attitude and practice among MI patients, leading to optimal activity of daily living and quality of life.

## Conclusion

The major conclusion drawn from this study is that the information booklet was found to be effective

in improving the knowledge, attitude and practice of MI patients on various aspects of cardiac rehabilitation. It should be emphasized that having educational sessions with the patients with family members regarding cardiac rehabilitation of MI enhances their understanding, knowledge, attitude and practice. This helps to have an appropriate management, timely preventive measures and regular medical care etc. Thus reduces the lack of awareness, negative attitude and less chance of health problems and complications thereby leading a complete cure, optimal quality of life and longer survival. The nursing professionals working in the multi centric areas and specialty hospitals should emphasize the need for creating awareness on cardiac rehabilitation and its significance on health and quality of life. The nurses plays pivotal role in improving the patients compliance towards cardiac rehabilitation, follow up care and timely identification and treatment of complications.

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# Effectiveness of Structured Teaching Programme on Knowledge & Attitude about Organ Donation among under Graduate Students at Selected Government Arts and Science Colleges in Thanjavur

T. Balaguru\*, Shanmugapriya\*\*

## Abstract

**Background:** Organ transplantation has become an accepted means of treating end stage organ disease in recent years with acceptable patient and graft survival. While view of organ donation are positive there is a large gap between the number of registered donor compared to those awaiting organ donations on a global level. **Objectives:** To assess the effectiveness of structured teaching programme on Knowledge & attitude about organ donation among under graduate students. **Design:** quasi experimental one group pretest post test design adopted for this study **Setting:** Government arts and science college, Thanjavur **Participants:** 50 under graduate students in kundhavai arts college fulfilling the inclusion criteria were selected by simple random sampling. **Methods:** A pre-test was conducted by using self administered questionnaire and attitude by attitude scale regarding organ donation. Immediately after pre-test Structure Teaching Programme was given and again post test was conducted to assess the effectiveness of Programme. Collected data was analysed by using descriptive and inferential statistics. **Results:** On analysis, the study revealed that level of knowledge is 3 members (6%) having adequate knowledge, 47 members (94%) having moderate knowledge in pre-test. 48 members (96%) having adequate knowledge, 2 members (4%) having moderate knowledge in post-test. level of attitude is 8 members (16%) have fair attitude, 42 members (84%) have good attitude in pre-test. 5 members (10%) have fair attitude, 45 members (90%) have good attitude post-test. This indicate the study was effective & it enhance Knowledge & attitude on organ donation among undergraduate students. The improvements was statistically tested by paired 't' test value and result found to be significant at  $p > 2.02$  value. There was a statistically no significant association found between the post test scores of the sample with their demographic variables and there is statistical significance association between religion and attitude regarding organ donation. **Conclusion:** This study was effective and its enhance the knowledge & attitude about organ donation among under graduates students.

**Keywords:** Effectiveness; Structured Teaching Programme; Knowledge; Attitude; Organ Donation; Under Graduate Students.

## Introduction

**"I Want to be remember for the life I gave  
As well as the life I lived Be a hero be an organ donor"**

**The Talmud.**

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Life is a dynamic process. It start from birth and ends with the death of individual in between come difference stages of life with different disease and their attendant problem. Now a days it is possible to remove the organs like kidneys, heart, lungs and liver from one person and transfer them to another person.

Organ donation is the donation of biological tissue or an organ of the human body from a living or dead person to a living recipient in need of a transplantation.

Organ donation is where a person donates their organs for transplant. There are two types of organ donation living and deceased. Donated organs are

given to remove one who has damaged organs that need to be replaced. An organ transplant may save persons life or significantly improve their health and quality of life. In the 50 years since the first successful organ transplant thousands of recipients of a transplantation kidney , heart , pancreas liver or other solid organ in the united states and throughout the world have had their lives extended and their health enhanced as a result of organ transplantation.

Organ transplantation is unique among surgical procedures in that the procedure cannot take place without the donation of an organ or a partial organ from another person. As the demand of organ transplants for exceeds the current supply of available organs. Various effects are under way to determine how best to reduce the gap between supply and demand . In addition to refinement in hospital processes that might further enhance the system or provide incentives for more individuals or families to consent to organ donation.

#### *Statement of the Problem*

A study to assess the effectiveness of structured teaching programme on Knowledge & attitude about organ donation among the under graduate students studying in Kundhavai Naachiyar Govt Arts college for women , Thanjavur.

#### *Objectives*

- To assess the level of knowledge & attitude about organ donation among under graduate students.
- To assess effectiveness of structured teaching programme on knowledge and attitude.
- To correlate relationship between the knowledge & attitude post test score about organ donation among under graduate students.
- To associate the post test score knowledge & attitude with their selected Demographic variables such as age, sex, domicile, source of information, religion etc.

#### *Hypothesis*

H<sub>1</sub>: The mean post test knowledge score regarding organ donation will be significantly higher than the mean pre-test score of students who had structured teaching programme.

H<sub>2</sub>:The mean post test attitude score regarding organ donation will be significantly higher than the mean pre-test score of students who had structured teaching programme.

H<sub>3</sub>: There will be significant relationship between knowledge & attitude.

H<sub>4</sub>: There will be significant association between certain demographic variables with post-test knowledge & attitude score an organ donation among under graduate students.

#### *Purpose of the Study*

Each day an average of 79 people receive organ transplants however an average of 22 people die each day waiting for transplants that can't take place because of the shortage of donated organs. More than 1,233,000 men women and children currently need life saving organ transplants. Still the awareness organ donation is low in India. So there is need to develop many sensitization programme to be planned and implement to create awareness and positive attitude towards organ donation. So this topic has been taken to create awareness to bachelor students to disseminate this idea to the society.

#### **Methodology**

Quasi experimental research design was used to assess the effectiveness of structured teaching programme on knowledge & attitude about organ donation among the under graduate students. The 50 sample were selected by using simple random sampling method. Pre-test was conducted, after that intervention was given. The next day post-test was conducted. Self administered questionnaires were used.

#### *Research Variables*

*Independent Variables:* Structured Teaching Programme

*Dependent variables:* Knowledge and Attitude

#### *Data Collection Instrument*

##### *Section-I*

This consist of items related to demographic data of students which include age, parental education, domicile, source of information, religion, family size.

##### *Section-II*

This consist of a 20 structured knowledge question was used to assess the knowledge regarding organ donation. Each items have one correct answer.

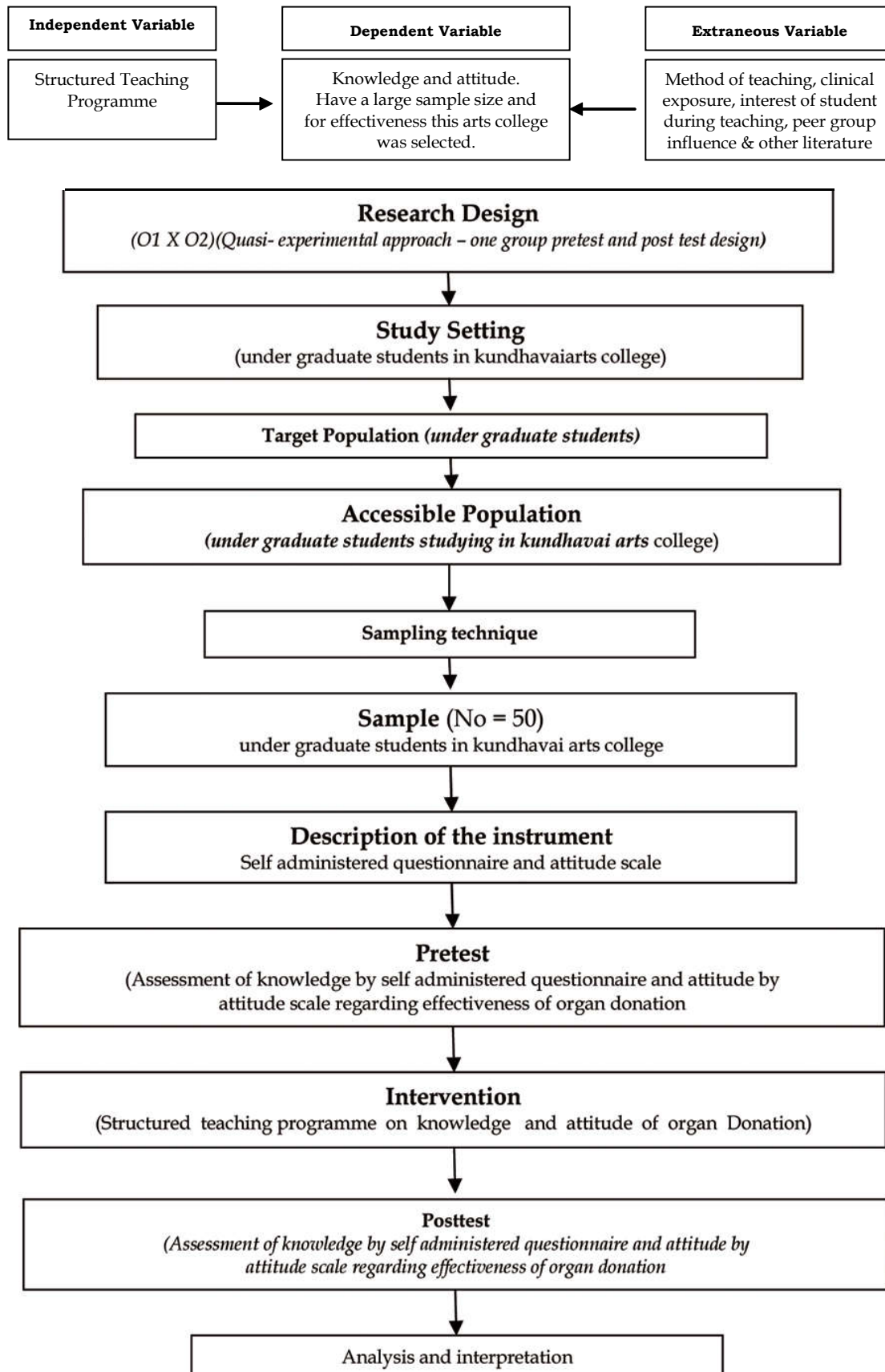


Fig. 1: Schematic representation of research design

Scoring pattern was '1' mark for correct answer and '0' mark for wrong answer.

scoring	Percentage	Level of knowledge
1-6	5% - 30%	In adequate knowledge
7-12	35% - 60%	Moderately adequate knowledge
13-20	65% - 100%	Adequate knowledge

### Section III

It consist of 5 point scale. This scale has 10 statements out of 10 there are five for positive attitude & five for negative attitude scoring pattern for the attitude scale is given below :

- Strongly disagree-1
- Disagree-2
- Uncertain -3
- Agree-4
- Strongly agree-5

### Data Collection and Analysis

#### Section- I

#### Frequency and Percentage Distribution of Demographic Variables of Study Subjects

Regarding the age majority students were belongs to 50 (100%) students were (17-19 years). Regarding Religion majority of 49 (98%) students were Hindu and 1(2%) student is Christian. With respect to educational status Majority of 16 (32%) students parents qualified upto high school , 16 (32%) students parents qualified upto primary school , 8 (16%) students parents have no formal education, 7 (14%) students parents qualified upto higher secondary, 2 (4%) students parents qualified upto professional degree PG & degree and atleast 1 (2%) student parents are having graduates. Majority of students 40 (80%) were residing in rural and 10 (20%) students were residing in urban area. The family size 42 (84%) students belongs to nuclear family , 8 (16%) students belongs to a joint family .The source of information 40 (80%) students receive the information through TV , 7 (14%) students receive through magazines, 3 (6%) students receive from the health personnel.

#### Section- II

Distribution of level of knowledge and attitude on Organ donation in pre test and post test.

On analysis, the study revealed that level of knowledge is 3 members (6%) having adequate

knowledge, 47 members (94%) having moderate knowledge in pre-test . 48 members (96%) having adequate knowledge, 2 members (4%) having moderate knowledge in post-test .level of attitude is 8members (16%) have fair attitude, 42 members (84%) have good attitude in pre-test .5 members (10%) have fair attitude, 45 members (90%) have good attitude post-test. This indicate the study was effective& it enhance Knowledge & attitude on organ donation among undergraduate students.

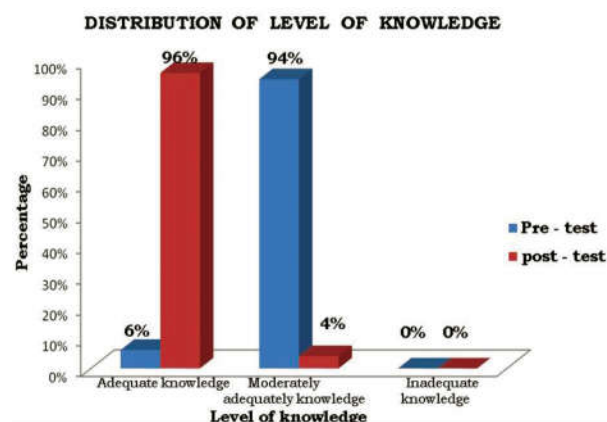


Fig. 2:

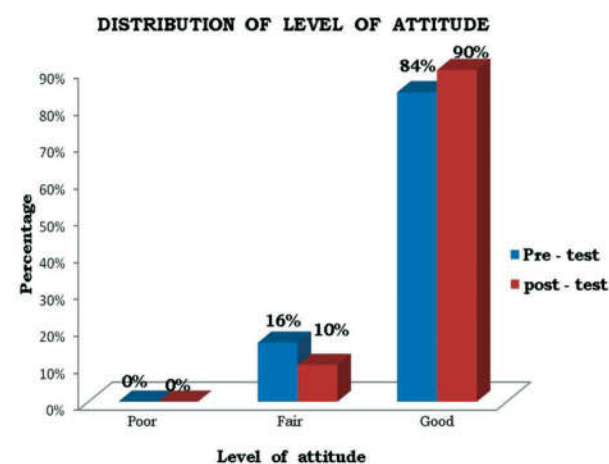


Fig. 3:

### Section III

Effectiveness of structured teaching programmed on knowledge & attitude of organ donation.

Variable	Pre-Test		Post-Test		Mean Difference	T- Test	Inference
	MEAN	SD	MEAN	SD			
Knowledge	10.28	1.51	16.78	2.3	6.5	27.15	Significant
Attitude	35.5	3.6	37.46	4.42	1.96	6.161	Significant

Data presented in the table indicated significant higher knowledge score in post-test than pre-test . The t- test value in pre – test and post-test knowledge score was 27.15 . The t- test value in pre – test and post-test attitude score was 6.161. Hence the

hypothesis 2 is accepted.

#### Section-IV

Correlation between knowledge & attitude on organ donation.

Variables	r- Value	Correlation Coefficient
Knowledge & Attitude	0.23	Weak positive correlation

The data presented in this table showed that r-value 0.23 indicates a weak positive association between knowledge & attitude.

Hence the hypothesis 3 is accepted.

#### Section-V

Association between level of knowledge and demographic variables such as age, religion, parental education, domicile, family size, source of information.

chi-square value were calculated to association between the post test knowledge and attitude scores of effectiveness of Structured Teaching Programme regarding organ donation with their selected demographic variables such as Age, Religion, Domicile, Parental education, Family size, Source of information. The value is non- significant.Hence the hypothesis 4 is rejected.

### Results

The study revealed that level of knowledge is 3 members (6%) having adequate knowledge, 47 members (94%) having moderate knowledge in pre-test . 48 members (96%) having adequate knowledge, 2 members (4%) having moderate knowledge in post-test. Level of attitude is 8 members (16%) have fair attitude, 42 members (84%) have good attitude in pre-test. 5 members (10%) have fair attitude, 45 members (90%) have good attitude post-test. This indicate the study was effective & it enhance Knowledge & attitude on organ donation among undergraduate students. The improvements was statistically tested by paired 't' test value and result found to be significant at  $p > 2.02$  value. There was a statistically no significant association found between the post test scores of the sample with their

demographic variables and there is statistical significance association between religion and attitude regarding organ donation.

#### Nursing Implication

The finding of the study has implication in different aspects of nursing education, nursing administration and nursing research by assessing the knowledge of under graduate's students regarding organ donation.

#### Nursing Service

The nurses are in the best position to give more about the organ donation. The nurses needs to takes up the responsible to create awareness regarding organ donation.

#### Nursing Education

The study has been proved that knowledge and attitude on organ donation among undergraduates students can improve their attitude to improve this knowledge to community our nursing personal need to be equipped and with adequate knowledge regarding the organ donation through their types of donation of organ, benefit, criteria, procurement process, donor evaluation criteria, organ allocation, registration, registries, caste of donor and recipient.

Nursing personal looking in various health setting should be given in service education to update their knowledge, attitude and abilities to identifying the learning needs of clients on organ donation and planning for appropriate intervention.

#### Nursing Administration

Organ donation is a growing needy problem more emphasis should be given to the condition. Cost

effective production of material used for teaching by nurses should be encouraged. Necessary administrative support like proper procedure counseling should be providing to conduct such activities.

### *Nursing Research*

The finding for the study can be utilized to conduct. It is essential to identify at present level of knowledge of individual regarding organ donation to know the extent of information necessary to be given and disseminated.

This study motivates the other to conduct further studies on organ donation.

The study also brings about the fact that more studies need to be done at different setting which are culturally acceptable, better teaching strategies of education.

### *Recommendation*

The finding of the study can be utilized to conduct.

A comparative study can be done to assess the effectiveness of structured teaching programme on urban and rural area.

A similar study can be conducted in large scale sample.

The study can be done in the hospitals, schools and industrial settings.

### **Conclusion**

This study was effective and its enhance the knowledge & attitude about organ donation among under graduates students.

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# A Study to Assess the Knowledge Regarding Sheehan's Syndrome among Staff Nurses in Selected Hospitals at Tumkur

Lincy Joseph

## Abstract

A study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding sheehan's syndrome among staff nurses in selected hospitals at Tumkur. The sample size of this study comprised of 50 staff nurses. Non probability convenience sampling technique was considered appropriate for this study. The collected data was analyzed using descriptive and inferential statistics. The findings revealed the post-test mean knowledge score was found higher (90.7%) when compared with pre-test mean knowledge score (48.7%). The pre test mean knowledge score is 19.4 and standard deviation is 3. Post test mean knowledge is found to be 36.2 and standard deviation is 1.61. Enhancement is 42% and statistical paired 't' test value is 36.5. The statistical paired 't' test indicated the enhancement in the mean knowledge score found to be significant at 5% level for all the aspects under study.

**Keywords:** Structured Teaching Programme; Sheehan's Syndrome; Staff Nurses.

## Introduction

Sheehan's syndrome is a condition where sudden or prolonged shock leads to irreversible pituitary necrosis characterized by amenorrhea, genital atrophy and premature senility [1].

Sheehan's syndrome is rare in developed countries, but is a significant cause of maternal morbidity and mortality in developing countries like India [2].

The nurse-midwife works as an interdependent health-team member in a setting that provides physician consultation and referrals for complications. She should be able to identify all cases with postpartum haemorrhage or the deliveries complicated with bleeding in order to identify the potential cases that may develop Sheehan's syndrome [3].

The WHO reports that obstetric haemorrhage causes 127,000 deaths annually worldwide, and is the world's leading cause of maternal mortality. Nearly all of these deaths are due to postpartum haemorrhages, which occur nearly 14 million times each year [4].

A study was conducted on Sheehan's syndrome in modern times: a nationwide retrospective study in Iceland. The aim of this study is to estimate the prevalence of SS in modern times in Iceland. All patients with diagnosed SS were identified, and given information regarding obstetric care, clinical presentation and hormonal assays was collected. The results shows that SS is easily diagnosed and treatable, but can be life-threatening if unrecognised, doctors need to be aware of the disease [5].

The most common cause of maternal mortality is post partum haemorrhage which results in Sheehan's syndrome. Sheehan's syndrome is often confused with other pituitary conditions there by leading to delayed treatment. Hence the researcher finds the need for study regarding Sheehan's syndrome and the knowledge of it among staff nurses.

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## *Statement of the Problem*

"A study to assess the effectiveness of structured teaching programme on knowledge regarding

Sheehan's syndrome among staff nurses in selected hospitals at Tumkur"

#### *Objectives of the Study*

1. To assess the existing knowledge of staff nurses on Sheehan's syndrome.
2. To assess the post test knowledge score on Sheehan's syndrome among staff nurses
3. To find the association between the post test knowledge score and selected demographic variables.

#### *Conceptual Framework*

The conceptual frame work of this study was based on Imogene M. King's "Goal Attainment model".

### **Materials and Methods**

#### *Research Methodology*

The investigator has selected quasi experimental research design (one group pre-test post-test).

#### *Research Setting*

This study was conducted among 50 staff nurses in Shridevi hospital and District hospital, Tumkur.

#### *Sampling Technique*

Non probability convenience sampling technique was considered appropriate for this study to collect data.

#### *Sampling Criteria*

##### *Inclusion Criteria*

##### *The staff nurses*

- Who are working in selected hospitals in Tumkur.
- Who are willing to participate in the study.
- Who are present during the data collection.

##### *Exclusion Criteria*

##### *The staff nurses*

- who are not able to attend the Structured teaching programme.
- who are available in pretest and unable to attend

post test.

- Who are having no interest in the particular subject.

#### *Tools for Data Collection*

In the present study the tool consist of 2 parts

Part I: Socio demographic variables of staff nurses.

Part II: Structured knowledge questionnaire regarding Sheehan's syndrome.

#### *Method of Data Collection*

Prior to data collection permission was obtained from the concerned authorities. The data was collected from Shridevi hospitals and district hospital, at Tumkur. Pre test and STP was conducted on the same day. After an interval of seven days a post test was conducted for the sample using same structured questionnaire schedule for evaluating the effectiveness of STP.

#### *Data Analysis and Interpretation*

The data was collected from staff nurses was tabulated, analyzed and interpreted by using descriptive and inferential statistics. Analysis was done based on the objectives and hypothesis of the study.

The demographic characteristics of the respondents are shown in Table 1

Table 2 presents the comparison of pre test and post test knowledge

Table 3 reveals the association of demographic variables

Table 4 shows the enhancement of knowledge and significance on Sheehan's syndrome among staff nurses before and after STP.

#### *The First Objective of the Study was to Assess the Existing Knowledge of Staff Nurses on Sheehan's Syndrome*

In present study out of 50 staff nurses 28 (56%) had inadequate level of knowledge and 22 (44%) had moderate knowledge and none of the subjects had adequate knowledge in pre-test. The mean value in pre-test is 19.4, standard deviation is 3 and the mean score percentage was 42.04 %

#### *The Second Objective of the Study is to Assess the Post Test Knowledge Score on Sheehan's Syndrome among Staff Nurses.*

Out of 50 subjects 50(100%) had adequate level of knowledge and none of the staff nurses got inadequate or moderate knowledge after STP on knowledge of Sheehan's syndrome. The mean value in post test is 36.2 and standard deviation is 1.61. The mean score percentage was computed and it was observed as 90.74 %.

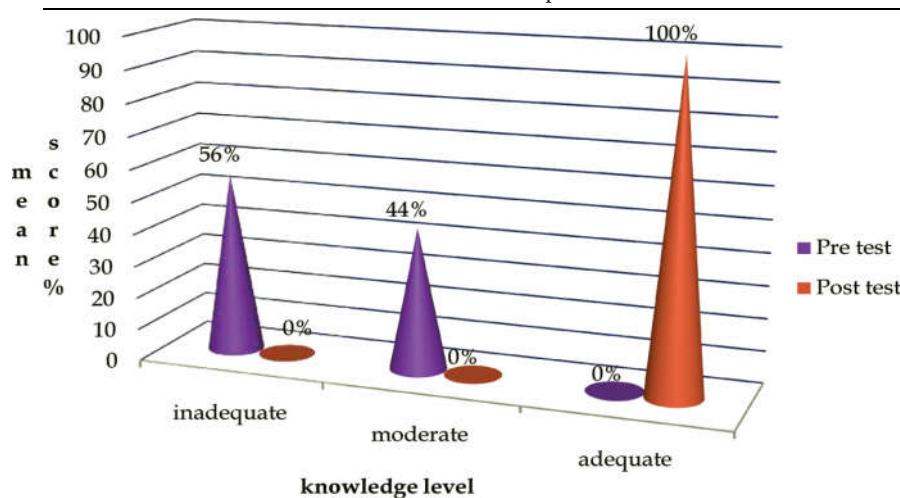
*The Third Objective of the Study is to Find the Association between the Post Test Knowledge Score and Selected Demographic Variables*

An association of selected baseline variables in relation to their knowledge was studied using chi square test. The analysis revealed that there is a significant association established between age, gender, marital status, type of family, education, year of experience and post test knowledge level and remaining variables religion, designation, present working ward, health information were found to be non significant in post test, hence that stated research hypothesis "there is a significant association between the post test knowledge score of staff nurses on Sheehan's syndrome.

**Table 1:** Analysis of demographic characteristics of the respondents

N=50

Sl. No	Variables	Categories	Frequency (N)	Percentage (%)
1	Age in years	20-30	15	30
		31-40	14	28
		Above 40	21	42
2	Religion	Hindu	32	64
		Muslim	2	4
		Christian	16	32
		Others	0	0
3	Gender	Male	20	40
		Female	30	60
4	Marital status	Married	32	64
		Single	18	36
5	Type of family	Joint family	17	34
		nuclear family	33	66
6	Education	ANM nursing	2	4
		Diploma nursing	38	76
		B.sc nursing	10	20
7	Designation	Head nurse	22	44
		Senior nurses	16	32
		Junior nurses	12	24
		1 - 5 yrs	12	24
8	Year of Experience	5 - 10 yrs	13	26
		Above 11 yrs	25	50
9	Present working ward	Labour ward	17	34
		Post natal ward	15	30
		Antenatal ward	10	20
		Medical ward	8	16
10	Health information media	Journals	10	20
		T.V	8	16
		Workshops	15	30
		health professionals	17	34



**Fig. 1:** Shows that staff nurse's level of knowledge before and after STP

**Table 2:** Comparison of pre-test and post test knowledge level of staff nurses

N=50

S. No	Level of knowledge	Knowledge score	Pre test		Post test	
			Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
1	Inadequate	Less than 50	28	56%	-	-
2	Moderate	51-75	22	44%	-	-
3	Adequate	76-100	-	-	50	100%

**Table 3:** Association between the post test knowledge score on Sheehan's syndrome and selected Demographic variables of Staff nurses

N=50

S. No.	Demographic variables	Categories	Knowledge on Sheehan's syndrome among staff nurses						Chi-square value
			Staff nurses		≤ Median		> Median		
			No	%	No	%	No	%	
1	Age in years	20-30	15	30	-	-	15	30	8.61, df-2 , S
		31-40	14	28	4	8	10	20	
		Above 40	21	42	9	18	12	24	
2	Religion	Hindu	32	64	7	14	25	50	2.05, df- 3 , NS
		Muslim	2	4	-	-	2	4	
		Christian	16	32	6	12	10	20	
		Others	-	-	-	-	-	-	
3	Gender	Male	20	40	-	-	20	40	11.6 df-1 , S
		Female	30	60	13	26	17	34	
4	Marital status	Married	32	64	12	24	20	40	8.26, df-1 , S
		Single	18	36	1	2	17	68	
5	Type of family	Joint family	17	34	2	4	15	30	6.56, df-1 , S
		nuclear family	33	66	11	22	22	44	
6	Education	ANM nursing	2	4	-	-	11	22	6.52, df-2 , S
		Diploma nursing	38	76	3	6	11	22	
		B.sc nursing	10	20	10	20	15	30	
7	Designation	Head nurse	22	44	5	10	17	34	0.43, df- 2 , NS
		Senior nurses	16	32	4	8	12	24	
		Junior nurses	12	24	4	8	8	16	
8	Year of Experience	1 – 5 yrs	12	24	-	-	12	24	9.3, df- 2, S
		5 – 10 yrs	13	26	2	4	11	22	
		Above 11 yrs	25	50	11	22	14	28	
9	Present working ward	Labour ward	17	34	5	10	12	24	0.92, df- 3 , NS
		Post natal ward	15	30	4	8	11	22	
		Antenatal ward	10	20	3	6	7	14	
		Medical ward	8	16	1	2	7	14	
10	Health information media	Journals	10	20	5	35.7	9	64.2	3.21, df- 3 , NS
		T.V	8	16	5	100	-	-	
		Workshops	15	30	13	46.4	15	53.5	
		Health professionals	17	34	-	-	2	100	

**Table 4:** Enhancement of knowledge and significance on Sheehan's syndrome among staff nurses before and after STP

S. No	Variable	Maximum score	Mean difference	SD	Mean %	t- value	DF	p-value
1	knowledge	40	16.6	3.24	42	36.5	49	P< 0.05

### Recommendations

Based on the findings of the study following recommendations are made:

- The study can be replicated on a larger sample, there by finding can be generalized for a larger population.
- A similar study can be undertaken with control group for effective comparison.
- A self-instructional module can be prepared to

enhance the knowledge of staff nurse on prevention of PPH.

- A Similar study can be imposed based on the needs of the subjects.

### Conclusion

Extreme haemorrhage during birth is often

preventable by modern medical care. Otherwise, Sheehan's syndrome is not predictable or preventable. The study was conducted to find out the effectiveness of structured teaching programme on knowledge regarding Sheehan's syndrome among staff nurses in selected hospitals at Tumkur. It is concluded that structured teaching programme is very effective among staff nurses in improving knowledge regarding Sheehan's syndrome.

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## Burns and Control of Infections–Nurses Responsibility: A Systemic Review

Vasantha Kalyani

### Abstract

In today's life, despite the recent advancements, notable risks yet threaten human beings, like the risk of burns which accounts for a high mortality in developed countries and leaves several people disabled. Burn is an event that injures a huge number of victims each year and imposes irreplaceable physical, psychological, mental, economic, and social consequences, and even death. Burn patients need years of rehabilitation, surgery, and mental and psychological support. In recent years, numerous efforts have been made to prevent burns, such as conducting epidemiological studies, by which necessary interventions are purposefully administered in the treatment of burns. Burns are immediately or potentially life-threatening injuries. Patients with burn injuries are characterized by presence of, or being at high risk of developing life-threatening problems due to the rapidly changing physiologic status, number of supportive devices and the multiple potential complications. Infection is one of the main complications among burned patients. The major part of nurses' role during burn care is detecting and preventing infection.

**Keywords:** Burns Patient; Nursing Care; Infection Control; Nosocomial Infections; Nurses Education.

A burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns.

Globally, burns are a serious public health problem. An estimated 265 000 deaths occur each year from fires alone, with more deaths from scalds, electrical burns, and other forms of burns, for which global data are not available.

Over 96% of fatal fire-related burns occur in low- and middle-income countries. In addition to those who die, millions more are left with lifelong disabilities and disfigurements, often with resulting stigma and rejection.

The suffering caused by burns is even more tragic as burns are so eminently preventable. High-income

countries have made considerable progress in lowering rates of burn deaths, through combination of proven prevention strategies and through improvements in the care of burn victims. Most of these advances in prevention and care have been incompletely applied in low- and middle-income countries. Increased efforts to do so would likely lead to significant reductions in rates of burn-related death and disability.

Burn injuries are among the most devastating of trauma/all injuries and a major public health concern around the world (Qader & Muhamad, 2010). The worldwide incidence of burn-related injuries in 2004 was estimated to be 1.1 per 100,000 populations, with the highest rate in Southeast Asia and the lowest in the Americas. The incidence of burns in low and moderate income countries (LMIC) is 1.3 per 100,000 population compared with an incidence of 0.14 per 100,000 population in high income countries (WHO, 2008). Additionally Peck (2012) indicated that approximately 90% of burn injuries occur in low middle income countries. Burn patients are at high risk of developing nosocomial infection because of their destroyed skin barrier and suppressed immune system, compound by prolonged hospitalization and invasive therapeutic and diagnostic procedures. Nosocomial infections are one of the most common complications affecting hospitalized patients and

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contribute to excess morbidity and mortality (Azimi, Motevallian, Namvar, Asghari & Lari, 2011). Nosocomial microorganisms can originate from the patients themselves or from hospital environment, may also be acquired by health personnel working in the facility (Berman and Snyder 2012),

The main signs of wound infection are dark brown, black, or violaceous discoloration of wound which can be focal, multifocal, or generalized, as well as conversion of partial-thickness injury to full-thickness necrosis and hemorrhagic discoloration of subeschar tissue. Edema and/or violaceous discoloration of unburned skin at wound margins (most commonly seen with *Pseudomonas* infections) and unexpectedly rapid slough of eschar, most commonly due to fungal infection, are other well-known signs. There are three accepted forms of burn wound infections: (1) Cellulitis; (2) Invasive wound infections within unexcised eschar (necrotising infection-fasciitis); and (3) Burn wound impetigo.

The mode of infection transmission may be by contact, droplet or airborne spread. Modern burn centers have a contained perimeter that is designed to minimize the unnecessary traffic of health care workers and visitors. Modern infection control practice requires strict compliance with a number of environment control measures that include hand washing and the use of personal protective equipment. All personnel must be gowned (either disposable or reusable gowns) during the contact with the patient. All equipment in the isolation room must be regularly cleaned.

With universal employment of early excision and grafting, a burn wound transforms to an open burn-related surgical wound. This means that open burn-related surgical wound infection (SWIs) get more clinical attention than bacterial colonisation of an unexcised wound. New refinements of the standardized definitions for infection and sepsis in burn patients have been proposed by many authors. They assert that suspicious systemic infection (sepsis) should be considered as a clinical syndrome defined by the presence of signs and symptoms of systemic infection even with negative blood microbial cultures. It was recommended that systemic infection should be identified according to positive blood microbial culture or clinical response to antimicrobials.

Burn wounds often involve contiguous areas of open soft tissues wounds that are the result of direct tissue loss, degloving injuries, or surgical debridement. Wounds of this nature are left open for serial debridement and until definitive coverage or closure can be performed. In many cases, negative

pressure wound dressings such as the vacuum-assisted closure dressings that use open-pore foam are ideal.

Techniques used in wound cleansing include high-pressure irrigation, swabbing, low-pressure irrigation, showering, bathing and washing the affected area under a running liquid or total immersion in a whirlpool bath. A variety cleansing liquid are used including water, saline and antiseptic solutions. Most of these antiseptic solutions are toxic to fibroblasts and keratinocytes are some patients may be sensitive to some wound cleansers. Catheter tips are susceptible to colonization through hematogenous seeding of organisms from the colonized burn wound.

The control and prevention of infectious diseases among burned patients present a greater and more specialized problem, because the skin barriers are disrupted, the environment in burn units can become contaminated with resistant organisms, and these organisms can be transmitted easily from one patient to another. Thus, a well conducted surveillance, infection control and prevention program can help reduce the incidence. It is known that effective surveillance and infection control may reduce infection, mortality rates, length of hospitalization and associated costs

Optimal care of the burn patient requires a distinctive multidisciplinary approach. Positive patient outcomes are dependent on the composition of the burn care team and close collaboration among its members. At the center of this team is the burn nurse, the coordinator of all patient care activities. The complexity and multisystem involvement of the burn patient demand that the burn nurse possess a broad-based knowledge of multisystem organ failure, critical care techniques, diagnostic studies and rehabilitative and psychosocial skills. The nurse oversees the total care of the patient, coordinating activities with other disciplines such as occupational and physical therapy, social services, nutritional services and pharmacy. At the same time, the burn nurse is also a specialist in wound care. As a burn wound heals, either spontaneously or through excision and grafting, the nurse is responsible for wound care and for noting subtle changes that require immediate attention, prevention of infection and pain management.

Burn care nurse must not only continue to learn about the new advances required in burn care, but should also participate actively in learning skills for developing their inner knowledge, intuition, and wisdom as well as the discipline to integrate such skills into daily practice (Ali, 1995 & Aron, 1996).



Smeltzer and Bare (2010) mentioned that although sophisticated technology is an integral part of medical care, there is an emphasis on bedside clinical care which remains a key component of the burn care. The major part of nurses' role during burn care is detecting and preventing infection. The nurse is responsible for providing a clean and safe environment for closely scrutinizing the burn wound to detect early signs of infection. In this regards, infection control in burn unit may be stressful, challenging and rewarding experience. It may be stressful because of many skills, procedures and responsibility demanded by the burn care nurse. It may be a challenging because nurses play an essential role in the bio-psychosocial assessment and management of their patients, caring for such patient may also be rewarding because it gives nurses an opportunity to demonstrate their understanding of holistic nursing care (Harkens & Dinchher, 1998; Greenfield, 2010). However, there is evidence that management and care of patient with burn injury requires a unique body of knowledge and skills from a range of multidisciplinary team members especially the nurse, and encompasses a wide variety of roles and responsibilities, mainly prevention of infection.

#### *Aim*

To review various studies to identify the Nurse's responsibility and nursing care provided to the burns patient in view of prevention of infection or control of nosocomial infections.

#### **Material and Methods**

The systemic review was conducted using the wide level of literature of the subject of study which are

published in research papers from different sources such as original articles, e journals, and electronic data base as pubmed, Nursing research studies links, published and un-published dissertations and the google search using the different title topics. The search of literature was archived by searching the references using the keywords related to topics as burns, Nurses role, nursing care of burns patient prevention of infection of burns. Only the articles written in English is used for review.

#### *Inclusion Criteria*

- Studies conducted on burns patient care
- Studies conducted on infection control measures for burns patient .
- Studies conducted on nurses knowledge regarding infection control measures for burns patients
- The studies were available in English.
- Exclusion criteria
- Studies on burns and plastic/reconstructive surgeries.
- Studies on infection control measures of hospital

#### **Results**

The various studies which has been used to review the burns patient on infection prevention and methods to control the infections. The studies reviewed categorized under study on population as burns patient, infection control, nurses responsibility, nursing education activities towards the care of burn's patient . The results reviewed are as below.

Category	Remarks
Nosocomial infections of burns patient	High risk group ,severely affected 14-18%
Reason or mortality of hospitalized burns patient	Most common cause is Septicemia
Infection control practices for nurses	Aspetic technique while conducting nursing proceduresand other procedures, detecting bacterial growth in perdic interval, disinfecting the environment,isolation of patient ,following standard precautions.
Nurses knowledge and practice	Positive correlation

#### **Discussion**

Infection can lead to deterioration of the wound healing process and severe systemic complications and is the leading cause of morbidity and mortality

in patients with burns. In recent years, nosocomial infections have reached epidemic proportions and are one of the main concerns in the health care arena. A continuously increasing prevalence, 10% of patients on general hospital units will acquire a nosocomial infection during their hospital stay. This

warning alarm raises the necessity for qualifying and updating knowledge of health care providers who carry out the clinical responsibilities while providing an optimal quality of level of patient care. Regarding the nurses' knowledge about hand washing, many studies illustrated a significant difference between nurses' knowledge and their practice. Hand hygiene is the first initial step towards successful infection control in any healthcare setup. Although the results found that most of nurses 90% had unsatisfactory level of practice regarding hand wash more than half of them had satisfactory knowledge level more than 75%. Many research studies stressed that meticulous use of medical and surgical asepsis is necessary to prevent transport of potentially infectious microorganisms. For example, many nosocomial infections can be prevented by using proper hand hygiene techniques, environmental controls, and sterile technique. The problem of infection can be avoided using strict aseptic technique while providing patient care. The present study findings indicated that study subjects' practice scores for starting and keeping IV infusion and following principles of asepsis were low.

The quality of nursing care depends to a large extent on the knowledge, skills, attitude and activities of the practicing nursing staff. The results of this study clarified that nurses' practice in relation to prevention of infection while providing care to burned patient was low.

### Conclusion

The nurse plays a crucial role in preventing infection among the burned patients. Therefore the finding of this study and nurses follow the nursing

guide line are going to help in prevent infection and consequently enhance the quality of nursing care. Regarding research, the study findings also may provide basis for other researchers who would want to carry out further research on infection prevention and control principles. The burn ward nurses be taught continuous educational courses on the prevention of septicemia and psychiatric nursing care given to the burn patients. The committees of periodic infection control assessment in the hospital are suggested to inspect the bacteria that are resistant to routine antibiotics.

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# Alternative Therapy (Relaxation Technique) Used to Reduce Respiratory Problem

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## Abstract

Relaxation technique can have a moderate impact on both physiological well-being and respiratory function. A quantities research design used to conduct 30 patients with respiratory problem in MIMSR Medical College YCR Hospital latur, Were assessed for their knowledge regarding alternative therapy of relaxation technique used reduce the respiratory rate by demonstration of relaxation technique. Study was performed to find the association between variables under observation using questionnaires. Participated patients are (20 males and 10 females) in this study. Patient had the mean percentage  $6.85 \pm 1.43$  (SD) which is 72.58 % of the total mean score which is good knowledge depicting the difference of 26.77 % increase in mean percentage of score, for the effectiveness of demonstration chi-square test used for significance, these demographic variable are highly significance. Concluding that higher quality research is required, our results sustain the importance of relaxation techniques as a tool to manage respiratory problem.

**Keywords:** Relaxation Technique; Respiratory Function; Pulmonary Function.

## Introduction

All living organism needs air for the survival. It's one of the basic physiological needs of the human beings. The physiological need of the human body is maintained by the respiratory system. Our body needs a constant supply of oxygen to support the metabolic need.

An *alternative therapy* is generally used instead of treatment. Relaxation techniques include a number of practices such as *progressive relaxation*, *guided imagery*, *biofeedback*, self-hypnosis, and deep breathing exercises. The goal is similar in all: to produce the body's natural relaxation response, characterized by slower breathing, lower blood pressure, and a feeling of increased well-being.

A study was conducted regarding the therapeutic effect of Alternative therapy upon asthma in the year 1998. 17 Adults asthmatic patients were selected

between the age group of 19-52 years. Groups random by assigned into two groups experimental group was taught by alternative therapy and relaxation techniques for three times per week, for total of 16 weeks. Pulmonary function was evaluated by spirometry and peak flow meter. It was reported that the alternative therapy improves exercise tolerance, decreased use of beta-adrenergic inhalers enhanced relaxation and significant variation in pulmonary function.

## Statement of Problem

"A Study to assess the effectiveness of demonstration regarding alternative therapy of Relaxation technique among respiratory problem patient admitted at YCR Hospital, Latur".

## Objectives of the Study

1. To assess the knowledge of Alternative therapy among respiratory problem patient at YCR hospital through pre-test.
2. To evaluate the effectiveness of Demonstration on alternative therapy through post test.
3. To find out the association between pre-test and post-test knowledge score of alternative therapy with their demographic variables.

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*Hypothesis*

**H<sub>0</sub>:** There will be significant difference between pre-test and post-test knowledge scores of patient with respiratory problem after the demonstration programme.

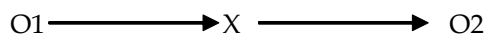
**H<sub>1</sub>:** There will be significant association between pre-test knowledge scores with selected demographic variables of patient with alternative therapies

**Material and Methods***Research Approach*

Quantitative descriptive survey approach

*Research Design & Methods*

A Pre -Experimental Design (One Group Pre & Post Test design)

*Research Variables*

*Study variable:* Patients with respiratory problem admitted in Y.C.R hospital Latur

*Demographic variables:* It consists of demographic profile of patient such as age, sex, education habit and hobbies.

*Setting:* The study was conducted in MIMSR

Medical College YCR Hospital Latur.

*Population:* Respiratory problem patient admitted in male medicine and female medicine ward.

*Sample Size:* The sample comprises of 30 patients

*Sampling Technique:* Simple random sampling technique was used to select subjects from the target population.

*Criteria for Sample Selection**Inclusion Criteria*

- Respiratory problem patient YCR Hospital, Latur.
- Patient who are present at the time of data collections.

*Exclusion Criteria*

- Patients who were not willing to participate
- Patients who were not present at the time of data collection

*Tool for Data Collection*

*Part I:* Demographic variables

*Part II:* Questions to assess the knowledge regarding relaxation technique It consists of 30 close ended questions regarding the knowledge on relaxation technique.

**Section I:** Distribution of demographic data of the respiratory patients

N-30

S. No	Variables	Frequency	Percentage
1	<b>Age in Year</b>		
	20-30 Years	5	16.66
	31-40 Years	12	40
	41-50 years	9	30
	51-60Years	4	13.33
2	<b>Sex</b>		
	Male	20	66.66
	Female	10	33.33
3	<b>Education</b>		
	Illiterate	8	26.66
	Primary	8	26.66
	Secondary	7	23.66
	Graduate above	7	23.66
5	<b>Habit</b>		
	Smoking	9	30
	Drinking	8	26.66
	Tobacco chewing	5	16.66
	Drug abuse	8	26.66
6	<b>Hobbies</b>		
	Watching TV	9	30
	Reading news paper	8	26.66
	Walking	9	30
	Other	4	13.33

*Plan for Data Analysis**Inferential Statistics*

The descriptive and inferential statistics was used

to compute the data. The statistics showed the following results:

**Section II:** Comparison of pre-test and post-test level of knowledge on alternative therapies among respiratory problem patient

SR. No	Level of knowledge	Pre test scores		Post test scores	
		Number	Percentage	Number	Percentage
1	Adequate (>76%)	0	0.00%	8	23.66%
2	Moderate (51-75%)	3	10%	18	60%
3	Inadequate (<50%)	27	90.00%	4	13.33%

**Section III:** Comparison of the Mean and Standard Deviation of Respiratory Problem Patient Knowledge Score in Pre Test and Post Test

Area	Max score	Pre test scores			Post test score			Difference in mean (%)
		Mean	SD	Mean%	Mean	SD	Mean %	
Knowledge score regarding relaxation technique after demonstration	18	1.74	2.47	24.07	11.23	3.56	66.11	42.02

**Section IV:***Testing the Hypotheses*

To assess the effectiveness of demonstration on

knowledge regarding alternative therapy among respiratory problem patient, a hypothesis testing was done using 't' test and chi-square test.

(i): Comparison between difference of pre-test and post- test knowledge scores regarding alternative therapies among respiratory problem patient.

Sr. No	Area	't' value	Level of Significance
1	Pretest-Post test Score , with mean value testing of 't' test	2.05	HS

(Degree of freedom (df) =29 table value=2.05 highly significant (HS))

The above table shows that there is highly significant difference between the area wise score of pretest and posttest by using 't' test comparing of pretest mean and posttest mean. The result shows

degree of freedom (n-1) =29 at the level of 0.05 the table value shows 2.05 it stated null hypothesis is rejected and statistical hypothesis is accepted.

(ii): Association between posttest score on alternative therapies among respiratory problem patient with demographic variables

Sr. No	Demographic Variables	DF	Table value	$\chi^2$ value	Level of significant
1	Age	4	7.82	8.66	NS
2	Sex	2	3.8	46.94	HS
3	Education	2	3.8	12.55	HS
4	Habit	2	3.8	0.35	HS
5.	Hobbies	2	3.8	035	HS

It shows that demonstration of relaxation technique was effective for all respiratory problem patients irrespective of their difference in demographic variable except age.

*Recommendations*

Based on the findings of the present study the following recommendations are made:

1. The study can be replicated using a large sample to validate the findings and make generalizations.

2. Comparative studies can be conducted between the knowledge and practice of relaxation technique among respiratory patient.
3. An experimental study can be conducted using a structured teaching programme on alternative method of other technique.
4. Similar study can be conducted on relaxation of community settings.
5. A similar study can be done by using other teaching strategies i.e. video teaching, comic books, audio cassette etc.

**Conclusion**

The present study assessed the knowledge respiratory problem patient regarding relaxation technique and found that the respiratory problem patient had inadequate knowledge.

After the demonstration of relaxation technique there was a significant improvement on knowledge respiratory regarding alternative therapy of relaxation technique.

The study concluded that the demonstration was effective in improved knowledge of respiratory patient regarding relaxation technique.

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# A Study to Associate the Psychological Well-Being and Quality of Life among Patients with Bronchial Asthma

**M. Malarvizhi\*, Vijayalakshmi Anbu\*, R. Revathi\*\*, M. Bhavani\*\*\***

## Abstract

The World Health Organization (WHO) defines chronic illness as the existence of a variety of physical health problems, which require health management for at least 1 year or even more than 10 years, such as hypertension, hyperlipidemia, and diabetes and asthma. Therefore, patients with chronic illness will encounter permanent changes in health status and are more likely to be under the menace of potential death. This menace is closely related to psychological distress, such as depression. Approximately 6–34% of the patients with chronic illness developed the symptoms of depression. Chronic illness is not only life-threatening to patients, but it is also a great burden to family and society. Despite the regular treatment with medication, a significant proportion of patients does not respond to this treatment. Hence this review was aimed to associate the psychological well-being with the quality of life especially in patients suffering from severe asthma. The study was conducted among 30 patients at Chest OPD, Sri Ramachandra Hospital. The findings revealed that 40% had severe level of psychological distress; 53% had moderate level of psychological distress and 7% of them had well form of psychological well-being. Hence further research with large sample size is needed to findout the link between depression and sense of well-being.

**Keywords:** Asthma; Health Status; Quality of Life.

## Introduction

Asthma is an important contributor to the burden of ill health and impaired quality of life in the community. A strategic approach is needed to develop and implement strategies to address the impact of asthma on quality of life. Asthma is a chronic disease that is prevalent in many developed countries and there is evidence that its prevalence increased in several countries during the latter part of the 20th century, particularly among children. The impact of asthma has traditionally been measured in terms of the prevalence of the disease, mortality rates, and levels of healthcare utilisation, particularly hospital admissions. However, the impact of asthma extends beyond these outcomes to include effects on lifestyle, well-being, and perceived health status.

Kolbe *et al* reported that up to 56% of patients with severe asthma have severe anxiety and 19% have depression. The prevalence of depression, anxiety and emotional disorders in hospital clinic samples is higher than in controls. By contrast, in a population sample. It is likely that different sampling frames account for the discrepancies noted here. At the more severe end of the asthma spectrum, it appears that emotional disorders are common.

The impact of psychological distress associated with asthma is still unclear. Hospital admissions and re-admissions for asthma seem to be higher in people with anxiety or pessimism. However, Afari *et al* did not find anxiety and depression to be related to asthma severity in adults. On a population basis, it is unclear whether psychosocial distress exerts an impact on physical health in people with asthma.

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## Statement of the Problem

A study to associate the psychological well-being with quality of life among patients with bronchial asthma attending Outpatient department of selected hospitals, Chennai.

*Objectives*

1. To associate the psychological wellbeing with quality of life among patients with asthma with their selected demographic variables.

**Methodology**

30 patients with severe type of asthma were selected as the Sample. The settings of the study was Chest OPD of Sri Ramachandra Hospital. After obtaining the permission from HOD and ethical committee, informed consent was obtained from the samples and they were asked to fill in the items given to them in the Patient Health Questionnaire (PHQ).

The tool consisted of 9 items. The content of the 9 items are simple and comprehensible, where scales from 0 (never) to 3 (almost 10 every day) are used for scoring, and the total score is 27. If the total score of a patient is  $\geq 10$ , he/she will be advised to be referred to a clinic for major depressive disorder. The lower the total score is, the better the physical and psychological health is. The higher the total score is, the more depressive the patients are. The internal reliability of the PHQ-9 was excellent, with a Cronbach's  $\alpha$  of 0.89. The descriptive statistics was used for the data analysis.

Mini AQLQ- This instrument has 15 questions in the same domains as the original AQLQ (symptoms, activities, emotions and environment)

*Data Analysis*

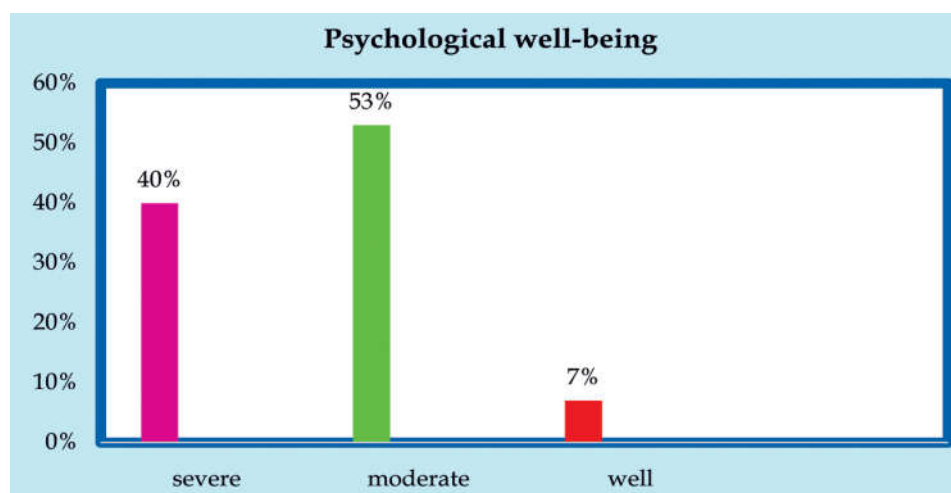
**Table 1:** Frequency and percentage distribution of the patients with Bronchial asthma (N=30)

Demographic Variables	Frequency	%
1.Age(in years)		
a. 20-30	3	10
b.31-40	12	40
c.41-50	15	50
d.51-60	-	-
2.Gender		
a. Male	23	57
b. Female	7	23
3. Educational status		
a. No formal education	12	40
b. Primary school	10	33
c. High school	8	27
d. Higher secondary	-	-
e. Degree	-	-
4. Residence		
a. Rural	12	40
b. Urban	18	60
5. Income ( inRs.) per month		
a.≤ 5000	5	17
b.5001- 10,000	15	50
c.10,001-15,0000	6	20
d. 15,001-20,000	3	10
e.> 20,001	1	3
6. Smoking habit		
a. Non smoker	18	60
b. Cigarette smoker	07	23
c. Bidi smoker	5	17
7.Family history of asthma		
a. First degree relative	28	93
b. No First degree relative	2	7
8.Presence of co-morbid medical illness		
a. Diabetes mellitus	16	53
b. Hypertension	8	27
c. Cardiac disease	6	20

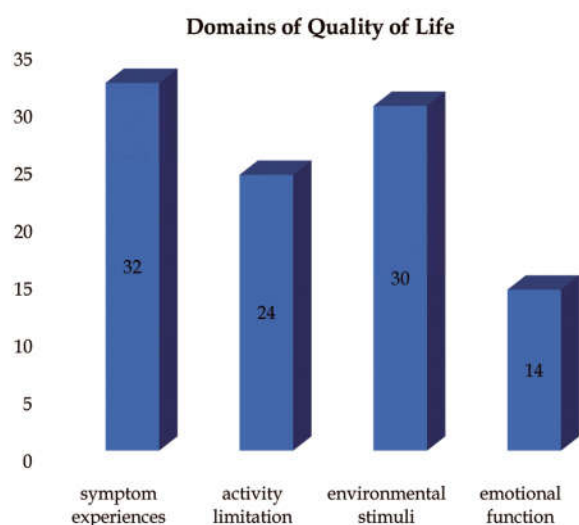


**Table 2:** Overall Mean and standard deviation of the patients with Bronchial asthma (N=30)

Mean	Standard deviation
34	6.2



**Fig. 1:** Percentage distribution of psychological well-being of the patients with bronchial asthma (N=30)



**Fig. 2:** Percentage distribution of the different aspects of quality of life (QOL) of the patients with bronchial asthma (N=30)

## Conclusion

The study population demonstrated that 10% of them with mild mental disorder and 34% with moderate mental disorder 54% with severe form of mental disorder and only 2% of them are psychologically well. 32% of them had severe symptom experiences and 30% had influence on environmental stimuli and 24% had limitation in the activities. There was a significant association

between the psychological well-being and quality of life among patients with severe asthma. Hence the Nurses and other health care professional should be aware of the dangerous form of psychological illness among patients with chronic illness; which can be prevented by careful assessment and handling them in the sound environment. The study can be generalized with larger sample size.

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# ECMO: A Bridge between Life and Death

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Vineeth Joseph

## Abstract

The use of ventilators and cardiac support machines taken its prime role by the advent of technology. ECMO is one among those type of management used for cardiac and pulmonary dysfunction and mostly been used on children with congenital cardiac diseases. ECMO works by removing blood from person's body and artificially exchanging CO<sub>2</sub> and oxygen from red blood cells. It's been used in children and adults by the different approaches like veno venous, veno arterial method of blood removal. Later the blood will be oxygenated by removing carbon dioxide artificially and provides adequate pressure to the blood stream in the body for maintaining cellular oxygenation.

**Keywords:** Extra Corporal Membrane Oxygenation; ECMO; Artificial Oxygenation; Life Support.

Technology is getting advanced day by day. In the field of critical care there is a drastic change which happens around the globe. The use of ventilators and cardiac support machines taken its prime role. ECMO is one among those type of management used for cardiac and pulmonary dysfunction. This intervention has mostly been used on children but is seeing more use in adults with cardiac and respiratory failure.

ECMO works by removing blood from person's body and artificially exchanging CO<sub>2</sub> and oxygen from red blood cells. A brief description of the method is follows by giving light to its main function, machine, problems encountered and the role of care professionals.

## Extra Corporal Membrane Oxygenation or Extra Corporal Life Support (ECLS)

It is a temporary treatment that uses a pump to circulate blood through an artificial ling back into the blood stream which deliver adequate amount of gas exchange to sustain life. It is a system that provides heart-lung bypass support.

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## Purpose

- To provide enough oxygen to body while allowing time for lungs and heart to heal.

## Historical Background of ECMO

- 1918-Mclean & Howell isolated heparin.
- 1938-Introduced the Heparin to the clinical field widely.
- 1944-Kolff and Berk noted that blood become oxygenated as it pass through cellophane chambers of artificial kidney.
- 1953-Gibbon used artificial oxygenation & perfusion for open heart surgery.
- 1954-Lillehei developed cross circulation technique.
- 1955-Kirplin et al improved Gibbon's device and repaired ASD.
- 1960-Kolobow introduced the membrane lung into the
- 1965-Rashkind & coworkers used bubble oxygenator as support in neonate.
- 1969-Dorson & Colleagues reported use of membrane oxygenator for CPB.
- 1970-Baffes et al reported use of ECMO for infants with congenital heart defects.
- 1972-Long term ECMO as support for severe respiratory failure in adult with post traumatic respiratory failure by Hil.
- 1975-Bartlett et al were the first to successfully

use ECMO in neonates with severe respiratory failures because of me conium aspiration.

#### Clinical Conditions

- Severe Pneumonia and ARDS.
- Later treatment of cardiac and respiratory failures.
- In children with birth defect of heart.
- Hypoxemic respiratory failure with  $\text{Pa O}_2 / \text{F}_1 \text{ O}_2 < 100$  mm of Hg
- Hypercapnic respiratory failure with arterial  $\text{p}^{\text{H}} < 7.20$ .
- Refractory Cardiogenic shock.
- A bridge to either heart transplantation or placement of Ventricular assistive devices.

#### Contra Indications

1. Conditions incompatible with normal life of the persons recovers.
2. Age & size of patient.
3. Preexisting diseases affect future Quality of life. (CNS disorders, Cancer).
4. Advanced Cancer.
5. ARDS associated with bone marrow transplantation.
6. Pulmonary fibrosis.
7. Chronic lung disease.
8. Futility –patients who are too sick.

#### Types

There are mainly two types which are based on the blood input and output from body.

##### Veno Arterial (VA)

In this venous canula is placed on common femoral vein for extraction and an arterial canula is placed into femoral artery for infusion. Venous canula is at junction of inferior venacava /right atrium while arterial canula is at level of iliac artery. While during cardiac surgery it can be used for establishing cardiopulmonary bypass canulas (at right atrium ascending aorta). This method is mostly used for cardiac failure.

##### Veno Venus (VV)

Here the canulas are at common femoral vein and for infusion at jugular veins. This method is mostly used for respiratory failure clients.

##### Arterio Venous (A V)

This type is limited to low blood flow and specifically for  $\text{CO}_2$  removal.

#### How It Differs

##### Equipment

Consist of blood pump with raceway tubing, a venous reservoir, oxygenation and a counter assent heat exchanger responsible for exchanging both oxygen and  $\text{CO}_2$  and is the important part of ECMO. The oxygenators can be bubble, membrane & countercurrent mechanism. In membrane oxygenates it may be solid silicon, rubber, micro porous, hollow

S. No.	Veno Arterial	Veno Venous
1	Higher $\text{PaO}_2$ is achieved	Lower $\text{PaO}_2$ is achieved
2	Lower perfusion rate are needed	Higher perfusion rate are needed
3	Bypass pulmonary circulation	Maintain Pulmonary circulation
4	Decrease pulmonary artery pressure	Elevates mixed venous $\text{PO}_2$
5	Provide Cardiac Support	Does not Provide Cardiac Support
6	Arterial Cannulation	Venous Cannulations
7	Ligation of a major artery is needed	Avoided ligation is avoided and reduces distal complications

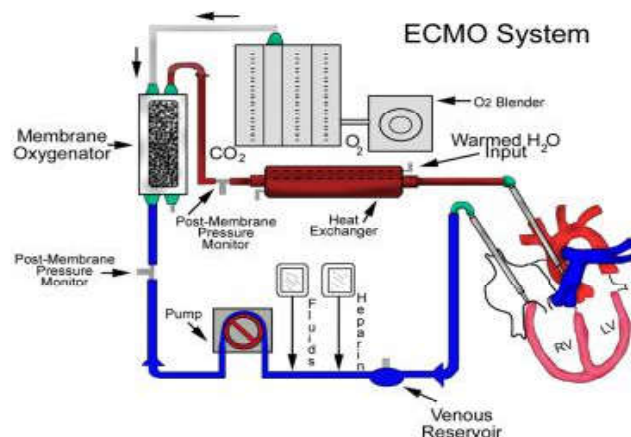


Fig. 1: Pictorial representation of ECMO system

fiber or solid hollow fiber mostly an external water bath generally a temperature  $<40^{\circ}\text{C}$  at  $37^{\circ}\text{C}$ . (Fig. 1.)

- Air bubble detector- to identify microscopic air bubble in the arterialized blood.
- Arterial Line Filters- Placed between heat exchanger & the arterial cannula and are used to trap air, thrombi and other emboli.
- Pressure Monitor – Placed before & after the oxygenator measure the pressure of the circulating blood.
- Pump-The pump should be able to provide full blood for patients.
- Sweep Gas-the sweep gas will be 100% oxygen or 5%  $\text{CO}_2$ .
- Venous Oxygen Saturation Monitor
- Temperature Monitor

#### Members Needed for Managing (ECMO Team)

- Intensivist – VV cannulation, transport, ECMO critical care management
- Respiratory Therapist – ECMO Maintenance.
- Perfusionist –ECMO initiation, transport & Backup.
- Cardiothoracic surgeon –VA cannulation.
- Nursing Staff –ECMO trained.

#### Process

The person will be anti coagulated and a

cannulation by seldinger technique. The circuit is primed with freshest blood/ with an isotonic electrolyte solution resembling normal extracellular fluid including 4-5mg/L Potassium under sterile condition. Before attaching the circuit to the patient the water bath is turned on to warm the fluid. Mostly crystalloid prime is used but some team uses human albumin before blood exposure. When blood is added to prime heparin is added as anticoagulant and calcium is added to replace the calcium bound by the citrate in packed blood. After cannulation they are connected to ECMO circuit. Venous reservoir is located 3-4 feet below heart level. Blood is actively pumped by roller pump through oxygenator where countercurrent flow of blood and gas result in gas exchange and blood warmed and returned to body. Increasing the flow rate of blood increases the oxygenation of the whole body, mean arterial pressure and hemodynamic stability. Blood flow is titrated until respiratory and hemodynamic status is stable. The weaning for respiratory failure client is based on improvement in radiographic appearance, pulmonary compliance and oxygenation. For cardiac patient it relates with the ventricular output.

#### Compare ECMO & Cardio Pulmonary Bypass

#### Problems While the Patient is on ECMO Machine

- Bleeding
- Blood clot formation (19%)
- Heparin induced thrombocytopenia
- Damage to cannulated vein

S. No.	ECMO	Cardio pulmonary bypass
1	Using Percutaneous Cannulation	Uses Trans thoracic cannulation
2	Local anesthesia	Needs general anesthesia.
3	No suction devices	Coronary suction device present
4	Less anticoagulation	Anticoagulants are used widely
5	No stagnation of Blood	Stagnation of Blood
6	Used for long term support	Short term support.
7	Patient is awake or moving	Control over patients movements
8	Allow intrinsic recovery	Supports during cardiac surgery lings.

- Subarachnoid clot
- Infections.
- Hypoxemia
- Ischemic encephalopathy
- Seizure
- Air embolism
- Pnuemothorax
- Oliguria
- Pump malfunction-Pump, oxygenator, heat exchanger are more
- Coma
- Brain death.

#### Nurse Role

- Position change  $\text{Q}_4\text{h}$ .
- Pulmonary Hygiene by suctioning  $\text{Q}_4\text{h}$  or whenever is to be monitored.
- Monitor chest radiograph daily.

- Monitor ventilator parameters mostly managed at low setting PEEP should be set to be at 5-15cm of H<sub>2</sub>O.
- Monitor neurological states periodically, if patient is sedated.
- Monitor heparin effect periodically.
- Monitor I/O accurately, CVP, MAP, CO, perfusion & intravascular volume, platelets, blood cells etc & other vital parameter continuously.
- Monitor for any bleeding, GI, menstrual, mucous membrane etc.
- Adhere to most advanced aseptic technique is needed.

### Prognosis

According to registry maintained by Extra Corporal Life Support Organization (ELSO) on Jan 2015 reported outcome nearly over 65,171 with 53% for neonates, 25% for pediatrics 23% for adults. ECLS should be discontinued promptly if there is no hope for healthy survival. While protecting on disease burden 63% of cases for respiratory support, 29% for cardiac support 8% for extra corporal Cardiopulmonary resuscitation. Patients with congenital diaphragmatic hernia & total anomalous pulmonary venous return (TAPVR) have a mortality rate of 50%. Among 50% of reported deaths are due to severe bleeding. To tackle that

- The patient hemoglobin should be kept around 12-15 g/dl.
- Maintaining platelet count more than 1 lakh/ mil.
- ACT should be checked and maintained at 180-240 sec.
- The high energy requirements should be met using nutritional management.

### Conclusion

ECMO become more reliable in the management for the patient with cardiac and pulmonary dysfunction. In the case of the cardiac or respiratory arrest where life is at the last stages the use of ECMO will be surely a helping the medical persons to save the life of the patients.

### Key Messages

ECMO is a temporary treatment that used deliver adequate amount of gas exchange to sustain life. It is

a system that provides heart-lung bypass support at the cliff where life is going to end.

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