

Knowledge Regarding Self Care Measures and Quality of Life among Patients with Chronic Renal Failure (CRF) undergoing Hemodialysis

Milka Kalekar, Manisha Samudre

Abstract: *Introduction:* Chronic Kidney Disease (CKD) affects 500 million people worldwide. In the US there are 1400 per million of estimated prevalence or established renal failure while in the UK it is recorded more than 600 per million in 2007. This study aims to assess the knowledge on self care measured by structured knowledge questionnaire, and quality of life measured by modified WHO QOL-BREF Scale and try to find out the co-relation between knowledge scores of self care measures and quality of life among chronic renal failure patients undergoing haemodialysis. *Methods:* A non experimental descriptive correlational design with a quantitative, correlational survey approach was used for the study. Non probability, purposive sampling was used to select 100 CRF patients undergoing haemodialysis. The conceptual framework was based on Orem's Self Care Model. The instruments used for data collection were a structured knowledge questionnaire and modified WHO QOL-BREF Scale. The structured knowledge questionnaire was divided into two sections, section I consists selected socio-demographic performa and section II consist Part A- Structured knowledge questionnaire, Part B- Modified WHO QOL-BREF Scale. The main study was conducted among 100 CRF patients undergoing haemodialysis in the month of April and analysis was done by using descriptive and inferential statistics. Karl Pearson's coefficient of correlation was used to compute the co-relation between knowledge & Quality Of Life. *Results:* Among the selected 100 patients, Karl Pearson's coefficient of correlation was found to be $r_{xy} = 0.71$ since $0 < r_{xy} < 1$, there is positive correlation between the knowledge of self-care measures and Quality Of Life. *Conclusion:* The study finding revealed that there is positive correlation between the knowledge and quality of life. As the level of knowledge increases, quality of life improves simultaneously.

Keywords: chronic kidney diseases • chronic renal failure, CRF, quality of life

1. Introduction

Chronic diseases present a significant challenge to 21st century global health policy.¹ The rapid rise of common risk factors such as diabetes, hypertension and obesity especially among the poor, will result in even greater and more profound burdens that developing nations are not equipped to handle. Attention to chronic diseases, chronic kidney disease in particular, has been lacking, largely due to the global health community's focus on infectious diseases and lack of awareness CKD is a worldwide health problem. According to World Health organization (WHO) Global Burden of Disease project, diseases of the kidney and urinary tract contribute to global burden with approximately 850,000 deaths every year and 115,010,107 disability adjusted life years. CKD is 12th leading cause of death and 17th cause of disability.² This global prevalence, however, may be grossly underestimated for a number of reasons. Patients with CKD are at high risk for cardiovascular disease and cerebrovascular disease. they are more likely to die of CVD than to develop end-stage renal failure.³ Moreover, patients with CVD often develop CKD during the course of their disease, which may go unrecognized.

Therefore, an unknown proportion of people whose death and disability attributed to CVD have kidney disease as well.⁴ Renal failure is the inability of the kidneys to adequately filter metabolic waste products from the blood. Kidney failure has many possible causes. Some lead to a rapid decline in kidney function (acute kidney failure); others lead to a gradual decline in kidney function (chronic kidney failure, also called chronic kidney disease). In addition to the kidneys being unable to filter metabolic waste products (such as creatinine and urea nitrogen) from the blood, the kidneys are less able to control the amount and

distribution of water in the body (fluid balance) and the levels of electrolytes (sodium, potassium, calcium, phosphate) in the blood.⁵ CKD affects 500 million people worldwide. The number of dialysis patients increase by 7% annually.⁶ The burden and magnitude of chronic kidney disease (CKD) is enormous especially in developing countries.⁷ Lifestyle related diseases are important causes of increased morbidity and mortality in the world today. The calculations by the USRDS (United States Renal Data System, 1999), indicate that 110 of every 100,000 people have ESRD.^{6,7} About 29 of every 100,000 are diagnosed with ESRD each year. The availability and quality of dialysis programmes largely depend on the prevailing economic conditions and social support.⁸ The management of ESRD in India is largely guided by economic considerations.^{5,8} Treatment of ESRD in India is a low priority for cost strapped public hospitals and in the absence of health insurance plans, less than 10% of all patients receive any kind of renal replacement therapy.⁹ To determine which residents at risk for CKD may be in the early stages of the disease, a simple, cost-effective diagnostic tool is needed. The urine albumin test, which detects micro albuminuria, is the most sensitive test for detecting early-stage CKD.¹⁰ Haemodialysis significantly and adversely affects the lives of patients, both physically and psychologically.¹¹ The global influence on family roles, work competence, fear of death, and dependency on treatment may negatively affect quality of life and exacerbate feelings associated with a loss of control.¹² The treatment involves circulating the patient's blood outside of the body through an extracorporeal circuit (ECC), or dialysis circuit.¹³

End-stage renal disease and its treatment profoundly affect health related quality of life not only for the patient but the family also.¹⁴ Although renal replacement therapy

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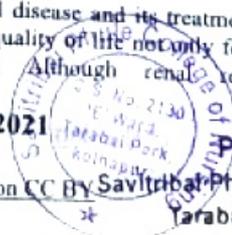
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ameliorates some of the symptoms of end-stage renal disease they may not be completely alleviated.¹⁵ Moreover, with treatment often comes significant life style changes, all of which impact on quality of life.¹⁶ Quality of life of patients with end renal disease is influenced by the disease itself and by the type of replacement therapy.¹⁷ Dialysis must be repeated frequently and continued life-long until death or transplant.¹⁸ The burden of pain and other physical and mental symptoms, as previously mentioned, can account for more than one-third of the impairment observed in mental HR QOL in dialysis patients.¹⁹ Depression in CKD is likely multifactorial, though is typically attributed to feelings of loss and dependence.²⁰ Although depression can occur at any time during the course of CKD, there are times of increased likelihood of a depressive episode, such as the time leading up to and the first year following initiation of dialysis, particularly if kidney transplantation is not an option due to advanced age and/or co morbidity.²¹ During this period, patients are required to make decisions regarding treatment modality and to make multiple and radical lifestyle changes, all of which impact their occupation, familial role, relationships, and leisure activities.²² They are expected to assimilate information that is foreign and frightening.²³

2. Methods

The research design used for the present study is Non experimental, descriptive co-relational research design. Settings are the more specific places where data collection occurs based on the nature of the research question and the type of information needed to address it. The setting planned for this particular study is selected at Joshi Dialysis center kadmwadi, sunrise hospital rajarampuri, diamond hospital, nagala park of Kolhapur city. In the present study the sample population consists of CRF patient undergoing Hemodialysis in the hospital with a sample size of 100 CRF patients. Based on the criteria mentioned, Non-probability purposive sampling was used to select the sample according to the purpose of the study. Purposive sampling is non-probability sampling, in which it entails the use of the most conveniently available people or objects as subjects in a study. The tool used for gathering relevant data was a structured questionnaire on knowledge of self care measures and WHO QOL-BREF scale among CRF patient undergoing Hemodialysis. The research investigator obtained ethical clearance and formal permission from the Medical Director, Joshi Dialysis center kadmwadi, sunrise hospital rajarampuri, diamond hospital, nagala park of Kolhapur city, to collect data for the main study. The main study was conducted at respective Hospitals of Kolhapur city; from 8th April 2019 to 22nd April 2019. The steps used for data collection were as follows:

- Step-1 The investigator obtains permission from respective authority to conduct the study.
- Step-2 Selection of subjects.
- Step-3 Self introduction of the investigator.
- Step-4 Administration of structured knowledge questionnaire.
- Step-5 Administration of WHOQOL-BREF Scale.
- Step-6 Data were tabulated and analyzed.

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The data obtained were analyzed in terms of the objectives of the study using descriptive and inferential statistics. The plan of the data analysis was as follows.

- Organize the data on master sheet.
- Compute frequency, percentage, mean, standard deviation and range to describe the data.
- Classify the knowledge scores as follows

- *Good ($\bar{x} + SD$).
- *Average ($\bar{x} - SD$ to $\bar{x} + SD$).
- *Poor ($< \bar{x} - SD$);

where \bar{x} is Mean and SD is Standard Deviation.

Conclusions were drawn from inferential statistics. Karl Pearson's coefficient of Correlation is used to find out the relationship between knowledge of self-care measures score and Quality of life score.

3. Results

Majority of the subjects were 46(76.66%) had average knowledge and 03(05%) had good knowledge and 11 (18.34%) had poor knowledge, where as in post test 44(73.34%) subjects had average knowledge, 16(26.66%) subjects had good knowledge and none of the subjects had poor knowledge.

Majority of subject were 70(70%) belongs to moderate QOL, then 17(17%) were having average QOL, 11(11%) were having average QOL, and 2(2%) having optimum quality of life.

In the study, the calculated correlation value ($r_{tab} = 0.198$), this indicates that there is moderately positive correlation between scores of self-care measures and quality of life scores among CRF Patient undergoing hemodialysis.

In the study there is a significant association between knowledge scores regarding self-care measures with their selected demographic variables like age, gender, educational status, occupational status, monthly family income, area of residence, type of family and marital status. therefore the calculated Chi-square values were higher than tabulated value. There was significant association between knowledge scores regarding self care measures with their Selected demographic variables among CRF patients undergoing hemodialysis. At 0.05 level of significance. There is significant association between quality of life scores regarding self care measures with their selected demographic variables among CRF patients undergoing hemodialysis. At 0.05 level of significant.

4. Discussion

Findings related to the socio-demographic variables among CRF patients undergoing hemodialysis:

Majority of the patients 58(58%) belonged to age group of 25-45 years, while 29(29%) and minimum of 4 (4%) subjects belonged to the age group of 0-25 years. Majority of subjects w80(80%) were male, and a minimum of

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20(20%) subjects were female. majority of 40(40%) were having secondary educational qualification, and minimum 6(6%) were illiterate, majority of subjects 40(40%) are having private job, and minimum 6(6%) were retired, majority of subjects 40(40%) monthly family income is Rs. 20000-Rs.40000, and minimum 11(11%) were having Rs. 50000 and above, majority of subjects 54(54%) belongs to rural area while 46(46%) were belongs to urban area, majority of subjects 76(76%) belongs to joint family, majority of subjects 69(69%) were married, while 17(17%) were unmarried and 14(14%) were widow.

A similar descriptive co-relational study was done in K.L.E's Dr. Prabhakar Kore Hospital and Medical Research centre, Belgaum-Karnataka. With descriptive approach, was used for the study. With selected 95 CRF patients undergoing hemodialysis, demographic data reveals that majority of patients 41(41.15) belonged to the age group of 52-72 years, and a minimum of 6(6.31%) patients belonged to age group of 73-93 years. Majority of patients 76(80%) were male, and minimum 19 (20%) patient were female. Majority of patient's occupation 25 (26.31%) was business, and a minimum of 8 (8.42%) patients were unemployed. 27 (28.42%) had primary education, and a minimum of 1(1.05%) patient had no formal education. Majority of the patients family income/month 50 (52.63%) was Rs.>8000, and a minimum of 8 (8.42%) patients was < 2000. Majority of patient 57 (60%) belonged to urban area, and a minimum of 38 (40%) patients belonged to rural area. 66 (69.47%) belonged to nuclear family, and a minimum of 5 (5.26%) patients belonged to extended family. Majority of the patients 83 (87.36%) were married, and a minimum of 2 (2.10%) patients were widows

Findings related to knowledge scores of self-care measures among CRF patients undergoing haemodialysis:

In the present study majority of the subjects 46(76.66%) had average knowledge and minimum 11 (18.34%) had poor knowledge, where as in post test 44(73.34%) subjects had average knowledge, 16(26.66) subjects had good knowledge and more of the subjects had poor knowledge.

A similar descriptive study was done at university di Catania, italia. Aim of the study was to evaluate the knowledge quality of life in maintenance dialysis and to research the influence of various factors related to treatment and ESRD on quality of life with 40 haemodialysis patients. Result of the study indicated that 11(11.57) had good knowledge, 62(65.26%) had average knowledge whereas 22 (23.15%) had poor knowledge.

Findings related to distribution of quality of life scores among CRF patients undergoing haemodialysis:

In the present study the majority of subjects 70(70%) were belongs to moderate QOL and minimum 2(2%) having optimum quality of life.

A similar descriptive study was done at univesdada federal de sao Paulo, Brazil QOL was measured by means of medical outcomes survey 36-item short form classification

of SES (socioeconomic status) was according to validated criteria of the Brazilian association of research institutes. Results showed that the mean scores for QOL-36 dimension were decreased in patients with low compared with high SES, with greater differences noted during follow-up. Multivariate analysis showed that SES continued to significantly affect all QOL dimension, explaining 5.5% to 14.1% of variation in scales.

Finding a co-relation between knowledge scores of self care measures and QOL Scores:

In the present study, the calculated correlation value ($t_{cal}=0.65$) is greater than tabulated value ($t_{tab}=0.198$). Hence H_1 is accepted. This indicates that there is moderately positive correlation between knowledge scores of self care measures and quality of life scores among CRF patient undergoing haemodialysis.

The relationship between knowledge of self care measures and quality of life were analyzed by Karl Pearson's coefficient of correlation method, and it was found that there was positive correlation between knowledge of self care measures and quality of life ($r_{xy} = 0.86$). It indicated that the quality of life of CRF patients undergoing haemodialysis was influenced by their level of knowledge.

5. Conclusion

The study emphasizes on the need for improving knowledge in patients and their care givers in which the health personnel can update their knowledge and skills to provide quality nursing care. The study finding revealed that there is positive correlation between the knowledge and quality of life. As the level of knowledge increases, quality of life improves simultaneously. Nurse administrator can encourage nursing personnel, patients and care givers to make active contribution towards the proper gain of knowledge. Nurse administrator can help prepare skilled nurses, health workers and employees in handling dialysis machines to provide quality of care. The findings of the study have implications for nursing practice, nursing education, nursing administration and research. Since present study showed that most of the patients had average knowledge which can be improved by nurses by providing teaching strategy, it helps in uplifting patients' knowledge and hence improvement in their quality of life.

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Effectiveness of Self Instructional Module on Knowledge of Artificial Cardiac Pacemaker among Staff Nurses

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Running Title: Artificial cardiac pacemaker and staff nurses

Abstract: *Objective:* Heart diseases are a huge burden and cause of concern for everybody from doctors to policy makers. Heart disease leading to heart failure is a further cause for worry. In fact, approximately 60% of all cardiac deaths occur due to arrhythmias leading to Sudden Cardiac Arrest (SCA). Annual incidence of SCA in India is 0.55 per 1,000 populations. Today, pacemakers are used to manage symptomatic bradycardia but rising cost of technology that saves life has been out of reach for many poor patients in India leading to confinement, morbidity and death. Each year 1-2 million individuals worldwide die due to a lack of access to pacemakers. In India, about 1, 00,000 patients suffer from bradycardia every year. However, only 15,000 patients resort to pacemakers in India annually. Hence, the study was aimed to determine the effectiveness of the self instructional module on knowledge of Artificial cardiac pacemaker among staff nurses. *Materials and methods:* Pre - experimental study was performed on 60 staff nurses working in medical, surgical, and intensive care units of selected hospital of Kolhapur. The effectiveness of a Self instructional module on artificial cardiac pacemaker was evaluated through a structured knowledge questionnaire using one group pre-test post-test design. Improvement in knowledge score was determined through the quantitative evaluative survey approach. *Results:* The calculated paired 't' value ($t_{cal} = 17.16$) was greater than tabulated value ($t_{tab} = 2.00$). This indicates that the gain in knowledge score was statistically significant at $P < 0.05$ level. Therefore the findings revealed that the SIM on Artificial cardiac pacemaker was effective in increasing the knowledge regarding artificial cardiac pacemaker among staff nurses. In present study there was significant association between pre test knowledge score & selected socio demographic variable such as Age in years [$\chi^2_{cal} = 127.9$, $\chi^2_{tab} = 7.82$], Educational qualification [$\chi^2_{cal} = 11.93$, $\chi^2_{tab} = 5.99$] & Total clinical experience in years [$\chi^2_{cal} = 7.84$, $\chi^2_{tab} = 7.82$]. This indicates that there is significant association between pre test knowledge scores and selected socio-demographic variables at 0.05 level of significance. *Conclusion:* The self instructional module was effective in improving knowledge of artificial cardiac pacemaker in staff nurses and can be used as an effective method to train nurses in Kolhapur.

Keywords: Effectiveness, Self-instructional module, artificial cardiac pacemaker, Staff nurses

1. Introduction

Cardiovascular diseases have been on the increase in India which has resulted in several deaths occurring every day across the country. A report by the WHO, to the end of year 2005, states that all the deaths occur in India would mainly be due to heart diseases¹. Heart disease leading to heart failure is a further cause for worry. In fact, approximately 60% of all cardiac deaths occur due to arrhythmias leading to Sudden Cardiac Arrest (SCA). Annual incidence of SCA in India is 0.55 per 1,000 populations².

A cardiac pacemaker is a device that is used to regulate the heart rate. If you have been found to have a heartbeat that is too slow, a pacemaker can be implanted in the body to take over the function³. Advances in pacemaker patients have resulted in tremendous changes in the care of patients with a wide range of cardiac diseases, including AV block, sinus node dysfunction and congestive heart failure⁴. Technology has helped the health lives of thousands of people around the world. All of these health findings are used to detect the diseases and help patients to cope with health problems.

Studies had shown that intervention can increase the knowledge of cardiac pacemaker among nurses^{5, 7, 8, 9}. The present study, first of its kind in Kolhapur, aimed to determine the effectiveness of self instructional module on knowledge of artificial cardiac pacemaker among staff nurses in Kolhapur.

2. Materials and Methods

A Pre - experimental study was performed during July 2021 on 60 staff nurses working in medical, surgical, and intensive care units of selected hospital, Kolhapur. Participants of both genders, present at the time of data collection and willing to participate in the study were included. Those who were not available at the time of data collection were excluded. The study was performed after the clearance of the institutional ethical committee and local authorities. The structured knowledge questionnaire (tool) on artificial cardiac pacemaker was designed after extensive literature reviews and expert discussion. Items in the tool were analyzed according to Gifford's assessment¹⁰. The self instructional module on artificial cardiac pacemaker was developed through expert consultation and literature review.

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Both, the tool and self instructional module were validated by 14 experts from medical surgical nursing, MD medicine and statistics. The reliability of the tool and self instructional module was determined using the Karl Pearson's coefficient of correlation formula. Pre-test and post-test data (intervention being self instructional module) were collected to determine the improvement in knowledge of Artificial cardiac pacemaker by using the tool. Pre- experimental knowledge evaluation was conducted by providing study participants the tool and arbitrarily grading the response as: Good knowledge (20 - 28), average knowledge (10 - 19) and poor knowledge (0 - 09) based on correct answers. The self instructional module was provided to the study participants at the end of the pre-experimental evaluation. Post-interventional knowledge score was evaluated after the 7th day of administration of the self instructional module. Responses were graded similar to the pre-experimental evaluation. The time allotted to respond for each set up was 30minutes.

A pilot study was conducted in a selected hospital of Kolhapur on 10 staff nurses. The tool was distributed to participants and the results were recorded for pre and post-intervention response.

The difference in pre-test and post- test score were compared using paired 't' test. A chi - square test was used to find an association between pretest scores and socio-demographic variables. $P < 0.05$ was considered as statistically significant.

3. Results

The tool consisted of a structured knowledge questionnaire related to socio - demographic variables and artificial cardiac pacemaker. According to Gilbert's classification difficult index on item analysis of the tool revealed the number of difficult questions was 9 whereas; good and poor questions were 16, and 3 respectively. No marginal questions were present in the tool. Discrimination index indicated that the number of excellent, good, marginal, and poor questions was 6, 11, 0, and 11 respectively. Item analysis was performed on 30 items, among which the final tool contained 28 questions. The description of the questionnaire is shown in Table 1.

Table 1: Description of Questionnaire

Sr. No	Questions regarding	Total number of Questions
1.	Anatomy of heart & conduction system	07
2.	Types & indications of artificial cardiac pacemaker	10
3.	Nursing care & health education	07
4.	Complications	04

The self instructional module consisted of information about artificial cardiac pacemaker such as introduction, conduction system of heart, definition, components & functions, types, indications, nursing care, health education & complications. The pilot study proved that the tool and self instructional module was reliable and consistent, the reliability of the tool was computed as $r = 0.91$.

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Detailed demography of the participants is given in Table 2.

Table 2: Frequency Distribution of Socio- Demographic Variables

Socio - demographic Variable	Frequency (%)
Age (in years)	
21 - 30	31 (51.67)
31 - 40	13 (21.67)
41 - 50	10 (16.67)
Above 50	06 (10.00)
Gender	
Male	16 (26.67)
Female	44 (73.33)
Educational qualification	
GNM	48 (80.00)
Basic B. Sc. nursing	07 (11.67)
Post Basic B. Sc. nursing	05 (8.33)
Area of working	
Medicine ward	16 (26.67)
Surgery ward	15 (25.00)
ICU	29 (48.33)
Clinical experience in years	
0 - 2	29 (48.33)
3 - 5	16 (26.67)
6 - 8	09 (15.00)
9 & above 9	06 (10.00)
Have you taken any in-service education regarding pacemaker	
Yes	21 (35)
No	39 (65)

GNM - General nursing and midwifery, B. sc. - Bachelor of Science, ICU - Intensive care unit, % -Percentage.

In the pre-test scores, 78.33% of the participants had average knowledge score (n=47) whereas 21.67% had poor knowledge scores (n=13) & none of the participants had good knowledge. In post-test, 71.67% of participants had good knowledge (n=43), 28.33% of participants had average knowledge (n=17) and no poor knowledge score was observed (Figure 1).

There is significant association between pre test knowledge scores and selected socio demographic variables at 0.05 level of significance such as Age in years [$\chi^2_{cal} = 127.9$, $\chi^2_{tab} = 7.82$], Educational qualification [$\chi^2_{cal} = 11.93$, $\chi^2_{tab} = 5.99$] & clinical experience in years [$\chi^2_{cal} = 7.84$, $\chi^2_{tab} = 7.82$].

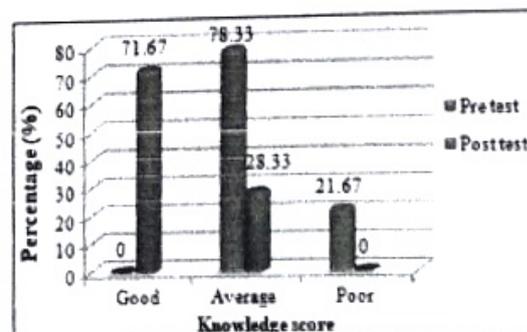
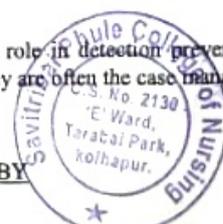


Figure 1: Distribution of pre - and post - test score

4. Discussion

Nurses play a central role in detection, prevention, control and rehabilitation. They are often the case manager, working



in partnership with patients and families, based in the general/family practice, hospital and community sectors¹². Advances in pacemaker patients have resulted in tremendous changes in the care of patients with a wide range of cardiac diseases⁴. Taking care of such a rapidly growing patient population constitutes a challenge for all health care providers working in a cardiology ward, operating room or primary care practice. Nurses among them have a unique role by being the most appropriate persons to provide in-hospital and long-term health care, education and psychological support to these patients¹³.

The present study is the first of its kind in Kolhapur. It aimed to determine the effectiveness of Self instructional module on knowledge of artificial cardiac pacemaker among staff nurses in Kolhapur and to evaluate association between socio - demographic variables of the subjects and their pretest scores.

A significant improvement was observed between pre-test and post-test scores. A significant association between pretest knowledge score & socio demographic variables such as age, educational qualification & clinical experience was seen.

An expert validated self instructional module used in knowledge improvement was distributed to the participants at the beginning of the study. Information retention through the self instructional module was impressive as evident by the improvement in the post-test conducted after 7 days. These findings are in agreement with the studies of Peter Jasper Youtham et al. and Sneha Sahay Youtham et al.^{11,6} A significant associations were observed between age, educational qualification & clinical experience with pretest. However, this association was absent in the post test. This shows that the self instructional module was able to bridge this learning gap. This could be because of the ability to relate and interpret better with practical experience. Similarly, in this study self instructional module was used showed significant improved artificial cardiac pacemaker knowledge.

The limitation of the study was the small sample size. Generalization could be better if the large sample size is used, also an experimental study including control and experimental group with various other interventional modalities are the further recommendation of the study.

5. Conclusion

The self instructional module was very effective in improving knowledge of artificial cardiac pacemaker. Hence, it can be used to improve the practices & uses of cardiac pacemaker for all nurses. There is significant association between pre test knowledge scores and selected socio demographic variables at 0.05 level of significance.

6. Ethical Approval

Ethical approval for this study was obtained from Institutional Ethical Committee of D.Y. Patil Medical College, Kolhapur.

7. Acknowledgments

We thank the colleagues of the Department of medical surgical nursing, D.Y. Patil College of Nursing, Dr. D.Y. Patil hospital and research center and Biostatistician for conducting study, data collection, and analysis.

Conflict of interest: None to declare

Authors Contribution

Study conception and design: Ms. Shweta S Jadhav & Mr. Amos Talsandekar.
Data collection: Ms. Shweta S Jadhav.
Data analysis and interpretation: Ms. Shweta S Jadhav & Mr. Amos Talsandekar.
Drafting of the article: Ms. Shweta S Jadhav.
Critical revision of the article: Ms. Shweta S Jadhav & Mr. Amos Talsandekar.

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Research article

The effect of mirror therapy on mental ill clients- Signs and symptoms

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Abstract

Mirror therapy is a pioneering, non-invasive treatment for the treatment of mentally ill patients. The tool of this therapy is a mirror from which the patient receives visual feedback in order to train the brain to configure a new "body map." This so-called map is simply the hard-wired mental representation that allows a person to be aware of where each component of the body is at all times, even in complete darkness. **Aim:** To assess the sign & symptoms of mentally ill clients before and after mirror therapy. **Methods :** Non-probability sampling and random method were used to select the samples from 60 mentally ill patients under treatment for mental illness from four Jagruti rehabilitation center, Yawada mental hospital center, Nityanand rehabilitation center and Chaitanya rehabilitation center in Pune city Mirror therapy training was given to the patients in the rehabilitation centers. A pre-test was given to both groups. The self esteem scale (Rosenberg self esteem scale) used for the post-test was the same which was used for the pre-test. Pilot study was conducted on 16 selected clients. Two groups were made, eight in experimental and eight in control group. Pre-testing was given to both the groups and mirror therapy was administered to experimental group. Post-test was given after 15 days. **Results :** In pre-test all 30 clients had low self esteem and in the post- test it became 0 samples showed low self esteem level whereas in the control group in the post test 30 samples showed low self esteem level and the same again show low self esteem because of no interventions in the control group. Thus it is concluded that the mirror therapy was effective in mentally ill clients. This also shows that mirror therapy has a significant effect on improvement of self-esteem level in the experimental group.

Keywords: Mirror therapy, body map, mental ill clients

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1. Introduction

Mirror therapy and the use of parasagittal mirrors are effective therapeutic tools in retraining the mind and body to respond to visual impulses in paralysis and reduce phantom pain in amputees [1-5]. It is believed that the reflection of the intact or good limb normalizes the perception of the affected limb, replacing or driving proprioception movement [6]. However, the use of mirrors in

the study of treatment for eating disorders is controversial. Conflicting study results suggest more research is necessary in order to validate and replicate various studies.

Studies to investigate the neuronal basis for the effects of mirror therapy in patients with stroke data on 18 participants were suitable for analysis. Results showed a significant interaction effect of movement mirror during the bimanual experiment. Activated regions

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were the presumes and the posteriorcingulate cortex ($p < 0.05$ false discovery rate). Conclusion of the study was in this first study on the neuronal correlates of the mirror illusion in patients with stroke, the authors showed that during bimanual movement, the mirror illusion increases activity in the resumes and the posterior cingulated cortex, areas associated with awareness of the self and spatial attention. By increasing awareness of the affected limb, the mirror illusion might reduce learnt non-use. The fact that the authors did not observe mirror-related activity in areas of the motor or mirror neuron system questions popular theories that attribute the clinical effects of mirror therapy to these systems [7].

The archives of physical medicine & rehabilitation a study was published in which analyzed the effects of using a mirror box with mental practice of reaching and hand/wrist motions on two stroke recoveries. They found that "performance of the paretic limb improved after the imagery intervention, indicated by increases in assessment scores and functionality and decreases in movement times. The improvements over baseline performance remained stable over a 3-month period [8].

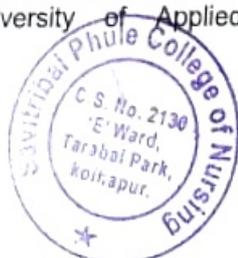
A research conducted to study the usefulness of Mirror Therapy in different diagnoses in hand rehabilitation as a basis for developing the St Gallen protocol for mirror therapy, which has been used with 52 patients since the end of 2005. The secondary aim is to describe the St Gallen protocol and present the results from the cases of 52 patients treated with Mirror Therapy. Two selected case studies provide a more detailed illustration of the method of application. The mirror visual feedback has been reported as a new treatment modality for chronic pain by several authors using different methods. Some neurophysiologic aspects are illuminated to get an impression of what mirror therapy causes in the brain [9].

A study conducted to do research on the clinical aspects of mirror therapy in rehabilitation The Department of Health and Technique, Zuyd University of Applied

Sciences, Heerlen, The Netherlands) the objective of this study was to evaluate the clinical aspects of mirror therapy interventions after stroke, phantom limb pain and complex regional pain syndrome. A systematic literature search of the Cochrane Database of controlled trials, No restrictions were made regarding study design and type or localization of stroke, complex regional pain syndrome and amputation. Only studies that had Mirror therapy given as a long-term treatment were included. Two authors (A.S.R. and S.M.B.) Independently assessed studies for eligibility and risk of bias by using the Amsterdam-Maastricht Consensus List. Ten randomized trials, seven patient series and four single-case studies were included. The studies were heterogeneous regarding design, size, conditions studied and outcome measures. Methodological quality varied; only a few studies were of high quality. Important clinical aspects, such as assessment of possible side effects, were only insufficiently addressed. For stroke there is a moderate quality of evidence that Mirror Therapy as an additional intervention improves recovery of arm function, and a low quality of evidence regarding lower limb function and pain after stroke [10].

Mirror Therapy Improves Motor Function after stroke using a random-effects model and post-intervention or changes between pre- and post-intervention measurements, the researchers found statistically significant improvements in motor function and in activities of daily living when mirror therapy was used. Patients with complex regional pain syndrome after stroke [11].

A study conducted to test the feasibility and preliminary efficacy of self-delivered home-based mirror therapy for phantom pain. Participants received an explanation of mirror therapy and were asked to self-treat for 25 min daily. Participants completed and posted back sets of outcomes questionnaires at months 1 and 2 post-treatment. Main outcome was mean phantom pain intensity at post-treatment. A significant reduction in mean phantom pain intensity was found at month 1 ($n = 31, p = 0.0002$) and at month 2 ($n = 26, p = 0.002$). The overall median



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percentage reduction at month 2 was 15.4%. Subjects with high education (>16 years) compared with low education (<16 years) (37.5% vs 4.1%) had greater reduction in pain intensity ($p = 0.01$). These findings support the feasibility and efficacy of home-based self-delivered mirror therapy; this low-cost treatment may defray medical costs, therapy visits, and the patient travel burden for people with motivation and a high level of education. More research is needed to determine methods of cost-effective support for people with lower levels of education [12]. Home-based patient-delivered mirror therapy is a promising approach in the treatment of phantom limb pain. Previous studies and case reports of mirror therapy have used a therapist-guided, structured protocol of exercises. No case report has described treatment for either upper or lower limb phantom pain by using home-based patient-delivered mirror therapy. The success of this case demonstrates that home-based patient-delivered mirror therapy may be an efficacious, low-cost treatment option that would eliminate many traditional barriers to care [13].

A study investigated the effects of mirror therapy on the upper extremity functions of stroke patients. The subjects of this study were 14 hemiplegic patients (8 males, 6 females; 9 infarction, 5 hemorrhage; 8 right hemiplegic, 6 left hemiplegic) who voluntarily consented to participate in the study. The Korean version of the manual function test (MFT) was used in this study. The test was performed in the following order: arm movement (4 items), grasp and pinch (2 items), and manipulation (2 items). The experiment was conducted with the subjects sitting in a chair. The mirror was vertically placed in the sagittal plane on the desk. The paretic hand was placed behind the mirror, and the non-paretic hand was placed in front of the mirror so that it was reflected in the mirror. In this position, the subjects completed activities repetitively according to the mirror therapy program over the course of four weeks. There were significant increases in the grasp-and-pinch score and manipulation score. The grasp-and-pinch and

manipulation functions were improved through mirror therapy [14].

2. Subjects and methods

Non-probability sampling and random method were used to select the samples from 60 mentally ill patients under treatment for mental illness from four Jagruti rehabilitation center, Yarawada mental hospital center, Nityanand rehabilitation center and Chaitanya rehabilitation center in Pune city [15]. Formal administrative permission was obtained from various psychiatric rehabilitation centers in Pune city and the study was conducted from 26-08-2011 to 12-09-2011. Mirror therapy training [16] was given to the patients in the rehabilitation centers. They are advised to practice the mirror therapy once a day.

A pre-test was given to both groups. Intervention was given only to experimental group. After fifteen days a post-test was given to both the groups [17]. The self esteem scale (Rosenberg self esteem scale) used for the post-test was the same which was used for the pre-test.

Mirror therapy technique:

1. Pleasant way to say good morning & wish them to good morning.
2. I will enjoy all the day.
3. I will use each & every minute for the betterment of self & others.
4. I will help myself & others to come out from the problem. I love myself & I will take very good care of myself.
5. I will be happy & happier.
6. I have trust that I can get well.
7. I want to be happy & want other to be happier.
8. I will try my best & not to be disturbed by external or internal environment.
9. I will keep my words and do accordingly [18].

To ensure content validity of the tool it was submitted to three psychiatrists, two psychologists, one statistician, one sociologist, one lawyer, four PhD. nurses and six nurses with specialty in psychiatry along with scoring sheet.

The reliability of the tool was established using rational equivalence formula. The total scoring was entered on the data sheet. Total mean and variance was calculated using the



rational equivalence formula following formula gives coefficients of reliability. Also data is collected by one person so, $\sum pq$ gives the exact error in the reliability scores [19].

$$r_{11} = \frac{n}{(n-1)} \frac{\sigma_t^2 - \sum pq}{\sigma_t^2}$$

Where,

r_{11} = reliability coefficient of the whole test.

n = number of items in the test.

σ_t = the S.D. of the test scores.

P = the proportion of group answering a question to each choice.

q = $(1-p)$ = the proportion of group not answering a question to each choice.

$n = 09$

If value of r_{11} is greater than 0.80 test is reliable. As value of $r_{11} = 0.8731$ (87.31%), hence test for coping is reliable. hence the questionnaire was found to be reliable.

The reliability of the tool was calculated to 0.87371 which shows that it is significantly reliable tool for testing the self esteem of mentally ill clients. Pilot study was conducted between 07-08-2011 to 23-08-2011 on 16 selected clients. Two groups were made, eight in experimental and eight in control group. Pre-testing was given to both the groups and mirror therapy was administered to experimental group. Post -test was given after 15 days. Using the same anxiety rating scale for both the groups the results were compared. Data analysis for pilot study was done using students' test. The data was arranged in two columns as before score and after score separately for each item, for both the groups. The difference is calculated. The Rosenberg self esteem scale was easy to understand. There is significance difference in self esteem level of mentally ill patients in experimental group where as in control group the difference in anxiety level is little. After pilot study no specific changes were made in the tool. The same tool was used for the final study.

3. Results

Table 1 (A). Comparison of pre-test and post-test in experimental group

	Pre-test	Post test	Improvement of self esteem	T cal	T table	P value
Mean	23.1	28.76667	5.6667	19.49179	2.04523	1.64718e-18
S.d.	1.075484	1.174261				

Table 1 (A) represents the distribution of sample in experimental group according to the level of self-esteem. This table represent in experimental group the low self esteem of the clients were 30 while in the post test no low self esteem is found in mentally ill client.

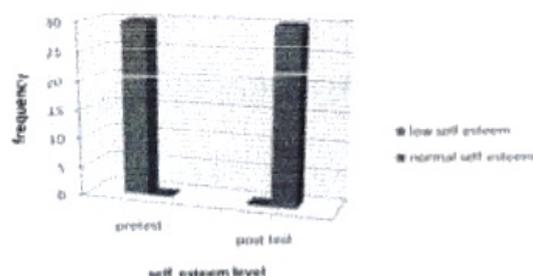


Figure-1: Comparison of pre-test and post-test in experimental group.

Table 1(b)

N=30

From the table we can conclude P value is less than 0.01, we reject null hypothesis .i.e. there is significant increase in the self-esteem level indicating the effectiveness of mirror therapy in experimental group. N=30

Shows that the number of patients with Low self-esteem is 30 in pre test and number of clients with normal self-esteem is 0.while in the post test number of clients with low self

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esteem is 0 and with normal self-esteem is 30. after giving active mirror therapy.

Table-2(A) Comparison of pre-test and post-test in control group N=30

Self-esteem	Pre-test		Post-test	
	Frequency	%	Frequency	%
Low self esteem	30	100	30	100
Normal self esteem	0	0	0	0
Total	30	100	30	100

Table 2(A) represents the distribution of sample in control group according to the level of self-esteem. This table represent in control group the low self esteem of the clients were 30 while in the post test it was the same because of no active interventions are given to the group.

Table-2(b) N=30

	Pre	Post	Improvement of self esteem	t cal	t table	P value
Mean	22.86667	22.96667	0.1	0.275667	2.04523	0.392379464
S.D.	1.257864	1.538036				

Since P value is more than 0.05 we accept null hypothesis from the above values we conclude that there is no significant change in self-esteem was observed after the post test. N=30

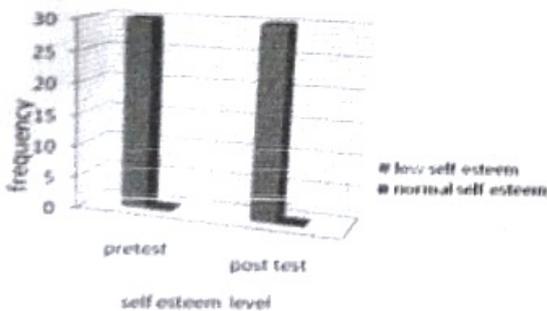
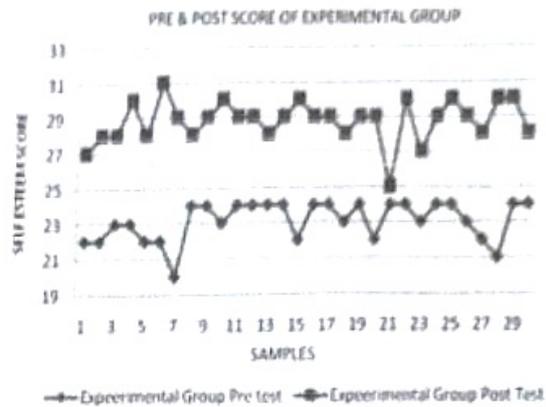


Figure-2: bar graph showing comparison of pre test and post test in control group

Figure 2 represent in control group all the 30 samples showed low self-esteem in the pre-test. In the post-test the same 30 clients shows low self-esteem.

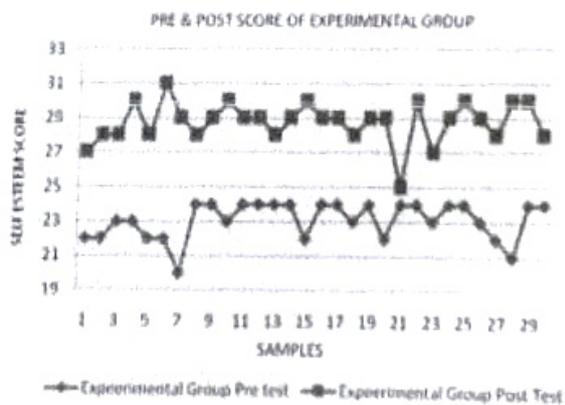
Table no-(3)

Fig 3 Pre and post test scores of experimental group N=30

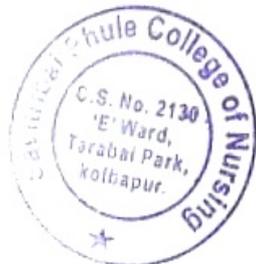


From the above maintained figure we can represent that changes are found in the score of low self esteem after giving the active mirror therapy in the experimental group.

Fig 10 Pre-test and Post-test values of control group. N=30



From the above maintained figure we can represent that very little changes are found in the score of low self esteem



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Table -3 descriptions in increased level of self esteem by clients in experimental group and control group.

Experimental group				Control group			
Sample no	Pre-test	Post-test	Increased self esteem	Sample no	Pre-test	Post-test	Increased self esteem
Fn-1	22	27	5	Fn-1	23	23	0
Fn-2	22	28	6	Fn-2	23	25	2
Fn-3	23	28	5	Fn-3	22	22	0
Fn-4	23	30	7	Fn-4	21	21	0
Fn-5	22	28	6	Fn-5	24	24	0
Fn-6	22	31	9	Fn-6	24	27	3
Fn-7	20	29	9	Fn-7	23	23	0
Fn-8	24	28	4	Fn-8	24	24	0
Fn-9	24	29	5	Fn-9	24	24	0
Fn-10	23	30	7	Fn-10	22	22	0
Fn-11	24	29	5	Fn-11	22	22	0
Fn-12	24	29	5	Fn-12	20	20	0
Fn-13	24	28	4	Fn-13	20	20	0
Fn-14	24	29	5	Fn-14	24	24	0
Fn-15	22	30	8	Fn-15	24	24	0
Fn-16	24	29	5	Fn-16	24	24	0
Fn-17	24	29	5	Fn-17	24	24	0
Fn-18	23	28	5	Fn-18	24	24	0
Fn-19	24	29	5	Fn-19	23	23	0
Fn-20	22	29	7	Fn-20	23	23	0
Fn-21	24	25	1	Fn-21	22	22	0
Fn-22	24	30	6	Fn-22	20	20	0
Fn-23	23	27	4	Fn-23	23	23	0
Fn-24	24	29	5	Fn-24	23	23	0
Fn-25	24	30	6	Fn-25	24	21	-3
Fn-26	23	29	6	Fn-26	23	23	0
Fn-27	22	28	6	Fn-27	22	22	0
Fn-28	21	30	9	Fn-28	24	24	0
Fn-29	24	30	6	Fn-29	23	24	1
Fn-30	24	28	4	Fn-30	24	24	0

Data presented in table-3 shows, Self esteem experienced by experimental and control group. The increased self esteem is calculated. It is noted that in experimental group that after mirror therapy 30(100%) out of 30 sample showed good increased self esteem level, no negative results come in the experimental group. In control group very little change was found this is may be due to no active intervention given to the group.

Table-4 comparison of the pre and post observation of self esteem level of mentally ill clients in control and experimental group.

Group	Frequency	Mean	Standard deviation	T-cal Value	T-value	P-value
Experimental	30	5.67	1.124873	5.57	2.04	6.4573e-17 = 0.00
Control	30	0.1	1.39795			




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Two-sample T-test was used to find out the effect of Mirror therapy on self-esteem.

P-value < 0.01 shows high significance.
 P-value between 0.05 to 0.01 shows significance.
 P value > 0.05 shows no significance

The table values show that mirror therapy has a significant effect in improvement of self-esteem in experimental group at the level of significance 0.01. Mean of Improvement of self-esteem in experimental group was 5.67 where in control group it was 0.1 only. Since P value is less than 0.01 we reject the null hypothesis, from the above findings we can conclude that, there is significant increase in self esteem was observed in experimental group than in control group, which evidently proves that mirror therapy had a significant effect in the improvement of self esteem in experimental group over the control group.

1. Compare the signs and symptoms of self esteem in mentally ill Clients before and after the mirror therapy.

There are few signs & symptoms of the self esteem are present with the some clients

after giving a mirror therapy there are reduction of some signs & symptoms

Table 5 Signs and symptoms

SN	Signs and symptoms
1	Poor hygienic conditions & self care.
2	Complaints of fatigue.
3	Poor postures
4	Withdrawal from activities.
5	Expression of feeling of isolation
6	Expressions of self depression, self dislike, and unhappiness with self.
7	Decreased interest, motivation, concentration
8	Expression of sadness, anxiety or discouragement.
9	Loss of appetite/weight loss
10	Overeating

Analysis of sign and symptoms of low self esteem in experimental and control group

Table-6 N=60

	1		2		3		4		5	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Expt	33.33	0	33.33	3.333	33.33	0	36.67	0	36.67	0
Control	16.67	26.67	26.67	26.67	20	20	26.67	26.67	23.33	23.33
6		7		8		9		10		
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	36.67	0	30	0	30	0	43.33	0	30	0
	10	10	30	30	16.67	20	20	23.33	20	23.33



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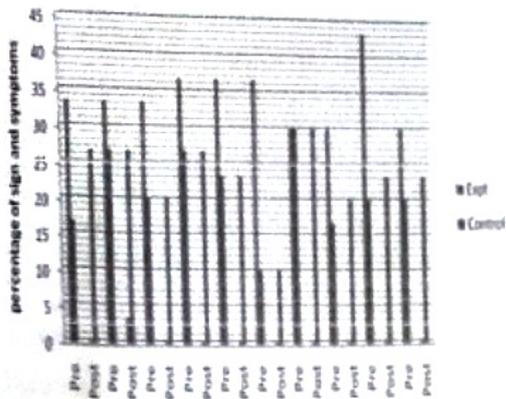


Figure 11: Percentages of the signs & symptoms of the low self-esteem

Figure 11 represents the assessment of signs and symptoms of the low self-esteem, we have observed 10 signs and symptoms of low self-esteem in the mentally ill clients in experimental and control group.

Analysis of sign and symptoms of low self esteem in experimental Group. (In percentages)

- 1) Poor hygienic conditions & self care in the pre-test the score of this symptom was the 33.3 while in the post test it was 00.
- 2) Complaints of fatigue in the pre-test the score of this symptom was the 33.3 while in post test 3.33.
- 3) Poor postures in the pre-test the score of this symptom was the 33.3 while in post test 00.
- 4) Withdrawal from activities. In the pre-test the score of this symptom was the 36.67 while in post test 00.
- 5) Expression of feeling of isolation in the pre-test the score of this symptom was the 36.67 while in post test 00.
- 6) Expressions of self depression, self dislike, and unhappiness with self in the pre-test the score of this symptom was the 36.67 while in post test 00.
- 7) Decreased interest, motivation, concentration In the pre-test the score of this symptom was the 30 while in post test 00.



- 8) Expression of sadness, anxiety or discouragement in the pre-test the score of this symptom was the 30 while in post test 00.
- 9) Loss of appetite/weight loss in the pre-test the score of this symptom was the 43.33 while in post test 00.
- 10) Overeating In the pre-test the score of this symptom was the 30 while in post test 00.

Analysis of sign and symptoms of low self esteem in control group. (In percentages) The control group shows the same signs and symptoms, the results are as follows,

- 1) Poor hygienic conditions & self care in the pre-test the score of this symptom was the 16.67% while in the post test it was 26.67%.
- 2) Complaints of fatigue in the pre-test the score of this symptom was the 26.67 while in post test 26.67.
- 3) Poor postures in the pre-test the score of this symptom was the 20 while in post test 20.
- 4) Withdrawal from activities. In the pre-test the score of this symptom was the 26.67 while in post test 26.67.
- 5) Expression of feeling of isolation in the pre-test the score of this symptom was the 23.33 while in post test 23.33.
- 6) Expressions of self depression, self dislike, and unhappiness with self in the pre-test the score of this symptom was the 10 while in post test 100.
- 7) Decreased interest, motivation, and concentration in the pre-test the score of this symptom was the 30 while in post test 30.
- 8) Expression of sadness, anxiety or discouragement in the pre-test the score of this symptom was the 16.67 while in post test 20.
- 9) Loss of appetite/weight loss in the pre-test the score of this symptom was the 20 while in post test 23.33.
- 10) Overeating In the pre-test the score of this symptom was the 20 while in post test 23.33.

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3. Assessment of signs and symptoms of self esteem:

After doing assessing the signs and symptoms of low self-esteem it was found that the number. Of signs and symptoms of low self-esteem are decreased in experimental group while in control group it was not decreased. We can say that mirror therapy was effective to decrease the signs and symptoms of self-esteem.

4. Discussion

Findings of this section show that in the experimental group after mirror therapy there is improvement of self-esteem level. In pre-test all 30 clients had low self esteem and in the post- test it became 0 samples showed low self esteem level whereas in the control group in the post test 30 samples showed low self esteem level and the same again show low self esteem because of no interventions in the control group.

Obtained pre test and post test score regarding self esteem of mentally ill clients has t- value of 5.57; table value 2.04 and p value 0.000 which is less than 0.01 and p value 0.000 which is less than 0.01 so null hypothesis is rejected and hence H1 is accepted. Thus it is concluded that the mirror therapy was effective in mentally ill clients. This also shows that mirror therapy has a significant effect on improvement of self-esteem level in the experimental group.

In present study the pre-observation mean score of the experimental group is 23.1 and the post-observation mean score is 28.76. Whereas the pre-test mean score of control group is 22.86 and the post-observation mean score is 22.96. From the data analyzed, it is evident that the subjects of the experimental group were comparatively more self-esteem than the control group. If mirror therapy is provided for a longer duration of time, the results would have been even more significant.

The comparison between the post observation scores of control group and experimental group does not show much difference, but the difference of mean of

experimental group, 5.67 and the difference of mean of control group 0.1, evidently shows that mirror therapy had a significant role in improvement of low self esteem.

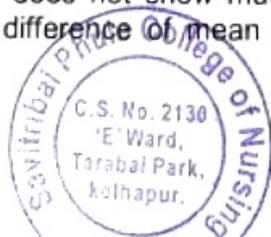
Conclusion

The preliminary findings suggest that Mirror therapy can be a useful intervention supplement in treating mentally ill patients; it provides a simple and cost effective therapy for patients. Further studies in the form of randomized trials are needed to validate its effectiveness. Mirror therapy helps to improve the positive effect and if it is practiced for a longer period. There has been a phenomenal increase in the popularity of various alternative therapies and medicines in recent years and many of them can be excellent when it comes to improvement and treatment.

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Title of the paper	Name of the author	Department of teacher	Name of the journal	Year of publication	ISSN number	Link of the recognition in UGC enlistment of the journal	Name of the indexing database
Effectiveness of oil massage therapy for weight gain among low birth weight babies	Ms. Upasana Khandagle	Department of Child Health Nursing	Journal of traditional and folk practices (JTFF)	December 2020	ISSN NO:- 2278-5906		



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Annexure -XI

INFORMATION OF RESEARCH ARTICLE PUBLICATIONS

Title of the paper	Name of the author	Department of teacher	Name of the journal	Year of publication	ISSN number	Link of the recognition in UGC enlistment of the journal	Name of the indexing database
Effectiveness of informational booklet on knowledge and attitude regarding breast milk banking among mothers	Ms. Pranali Dhanawade	Department of Obstertical & Gynecological Nursing	International Journal of research and analytical reviews (IJRAR)	July 2020	ISSN NO:- 2349-5138		



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Title of the paper	Name of the author	Department of teacher	Name of the journal	Year of publication	ISSN number	Link of the recognition in UGC enlistment of the journal	Name of the indexing database
Knowledge regarding self care measures and quality of life among patients with CRF undergoing hemodialysis	Mrs. Milka Kalekar	Department of Medical-Surgical Nursing	International journal of science and research (IJSR)	December 2021	2319-7064		



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Title of the paper	Name of the author	Department of teacher	Name of the journal	Year of publication	ISSN number	Link of the recognition in UGC enlistment of the journal	Name of the indexing database
A correlational study between internet addiction and psychological health of adolescents	Mr.milind Sanade	Department of Child Health Nursing					

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Title of the paper	Name of the author	Department of teacher	Name of the journal	Year of publication	ISSN number	Link of the recognition in UGC enlistment of the journal	Name of the indexing database
Effectiveness of SIM on knowledge of artificial cardiac pacemakers among staff nurses	Ms. Shweta Jadhav	Department of Medical-Surgical Nursing	International journal of science and research (IJSR)	December 2021	ISSN NO.- 2319-7064		



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Research Article

A Study to Assess the Anxiety and Coping Strategies among First-year B.Sc. Nursing Students in Selected Institutes of Navi Mumbai

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ABSTRACT

Background: Students are subjected to different kinds of stressors, such as the pressure of academics with an obligation to succeed, an uncertain future, and difficulties of integrating into the system. Aim: A descriptive study was conducted in selected nursing institutes of Maharashtra to assess stress level and coping strategies among nursing students. A total of 100 1st year nursing students participated in the study. Likert scale was used to assess stress level. Results: Results revealed that 4% of the samples had severe anxiety, 40% had moderate anxiety, 48% had mild anxiety, and 8% of samples have no anxiety. Anxiety levels were significantly higher in females in comparison to males (30.79±7.47 vs. 28.65±7.98, P = 0.036). Coping behavior was comparable in females in comparison to males (53.70±4.62 vs. 53.29±4.40, P = 0.768). Conclusion: Strengthening nursing students' positive coping skills may be helpful for them to effectively deal with various stressors during their educational experiences while maximizing learning. Implementing empirically tested approaches may be useful to prevent the recurrence of stress and lessen its impact such as stress management counseling, counseling programs, establishing peer and family support systems, and formulating hospital policies that will support nursing students.

Keywords: Anxiety, Coping, Likert scale, Stress level

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Introduction

Stress is a way of the body's response to any kind of demand. Coping is the process of managing demands that are considered as challenging to the individual. Stress in nursing students can be triggered from a variety of issues including academics, and financial concerns. According to the nursing curriculum, they must learn theory as well as practical

classes at the same time. They face different stressors can be related to academic and clinical as well. Stress affects physically, mentally, and academically. They may feel sad, nervousness, sleeplessness, loneliness, etc. Stress may affect the students' health and academic performance. However, students experience increased tension before their clinical rotation and written examination especially their finals. In nursing, students experience stress in day to day life.

Stress is a well-documented problem in nursing education that continues to pose a concern to nursing faculty due to its negative consequence on student's health and well-being. In particular, the clinical practice which is required for the acquisition of nurse competencies has been identified as being highly stressful.[1] Mounting evidence has shown that nursing students face various forms and levels of stress which ranged from moderate to severe.[2]

Academic stress among college students has been a topic of interest for many years. College students, especially freshmen, are particularly prone to stress due

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to transitional nature of college life, for example, many college students move away from home for 1st time, which can necessitate leaving all previously learned support systems such as parents, siblings, and high school friends. Students may need to develop entirely new social contacts and are expected to take responsibility for their own needs. They may have difficulty in adjusting to more rigorous academic expectations and the need to learn to deal with individuals of different culture and belief. Thus, stress may result from being separated from home for the 1st time, the transition from personal to impersonal academics and the vary structure of academic experience at the college level.

In nursing, students experience increased tension before their clinical rotation and written examination especially their finals. Dhar *et al.* reported 48.83% mild stress and 11.62% moderate stress among nursing students.^[1] Clinical sources of stress include working with dying patient, interpersonal conflict with other nurses, insecurity about clinical competence and fear of failure and interpersonal relations with patients, work overload and are concerned about nursing care given to the patient. Other potential sources of stress are assignment submission, excessive homework, assessment deadlines, unclear assignments, uncomfortable classrooms, and relations with faculty members.

To date, a few studies have compared nursing students' stress levels and its sources in a multicultural setting. With the increasing diversity of nursing students around the globe, a study of this kind is essential for the advancement of nursing knowledge in this critical area. This study is also important for the development of common perspectives on these concepts and ultimately in formulating empirically tested stress interventions that can be applied in different cultures.

Aim

A study to assess the anxiety level and coping strategies among 1st year B. Sc nursing students in selected nursing institutions of Navi Mumbai.

Methodology

A non-experimental, descriptive design was used in the study using self-administered questioners for assessment of anxiety level (Likert scale). This research design was selected for this study as it is convenient, less expensive, and not a time-consuming means of gathering data.

Samples and setting

Sample size consists of 100 1st year B.Sc nursing students from selected institutes of Navi Mumbai.

Development of tool

A tool was developed to assess anxiety among 1st year B.Sc nursing student as well as coping strategies among students. The tool consisted of two sections:

Section-I the demographic data collection

We developed this tool as per the objectives of this study, 13 demographic variables selected for the association of the study, i.e., age, sex, marital status, monthly family income, students education, and fathers education.

Section-II self-administered questioners for assessment of anxiety level

Likert scale.

Data collection

The data gathering began on January. The researcher visited the Mahatma Gandhi Mission College of nursing and Bharati Vidyapeeth College of nursing. The data collection process and obtained permission from the authorities to conduct the study. The researcher introduced themselves and explained about the study and the purpose and the process. Thereby, a rapport was developed to confirm whether the samples met the inclusion criteria selected for the study.

The contents of consent were explained and each participant was respected to confirm his/her written consent before the study commenced.

The researcher encouraged to give a rating about the anxiety and coping strategies questionnaires. Any doubt while filling the questionnaires was clarified, they were requested to answer the entire question. This session lasted for 30 min.

Statistical analysis

Data were presented as frequency, percentages, mean, and standard deviation. Quantitative variables between two groups were compared using Student *t*-test. The relation between two variables was evaluated using the Pearson correlation coefficient. $P < 0.05$ was considered significant. Statistical analysis was performed using SPSS v21.

Results

Demographic variables

Demographic variables of the subjects have been shown in Table 1. We observed that 87% of samples were of age between 17 and 19 years. Only 3% of samples were aged >21 years. 92% of the samples were females. Female to male ratio was 5.1:1. 68% of the samples belonged to urban areas. 96% of the samples have completed senior secondary education (10+2) and only 4% were graduate.

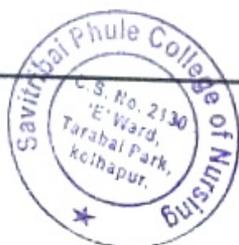


Table 1: Demographic variables

Particulars	Frequency (%)
Age (years)	
17-19	87 (87)
19-21	10 (10)
>21	3 (3)
Sex	
Male	18 (18)
Female	92 (82)
Locality	
Urban	68 (68)
Rural	32 (32)
Fathers' education	
Illiterate	6 (6)
Primary	8 (8)
Secondary	65 (65)
Graduate and above	21 (21)
Mothers' education	
Illiterate	8 (8)
Primary	15 (15)
Secondary	58 (58)
Graduate and above	19 (19)
Father occupation	
Service	45 (45)
Business	35 (35)
Agriculture	10 (10)
Not working	1 (1)
Any other	9 (9)
Mother occupation	
Service	14 (14)
Business	7 (7)
Agriculture	3 (3)
Housewife	71 (71)
Any other	5 (5)
Religion	
Hindu	71 (71)
Muslim	5 (5)
Christian	25 (25)
Any other	2 (2)
Family income (Rs.)	
5000-10000	30 (30)
10,000-20,000	31 (31)
20,000-30,000	22 (22)
30,000 and above	17 (17)
Type of family	
Nuclear	66 (66)
Joint	32 (32)
Extended	1 (1)
Broken	1 (1)
Marital status	
Single	96 (96)
Married	4 (4)
Widow	0 (0)
Divorcee	0 (0)
Distribution on the basis of state	
Maharashtra	58 (58)
Non-Maharashtra	42 (42)

65% of samples' fathers and 58% of samples' mothers have completed secondary level education.

Nearly 45% of the samples' fathers occupation was government job while only 10% were working in the agriculture field. 14% of the samples' mothers occupation was government job while 71% were housewives. 71% of the samples were Hindu and 25% were Christian. 61% of the samples' family income was up to 20,000.

66% of the samples were living in a nuclear family. 96% of the samples were single and 4% were married. 58% of the samples belonged to Maharashtra.

Level of anxiety

Our study observed that 4% of the samples had severe anxiety, 40% had moderate anxiety, 48% had mild anxiety, and 8% of samples have no anxiety [Figure 1].

Our study observed that anxiety levels were significantly higher in females in comparison to males (30.79 ± 7.47 vs. 28.65 ± 7.98 ; $P = 0.036$) [Table 2].

Our study observed that coping behavior was comparable in females in comparison to males (53.70 ± 4.62 vs. 53.29 ± 4.40 ; $P = 0.768$) [Table 2].

Relation between anxiety level and coping behavior

Our study observed a very mild and non-significant relationship between anxiety level and coping behavior ($r = -0.023$, $P = 0.874$).

Discussion

Stress in nursing students is an area of growing concern and it may result in psychological distress, physical complaints, behavior problem, and poor academic performance.^[4] The present study was conducted in a selected nursing college situated in Maharashtra to assess the stress level and coping strategies used by nursing students.

Our study observed that 4% of the samples had severe anxiety, 40% had moderate anxiety, 48% had mild anxiety, and 8% of samples have no anxiety. Our findings were slightly consistent with the study by Nancy^[5] revealed that out of 180 nursing students, 34.4% had moderate stress whereas 32.8% and 32.8% fall in the category of low and high stress, respectively, and a study conducted among undergraduates students of CMH Lahore Medical College, Pakistan on 200 students who reported 30.84 overall mean perceived stress.^[6]

Stress level among 1st year nursing student may be higher because the students face more of stressors when they come to college during 1st year of their training because of being placed in an unfamiliar environment, separation from the parents and the demand of making new social groups apart from academic pressures and clinical training. However, the nursing students were constantly facing demands and

Table 2: Level of anxiety and coping behavior

Particulars	Male	Female	P value
Anxiety level	28.65±7.98	30.79±7.47	0.036
Coping behavior	53.29±4.40	53.70±4.62	0.768

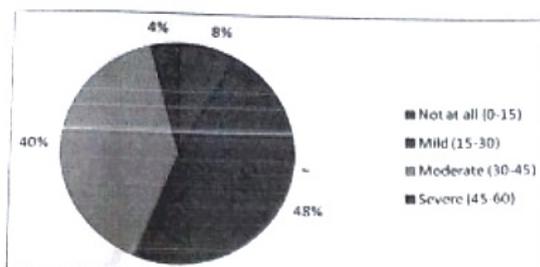


Figure 1: Level of anxiety

challenges of the curriculum which had being a source of stress during their total training program.

Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, reduce tolerate or minimize stressful events. Coping with stress for a student nurse is a dynamic and ongoing process, aimed at survival, growth, and maintenance of individual integrity.^[7] She tries to restore the imbalance and disequilibrium within her by attempted adjustment through the use of various coping strategies which can be healthy or unhealthy. WHO/EHA guidelines have stated that there is no standard for coping strategies; rather they were depending on socioeconomic factors.

In the present study, the majority of subjects tend to use more healthy coping strategies as compared to negative or unhealthy ones. A study among nursing students at Chiang Mai University which revealed that the most frequently used coping strategies were seeking social support (62.25%), Planful Problem Solving (23.73%), and accepting responsibility (8.47%).^[8] Another study at the NINE, PGIMER, Chandigarh reported the five most frequently used coping strategies were positive thinking, listening to the music/radio, indulging in creative activities, talk to parents, and pray more.^[9] A study done on Iranian students which reported solving family problems and being humorous as the most common and least common used strategy, respectively.^[6]

Stress has become a chronic and pervasive condition in the world today.^[9] Every person experiences different forms of stress throughout their life; therefore, a student nurse is no exception as she has to adjust to an entirely new environment on joining a training course in nursing.^[10] It has been concluded that the nursing students perceived different levels of stress due to academic, clinical, and other

psychosocial factors. Further, they use a mix of coping strategies to overcome stress so as to maintain a balance on a wellness-illness continuum.

Conclusion

Coping with stress for a student nurse is a dynamic and ongoing process, aimed at survival, growth, and maintenance of individual integrity. She tries to restore the imbalance and disequilibrium within her by attempted adjustment through the use of various coping strategies which can be healthy or unhealthy. It is important for nurse educator to find out the sources of stress and coping strategies used by the students so that they can be helped to cope well with upcoming problems and situations.

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Review Article

Anxiety and Coping Strategies: The Adequate and Integrative Review

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Abstract

Stress has become part of students' academic life due to the various internal and external expectations placed on their shoulders. Adolescents are particularly vulnerable to the problems associated with academic stress as transitions occur at an individual and social level. It, therefore, becomes imperative to understand the sources and impact of academic stress to derive adequate and efficient intervention strategies. Understanding the sources of stress would facilitate the development of effective counseling modules and intervention strategies by school psychologists and counselors to help students alleviate stress. Anxiety in nursing students negatively impacts academic as well overall success. This review highlights anxiety and coping strategies in nursing students.

Key words: Anxiety, counseling, coping strategies

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Introduction

Stress contributes to health problems worldwide. Its presence is felt in home, office, industry, and academic environments. It is a common element in life regardless of race or cultural background. The emotional and physical ways in which we respond to pressure can cause mental and physical symptoms. The effects of stress vary with the ways it is appraised, and the coping strategies used differ between individuals and are influenced by ethnic, cultural, and socioeconomic characteristics.^[1] Students are subjected to different kinds of stressors such as the pressure of academics with an obligation to succeed, an uncertain future and difficulties of integrating into the system. The students also face social, emotional, physical, and family problems, which may affect their learning ability and academic performance. In recent years there

is growing appreciation of stressors involved in Medical Training College students, especially freshmen, are a group particularly prone to stress.^[2]

The nursing profession is currently in a state of crisis. The number of nurses' available and seeking employment is not meeting the demands of the health-care industry. Nursing education is responding to this need by attempting to increase the number of graduate nurses.^[3] Due to fiscal considerations, restrictions on student to teacher ratios, and limited clinical facilities, it is not always feasible to rely on increasing program size to increase the number of graduates. In many schools of nursing, the focus is shifting from efforts to enlarge nursing programs to strategies to increase the retention of the students who are accepted and enroll in the programs. The National League for Nursing reported an 80% net retention rate in nursing programs across the country, with 83% net retention in public institutions, and 79% net retention in the south.^[4] 20% of the nursing school population that leaves school each year before graduation is a vital element in meeting the demand for nurses in the future.

When in a nursing education program, students are often exposed to high levels of stress when compared to other students in other formalized programs.^[4] In particular, the clinical component of the nursing program which is meant to prepare nursing students for professional nursing roles and enhance their critical thinking and decision-making

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skills in the clinical settings produces high levels of discomfort, stress, and anxiety.^[1]

Existing evidence showed that there are two major sources of stress among nursing students: Academic and clinical stressors, with the latter being perceived more intensely by nursing students at all levels.^[6] Stressors related to academia include the academic process, heavy assignments and workloads, and examinations. Studies consistently show that nursing students experience moderate-to-severe levels of stress during clinical practice.^[7,8]

Clinical sources of stress include fear of the unknown, new clinical environments, engaging in various clinical activities, taking care of patients, lack of professional knowledge or nursing skills, fear of failure, clinical incompetence, experience of death and dying, unfamiliarity with patients' medical history, unfamiliar patients' diagnoses and treatments, fear of making mistakes, giving medication to children, and lack of control in relationships with patients.

Other reported stressors include peers, daily life and the environment, nursing staff and nurse educators finding of new friends, learning of new responsibilities, being placed in unfamiliar situations, working with people they do not know, financial strain, relationships with friends, tutors and companions, negative interactions with instructor's, being observed by instructors, and being late and poor relationships with clinical staff.^[9]

Stress is considered beneficial in minimal amounts as it increases excitement and motivation. However, unmanaged stress or failure to cope with chronic stress may be harmful to the health and well-being of an individual. Chronic stress may affect the learning, decision-making, thinking, and eventually the academic performance of the nursing student. Stress may even be a reason why they choose to leave the nursing program. Unmanaged stress may also cause the nursing student to experience negative emotional states such as sadness, apprehension, anxiety, worry, anger, lack of self-esteem, guilt, grief, nervous breakdown, depression, feeling of loneliness, listlessness, or sleeplessness.^[5]

Coping mechanisms are a necessity when dealing with stress and accompanying stressors. Lazarus and Folkman classified coping ways as problem based and emotion based.^[10] Several studies highlighted problem-solving approach as the most common coping behaviors in nursing students while the avoidance approach as the least utilized coping behaviors in nursing students. Problem-based coping ways are known to be beneficial to students' learning, clinical performance, and well-being, while emotion-based coping ways were found to be harmful to their health.^[10]

Studies Related to Anxiety and Coping Strategies

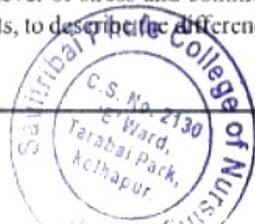
Shadaifat *et al.* illustrated the level of stress and common stressors among nursing students, to describe the difference

in stress level related to demographic data, and to identify coping mechanisms used by nursing students. A descriptive cross-sectional study was carried out to determine the type of stress and coping strategies among nursing students. The level of stress was evaluated through perceived stress scale (PSS) and type of coping strategies was assessed by the use of coping behaviors inventory. Students perceived moderate level of stress, most commonly attributed to assignments and workload, teachers and nursing staff, peers and daily life, and taking care of patients. The most frequently used coping mechanism was problem-solving. The study found that age, grade point average, education level, and residence are good predictors of the use of transference as a coping behavior. A moderate level of stress among students illustrated the need for stress management programs and the provision of suitable support.^[11]

Aslan and Akturk determined the stress levels experienced by nursing students during the nursing education and the associated factors. The population of the study consisted of the students of the University, Faculty of Health Sciences Nursing Department. There were 1200 students in the faculty of nursing. The sample consisted of 479 students. Participants used introductory questionnaire, nursing education stress scale. According to the results of this study, it was determined that the nursing students experience high level of stress and their demographic characteristics were affected by their education stress and practical stress and academic stress subscale scores. It was also determined that stress scores of the students who preferred the nursing profession willingly or liked it while studying and found the profession prestigious were lower.^[12]

Rafati *et al.* explored the coping strategies of Iranian nursing students with stress in a clinical setting. This qualitative content analysis study was carried out with 20 nursing students who were selected using purposive sampling at the Razi nursing and midwifery school in Kerman, in Iran, during a 10-month period in 2016. Data were collected using semi-structured face-to-face interviews and analyzed through Graneheim and Lundman's qualitative content analysis method. "Seeking well-being" as the main theme and three categories of "active confrontation with stress," "mastering the mind and body," and "avoidance" were obtained from data analysis. The exploration of nursing student's experiences of coping with clinical stressors increases students' awareness of their coping strategy. The academic authorities in recognizing the coping strategies of students with stress in clinical setting can provide necessary training on effective coping strategies for students.^[13]

Seyedfatemi *et al.* conducted a descriptive cross-sectional study to determine sources of stress and coping strategies in nursing students studying at the Iran faculty of nursing and midwifery. All undergraduate nursing students enrolled in years 1-4 during academic year 2004-2005 were included in this study, with a total of 366 questionnaires fully completed by the students. The Student Stress Survey and the adolescent coping orientation for problem



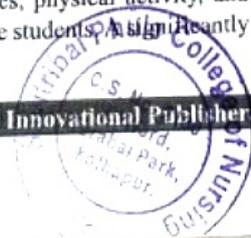
experiences inventory were used for data collection. Most students reported "finding new friends" (76.2%), "working with people they did not know" (63.4%) as interpersonal sources of stress, "new responsibilities" (72.1%), and "started college" (65.8%) as intrapersonal sources of stress more than others. The most frequent academic source of stress was "increased class workload" (66.9%) and the most frequent environmental sources of stress were being "placed in unfamiliar situations" (64.2%) and "waiting in long lines" (60.4%). Interpersonal and environmental sources of stress were reported more frequently than intrapersonal and academic sources. Mean interpersonal ($P = 0.04$) and environmental ($P = 0.04$) sources of stress were significantly greater in the 1st year than in the 4th year students. Among coping strategies in 12 areas, the family problem-solving strategies, "trying to reason with parents and compromise" (73%) and "going along with family rules" (68%) were used "often or always" by most students. To cope with engaging in demanding activity, students often or always used "trying to figure out how to deal with problems" (66.4%) and "trying to improve themselves" (64.5%). The self-reliance strategy, "trying to make their own decisions" (62%), the social support strategies, "apologizing to people" (59.6%), "trying to help other people solve their problems" (56.3%), and "trying to keep up friendships or make new friends" (54.4%); the spiritual strategy, "praying" (65.8%); the seeking diversions strategy, "listening to music" (57.7%), and the relaxing strategy, "daydreaming" (52.5%) and the effort to "be close with someone cares about you" (50.5%) were each used "often or always" by a majority of students. Most students reported that the avoiding strategies "smoking" (93.7%) and "drinking beer or wine" (92.9%); the ventilating strategies "saying mean things to people" and "swearing" (85.8%); the professional support strategies "getting professional counseling" (74.6%) and "talking to a teacher or counselor" (67.2%); and the humorous strategy "joking and keeping a sense of humor" (51.9%) were used "seldom or never." The 1st year nursing students are exposed to a variety of stressors. Establishing a student support system during the 1st year and improving it throughout nursing school is necessary to equip nursing students with effective coping skills. Efforts should include counseling helpers and their teachers, strategies that can be called upon in these students' future nursing careers.^[15]

Menon *et al.* assessed the levels of stress and its associated adverse behavioral effects in undergraduate medical students in a tertiary care medical college. This cross-sectional, descriptive, and analytical study included medical students from the 2nd to 4th years who had given informed consent to participate in the study. Students were assessed with a semi-structured questionnaire, students stress scale (SSS), perceived stress questionnaire, and risk-taking and self-harm (RT and SH) inventory. A total of 405 students (153 males and 252 females) participated in the study. There were no significant differences in the age, perceived family support, religious practices, physical activity, and SSS scores of the male and female students. A sign recently

higher score was obtained by boys as compared to the girls on the scores of the RT subscale and total score on RT and SH inventory. However, girls obtained significantly higher scores as compared to boys on the PSS. Among girls, 23.4% reported high stress, 63.5% had moderate stress, and 13.1% reported low stress. Among boys, 11.1% reported high stress, 68.6% had moderate stress, and 20.3% reported low stress. The difference was statistically significant. The majority of medical undergraduates were under stress; however, the majority perceived themselves to be under moderate stress. Male students had higher scores on RT and SH inventory as compared to females. There is an urgent need to study the causes and devise effective management and preventive measures to avoid the harmful long-term effects of stress on their careers and well-being.^[16]

Bass and Bradford determined if journaling decreased anxiety among beginning nursing students. The reasons behind this study were add to nursing knowledge on journaling to relieve anxiety among nursing students, to hopefully help them perform better in the nursing program, and to avoid burnout in the future as registered nurses. The design involved a convenience sample of incoming summer BSN students randomly assigned to an experimental or control group. A pretest-posttest design with classroom instructor reminders on a week-to-week basis regarding weekly journal writing was used over the course of 12 weeks. All students received a notebook, and the experimental group was given instructions to journal, while the control group was given instructions to take notes. Beck's anxiety inventory (BAT) and Draw-a-Person-in-the-Rain (DAPR) were administered at the beginning and end of the study in the classroom setting. Furthermore, before the study, the institutional review board approval was obtained, and students completed informed consent with the knowledge of details pertaining to the study and the risks involved. All data were collected anonymously with no student identifiers, and results were reported as aggregate data. The pretest-posttest data, in addition to the demographics, were analyzed using paired t-test analysis, a regression line, and Chi-square tests through SPSS software. An analysis of the results showed no statistically significant data, with the exception of a slight correlation between expected end grade in class and post-BAT score – better grade expectations were associated with lower BAT scores or less anxiety. Visual analysis of the data showed a small negative correlation between the control group's anxiety levels and BAT scores. DAPR was found not to show any correlation with BAT scores. Further research is necessary to note the possible correlation between note-taking and anxiety reduction among the nursing student population, in addition to the potential benefits of more creative journaling interventions to reduce anxiety.^[17]

Karimi *et al.* explored Iranian nursing students' perception regarding the consequences of reflection during clinical practices. This qualitative study was conducted by a conventional content analysis approach in two nursing schools at Shiraz and Fasa Universities of Medical



Sciences in Iran. Data were collected through in-depth semi-structured interviews during 2015–2016, from 20 students selected by purposive sampling. All the interviews were tape-recorded, transcribed verbatim, and analyzed by content analysis method. Rigor of this study was approved by member check and external audit. Two categories emerged from the data analysis, including movement toward professionalism and self-actualization of emotions. The former consisted of three subcategories of function modification, sharing experiences, and generalizing experiences. The latter consisted of two subcategories of inner satisfaction and peace of mind. The results indicated that nursing students' reflection in clinical settings is effective in personal and professional levels. Reflection in a personal level led to positive emotions that increased the quality of care in patients. Accordingly, nursing educators need to create a nurturing climate as well as supporting reflective behaviors of nursing students.¹⁶³

Rathnayake and Ekanayaka examined depression, anxiety, and stress and associated factors among undergraduate nursing students in Sri Lanka. This cross-sectional study was conducted at the Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya. A purposive sample of 92 undergraduate nursing students completed a pretested self-administered questionnaire. Depression, anxiety, and stress were measured by the Sinhala version of Depression, Anxiety, and Stress Scale. The sample consisted of 30.4% of male and 69.6% of female students. The mean age was 24.1 years (standard deviation ± 1.6). The majority of the respondents reported mild to extremely severe symptoms of depression (51.1%), anxiety (59.8%), and stress (82.6%). It showed a significant positive relationship between depression and anxiety. Depression, anxiety, and stress are highly prevalent among undergraduate nursing students and correlations between these variables are positive. Self-rated physical health and self-rated mental health are the factors most closely related to negative emotional states. The improvement of mental health among nursing students is essential. The findings call for initiation of stress management interventions and increased counseling facilities for nursing students.

Hirsch *et al.* identified the coping strategies used by nursing students in a university in southern Brazil, establishing the relationship between the sociodemographic and academic variables examined. An exploratory, descriptive, and quantitative study carried out with 146 nursing students, through application of the coping strategies inventory. For the data analysis, descriptive statistics, analysis of variance and regression analysis were used. It was found that the coping strategy most used by nursing students is escape. A connection was also detected between the academic dissatisfaction variable and the use of negative coping strategies. It was noted that students satisfied with the course used positive coping strategies targeting the problem, whereas dissatisfied students used negative strategies focusing on the emotion.¹⁶⁴

Conclusion

The review suggests that nursing students suffer from anxiety. Efforts are required to cater to nursing students who are distressed, in a non-intrusive manner. Awareness about manifestations of distress among nursing students needs to be increased among not only students themselves but also other stakeholders such as educationists and parents. Further research is required on this issue, and multicentric longitudinal studies would help to provide better answers about psychological distress among nursing students in India.

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REGARDING DIALYSIS MANAGEMENT AMONG
**PATIENTS WITH CHRONIC KIDNEY DISEASE (CKD) IN
SELECTED HOSPITALS IN KOLHAPUR**



BY

Ms. Arati Patil
Ms. Rutuja Patil
Ms. Pooja Pujari
Ms. Varsha Pujari
Ms. Mayuri Rathod

Mr. Prashant Sangade
Ms. Sneha Sargar
Ms. Rashmi Singh
Mr. Kiran Sonule
Mr. Vaibhav Sutar

Project Work

Submitted to the

**SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
SAVITRIBAI PHULE COLLEGE OF
NURSING, (MAHARASHTRA)**

**In Partial fulfilment of the requirement for the
degree of**

BASIC B.Sc. NURSING

UNDER THE GUIDANCE OF

MR. HUSAIN NADAF, ASSISTANT PROFESSOR

DEPT. MEDICAL – SURGICAL NURSING



OCTOBER 2022

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Tarabai Park, Kolhapur

LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY




"ज्ञानं विद्यां अग्निं सुराकरं कर्मादीनि विद्याभ्याम्" - (विद्यया विद्यायां विद्यते)
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Hon'ble Chandrakant (Dada) Pali
 President
 Hon'ble Abhaykumar G. Salunkhe
 Executive Chairman
 Hon'ble Mrs. Shubhangi Gawde
 Secretary

Ref No.

Date: 22/04/22

To
Managing Director
Senior Super Speciality
Hospital, Kolhapur

Through Proper Channel

Subject: Permission to conduct research Project study

Respected Sir / Madam

We the undersigned B.Sc. Nursing Students would like to request you for permitting us to conduct a group project in your hospital

"Regarding dietary management among patients with chronic kidney disease in selected hospital, Kolhapur" as a partial fulfillment of our B.Sc. Programme

Please grant us permission for the same and be assured we will not interfere in the routines of the hospital all the information obtained from the subjects will be kept confidential, kindly do the needful

Thanking You,

Approved by
Dr. Abhijit Karmve Sr.

fr. Prachi
22/4/22

N.S. SanDe Hospital



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Signatures
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 Ms. Sneha Sargar
 Ms. Mayuri Rathod
 Ms. Rutuja Pant
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 Mr. Kiran Sonule
 Mr. Prashant Sangade
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Paper ID: **21129110047751996** Submission Date: **December 09, 2021**

Paper Title: **A study to assess the effectiveness of Self- Instructional module on knowledge regarding prevention and complications among patients with Diabetes Mellitus in selected hospitals.**

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Submitted By: **Sandeep Thombare** Email ID: **sandeep.kumar49ou@gmail.com**

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Effectiveness of coconut oil massage therapy for weight gain among low birth weight babies

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Abstract

Low birth weight (LBW) is one of the causes for neonatal mortality and morbidity in Kolhapur. Admission of LBW neonates in a Neonatal Intensive Care Unit (NICU) causes deprivation of tactile sensory stimulation. Massage with oil can help in improving weight. Hence, the study was aimed to evaluate the role of coconut oil massage therapy in weight gain among LBW babies in the Kolhapur region. As this study involves evaluating the effectiveness of coconut oil massage therapy on weight gain among low-birth-weight babies, a Quasi-experimental non-equivalent re-tests, post-tests and control group design was chosen for this study. Sixty neonates of 8-28 days from birth, and gestational age of >32 weeks, and the parents consenting to the study were included and non-random assignment in to experimental and control group was done. Babies in the experimental group were massaged for 10 minutes twice daily with certified coconut oil for 5 days. Whereas the routine massage was given to the neonates of the control group. Pre-assessment and post-assessment weights of all babies were recorded. Wilcoxon sign rank test, Mann Whitney U test and Chi-Square test were used to analyse the data. A significant difference was observed between mean weight gain in experimental and control group ($P=2.96e^{-07}$). Post-assessment weight was significantly associated with age ($P=0.011$) and birth weight ($P=0.03$). Significant mean difference was observed between pre and post-assessment weight of LBW neonate in the experimental group ($P=6.734e^{-17}$). Body massage using coconut oil showed higher weight gain in LBW babies after the 5th day of intervention.

Keywords: Coconut oil, Infant, Intensive care unit, Low birth weight, Traditional massage

1. Introduction

Low birth weight (LBW or birth weight <2500 gm) is caused due to preterm birth, intrauterine growth retardation or both and a reason behind neonatal and postnatal morbidity (WA, 2011; Islami *et al.*, 2012). According to the UNICEF-WHO report, nearly 15% of babies worldwide are born with LBW. The prevalence of LBW in Asia itself is 17.3% and in Indian subcontinent is around 20% and in Maharashtra region is 29.53% (Bharati *et al.*, 2011; Patale *et al.*, 2018; WHO, 2019). LBW neonates are admitted in the neonatal intensive care unit (NICU) and only minimal touch protocol is followed to avoid acquired infection. This deprives them of tactile and sensory stimulation which is important for their growth outcome (WA, 2011).

Previous studies including clinical trial, concluded that massage with coconut oil can improve weight gain in LBW neonates (Arora, *et al.*, 2005; ESJ, 2017). Body massage can improve growth in LBW infants including weight gain, decreased stress behaviour, neuromotor development, improved sleep, decreased chances of infections and mortality of LBW infants (Vickers *et al.*, 2004; Field *et al.*, 2010; Kulkarni *et al.*, 2010).

Traditional oil massage is a common practice in many communities, especially throughout the Asian subcontinent (Darmstadt and Saha, 2003). While there are strong traditional practices, like performing oil massage especially before giving bath to the infant has seemingly evolved due



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to discerning benefits, although little has been documented with regards to the actual benefits or detriments of this practice. Benefits may include improved skin condition, prevention of skin injury and skin infection, improved thermoregulation due to decreased trans epidermal water loss, absorption of essential lipids and enhanced maternal-infant bonding with repetitive tactile stimulation (Darmstadt *et al.*, 2003).

There is a lack of evidence on the impact of coconut oil massage on LBW infants of Kolhapur region. As the researcher came across many case of low birth weight babies during her clinical service and she also found that the length of hospitalization was more for such low birth weight babies because of slow weight gain and complications aroused parallel because of it. This provoked the researcher to find out the easiest, economical and feasible solution for increasing weight in LBW babies. Coconut oil massage therapy is a traditional practice followed in India for centuries but lacks concrete evidence. Hence after extensive review of literature, researcher decided to test the effectiveness of coconut oil massage therapy on weight gain among LBW babies.

2. Materials and methods

The Quasi-experimental non-equivalent pre-tests, post-tests and control group design was performed from January 2019 to February 2019 on 60 LBW babies, who were admitted to neonatal intensive care unit (NICU); in randomly selected hospitals named as Komal hospital, Masai hospital, Aster Aadhar hospital and Apple Saraswathi hospital of Kolhapur, Maharashtra. The ethical approval for the study was obtained from the institutional ethical committee prior to the initiation of the study. The informed consent was obtained from all the subjects or guardians prior to enrolment in the study. The samples were selected based on non-probability, purposive sampling technique. LBW babies of 8-28 days of age and gestational age of more than 32 weeks, with APGAR score of 7-10 at 5 minutes and whose parents consented were included in the study. Whereas LBW neonates on a ventilator, on parenteral nutrition therapy, any on breast milk fortifier, who were seriously ill with a skin infection or abnormalities and nil per oral were excluded from the study. The pre-assessment weight was assessed by using infant monitor

weighing scale in both the groups. Coconut oil massage was administered to subjects in the experimental group by the research investigator for 10 minutes twice daily for 5 days as it shows greater increase in the weight. After 5 days, post assessment weight was assessed by using the same scale in both the groups.

2.1. Study tool

It consisted of a questionnaire related to selected socio-demographic data, which was collected through interview method. Infant weighing scale and infant weight monitoring chart was also used. The weighing scale was calibrated, checked and certified by the biomedical Engineer of D Y Patil Engineering College, Kolhapur. Coconut oil was used as the intervention in the experimental group. The coconut oil was tested at PURU lab, Jaysingpur, district Kolhapur, to maintain standard parameters and certified by a qualified Ayurvedic doctor. The tool was validated by 14 experts of whom 9 were specialized in child health nursing, 2 were statisticians and 3 were MD in paediatrics.

2.2. Pilot study

Pilot study was conducted in December 2018 at randomly selected hospitals. D. Y. Patil hospital and research centre was selected for the experimental group and Gurukrupa hospital was selected for the control group. Purposive sampling was used to select 16 participants fulfilling the inclusion criteria. They were divided into two groups experimental and control. Pre-assessment weight was done prior to the intervention using the tool. Coconut oil massage was administered in experimental group for 10 minutes twice daily at an interval of 6 hours for 5 days. Routine procedure (massage without oil) was done in the control group. After 5 days post assessment weight was done by using the same scale in both groups.

2.3. Study groups

The same procedure as the pilot study was carried out in 60 LBW participants who were divided into the experimental (Masai hospital and Aster Adhar hospital) and control groups (Komal and Apple Saraswati hospital) (n=30 in each group).

2.4. Statistical analysis

Data was analysed using R v 3.6.1 software. Explanatory data analysis was performed to know



Table 1. Distribution of socio-demographic variables

Socio-demographic variables	Subcategories	Experimental group		Control group	
		Frequency	%	Frequency	%
Age	08-14 days	6	20	11	37
	15 - 21 days	15	50	12	40
	22 - 28 days	9	30	7	23
Gender	Male	13	43	13	43
	Female	17	57	17	57
Birth weight	1.5-2.0 kg	26	87	24	80
	2.1-2.5 kg	4	13	6	20
Gestational age	32-36 weeks	14	47	10	33
	37-40 weeks	16	53	20	67

the frequency of variables. Paired t-test was used to analyze the mean weight difference of pre and post-assessment in the experimental group. Post-assessment mean difference of control and experimental group was analyzed by using the Mann Whitney U test. Chi-Square test was used to find an association between socio-demographic variables and post-assessment weight gain of the experimental group. $P < 0.05$ was considered as statistically significant.

3. Results and discussion

The pilot study proved that the study tool was reliable and consistent. The study population had a higher number of female participants ($n=34$) with most ($n=27$) in the 15-21 days of age bracket. The distribution of socio-demographical variables is shown in Table 1.

By observing Table 2, we conclude that, at 5 % level of significance there is no statistically significant mean difference between pre and post-assessment of experimental group ($p > 0.05$). post-assessment of experimental group is greater than pre-assessment of experimental group.

Table 2. Summary table of Wilcoxon sign rank test

Experimental group		P-value
Mean of pre-assessment weight	Mean of post-assessment weight	
1784.0667	1835.8667	0.1931

Table 3. Summary table of Mann-Whitney-U test

Sl. No.	Variable	Weight gain (mean \pm sd)	P-value
1	Experimental group	51.8 \pm 25.71	2.96e ⁻⁰⁷
2	Control group	19.2 \pm 12.06	

From Table 3, we conclude that, at 5 % level of significance, there is statistically significant mean difference of weight gain in experimental and control group ($p < 0.05$).

A significant difference between mean weight gain of experimental and control group was observed ($P=2.96e-07$). A significant association was found between post-assessment weight gain



and age ($P=0.011$) and birth weight of LBW neonates ($P=0.03$). In the experimental group, significant difference was observed between pre and post-assessment weight of the LBW neonate ($P=6.734e-12$). Mean weight gain in the experimental group was 51.8 ± 25.71 gm and in the control group 19.2 ± 12.06 gm (Fig. 1).

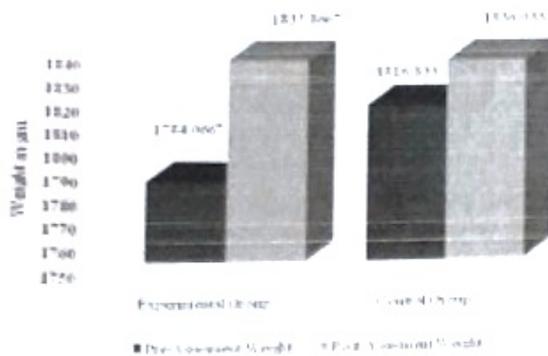


Fig. 1. Pre and post assessment weight of experimental group and control group

LBW is one of the causes of neonatal mortality, morbidity and disability and also has a long-term impact on health outcomes in adult life (Singh, 2017). In Maharashtra, during the year 2015-16, 60.6% neonatal deaths were due to LBW, of which 745 neonatal deaths were occurred in Kolhapur region (Saunik *et al.*, 2017). Therefore, the study was conducted to evaluate the role of oil massage therapy in the weight gain of LBW babies.

Mean weight gain in the experimental group was more as compared to the control group (51.8 ± 25.71 gm vs 19.2 ± 12.06 gm) and the difference was found to be significant ($P=2.96e-07$). Significant difference was observed between pre and post-assessment weight of the LBW neonate ($P=6.734e-12$). In a study conducted by Singh *et al.*, 2017, mean weight gain was more in experimental group as compared to the control group (4.5 ± 3.65 gm vs 2.03 ± 0.7 gm). Massage therapy is a non-invasive procedure having a positive impact on the physical and developmental outcomes of LBW neonates (Vickers *et al.*, 2004). Weight gain by massage can be explained by increased vagal activity, sucking increases insulin release, reduced energy expenditure, decreased norepinephrine serum level, increased gastric motility and hence better absorption of nutrients (Chhugani and Sarkar, 2014). Massage of coconut oil is a traditional

practice in Indian subcontinent for centuries. It act by supplementation of essential fatty acids, augmentation of the skin barrier, reduced water loss, reduced hypothermia and thereby reduces infections and new-born mortality. It plays key role in the growth promotion (Konar *et al.*, 2020). Significant association was found between post-assessment weight gain and age ($P=0.011$), birth weight of LBW neonates ($P=0.03$). In a study conducted by Singh *et al.* (2017), reported there was no significant association between demographic variables which included birth weight of the new born and weight gain except sex of the new born in experimental group.

No significant difference was found in the post assessment weight of both groups as the initial weight is lower in the experimental group. By the end of the study, massage of either form has helped in some amount of weight gain.

The present study is the first of its kind in Kolhapur, Maharashtra. The findings of this study are in line with various similar studies that have already proved coconut oil to be effective in improving weight gain in LBW neonates (Shah *et al.*, 2011; Karbasi *et al.*, 2013; Jabracile *et al.*, 2016). In Maharashtra, LBW is the leading cause of neonatal morbidity and mortality therefore, the government of Maharashtra should consider recognizing coconut oil massage as a therapy for the management of LBW babies.

The sample size and neonatal follow-up of the study was small hence, generalization could be better if a large sample size with long term follow-up is included. A comparative study with various other oils and a prospective longitudinal study for analysing the long-term effect of massage on LBW babies are further recommendations of the study.

4. Conclusion

Body massage using coconut oil showed higher weight gain in low-birth-weight babies.

Acknowledgements

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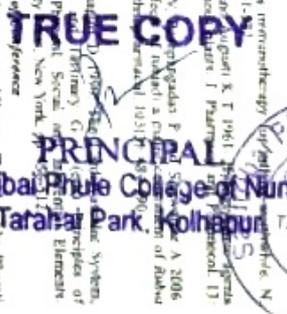
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REGARDING DENGUE AND ITS PREVENTION IN THE
SELECTED AREA OF KOLHAPUR, A VIEW TO DEVELOP AN
INFORMATION BOOKLET"**



BY

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Ms. Shrutika Shinde

Mr. Prajakta Thorat

Ms. Pratiksha Veerkayade

Ms. Sneha Tawar

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Project Work

Submitted to the

**SAVITRIBAI PHULE COLLEGE OF NURSING
SWAMI VIVEKANAND SHIKSHAN SANSTHA'S, KOLHAPUR
MAHARASHTRA**

In partial fulfilment of the requirements for the degree of

B.Sc. NURSING & MIDWIFERY

UNDER THE GUIDANCE OF

MS. MILKA KALEKAR,

(M.Sc Nursing, Dept.-Medical Surgical Nursing)

CLINICAL INSTRUCTOR,

Savitribai Phule College of Nursing, Kolhapur.

DEPT. OF MEDICAL – SURGICAL NURSING

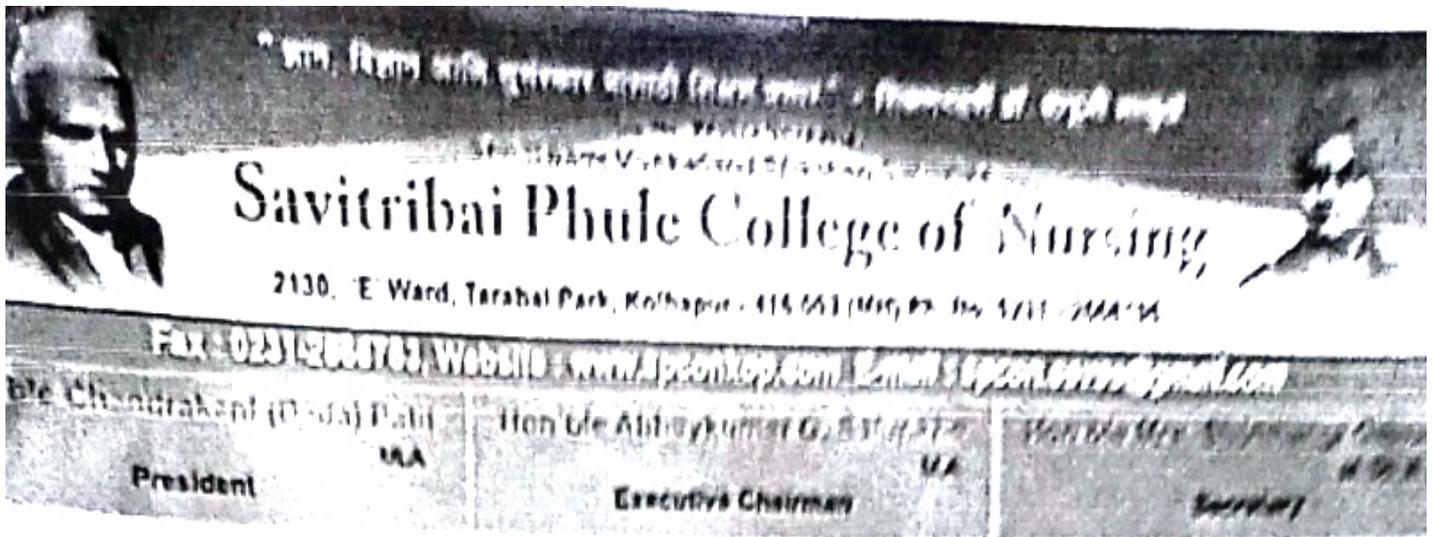
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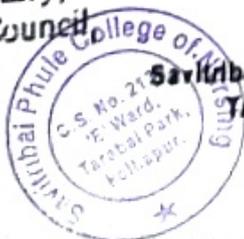
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AND BAD TOUCH AMONG CHILDRENS IN SELECTED
SCHOOLS, OF KOLHAPUR DISTRICT"



BY

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- Ms. Anjali Koravi
- Ms. Pooja Nikam
- Ms. Priti Nagargoje
- Ms. Sayali Misal
- Ms. Tejaswini Mane
- Ms. Shamal Mangal
- Mr. Arif Mulla
- Project Work**

Submitted to the

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SWAMI VIVEKANAND SHIKSHAN SANSTHA'S, KOLHAPUR
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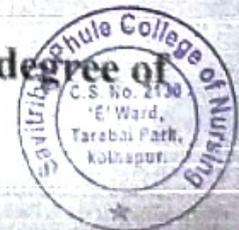
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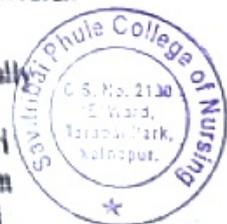
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Yours Faithfully

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RESEARCH ARTICLE

A Study to Assess the Effectiveness of Planned Teaching Programme on the Knowledge regarding Menstrual Hygiene among Adolescence Girls Studying in the Selected Schools, Kolhapur.

Mrs. Sushila Kumari

Savitribai Phule College of Nursing, Kolhapur, Maharashtra

*Corresponding Author Email: choudharysushila@gmail.com

ABSTRACT:

Adolescent is a period of transition between childhood and adulthood. It is a time of biologic, intellectual, psychosocial and economic changes. The girls who enter the adolescent period have rapid physical and psychological changes. During this period girls develop breast, hair under arms and private parts, oily skin and body odors. At this stage of adolescent majority of girls attain menarche. Menarche is first menstruation of the girls which occurs every month periodically menstruation is phenomenon unique to females. Although every women has an individual cycle of menstruation, it varies in length and the average cycle is taken to be 28 days long and recurs from puberty to menopause except pregnancy and other reproductive disorders. It occurs at the age of 12 to 13 years. Hygiene related practice of women during menstruation is of considerable importance as it has a health impact in terms of increased vulnerability to reproductive tract infection. The findings of the study on menstrual hygiene showed that the girls should be educated about the significance of menstruation, selection of sanitary menstrual absorbent and its proper disposal. Adolescent girls behind the importance of personal hygiene for the reduction of menstrual pain, 51.5% reported not taking a bath for 8 days after the onset of their menstrual period and the vast majority of students (98.5%) indicated that young girls should receive appropriate and sufficient information related hygiene. A descriptive study was approached with pre test design. The sample size was 30, the girls studying in 9th standard of new model English school, Kolhapur other than the pilot study conducted. Demographic data, structured knowledge questionnaire and development of information booklet were prepared for data collection procedure. The tool was finalized by consulting seven experts in the field of nursing. Pilot study was done for its clarity, unambiguity & feasibility on similar subject. Demographic data of the students were presented in graphs. Association of variables was tested by Chi-square with Yates correction test. The age range of the participants was 13-15 years. Majority of them belonged to middle class family. The knowledge level on menstrual hygiene was maximum good in more than half of the participants 24(80%) and 6(20%) were average. The data presented indicates that the majority of girls 15 (50%) belongs to the age group of 14 years, minimum of 8 (2.66%) belongs to 13 years and 7 (2.34%) belongs to 15 years. Majority of the girls 20 (66.72%) belongs to middle class family.

KEY WORDS: Menstrual cycle, Adolescent, Knowledge, Effectiveness, Hygiene.

INTRODUCTION:

Life is a dynamic process in which a different stage comes and every stage of life comes with different problems. Adolescent is a period of transition between childhood and adulthood.

It is a time of biologic, intellectual, psychosocial and economic changes. The adolescent girls constitute a vulnerable group in India. The girls who enter the adolescent period have rapid physical and psychological changes. During this period girls develop breast, hair under arms and private parts, oily skin and body odors. At this stage of adolescent majority of girls attain menarche. Menarche is first menstruation of the girls which occurs every month periodically menstruation is phenomenon

Received on 04.04.2013

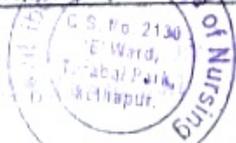
Modified on 15.05.2013

Accepted on 01.06.2013

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RESEARCH ARTICLE

A Study to Assess the Effectiveness of Planned Teaching Programme on the Knowledge regarding Menstrual Hygiene among Adolescence Girls Studying in the Selected Schools, Kolhapur.

Mrs. Sushila Kumari

Savitribai Phule College of Nursing, Kolhapur, Maharashtra

*Corresponding Author Email: choudharysushila@gmail.com

ABSTRACT:

Adolescent is a period of transition between childhood and adulthood. It is a time of biologic, intellectual, psychosocial and economic changes. The girls who enter the adolescent period have rapid physical and psychological changes. During this period girls develop breast, hair under arms and private parts, oily skin and body odors. At this stage of adolescent majority of girls attain menarche. Menarche is first menstruation of the girls which occurs every month periodically menstruation is phenomenon unique to females. Although every women has an individual cycle of menstruation, it varies in length and the average cycle is taken to be 28 days long and recurs from puberty to menopause except pregnancy and other reproductive disorders. It occurs at the age of 12 to 13 years. Hygiene related practice of women during menstruation is of considerable importance as it has a health impact in terms of increased vulnerability to reproductive tract infection. The findings of the study on menstrual hygiene showed that the girls should be educated about the significance of menstruation, selection of sanitary menstrual absorbent and its proper disposal. Adolescent girls behind the importance of personal hygiene for the reduction of menstrual pain, 51.5% reported not taking a bath for 8 days after the onset of their menstrual period and the vast majority of students (98.5%) indicated that young girls should receive appropriate and sufficient information related hygiene. A descriptive study was approached with pre test design. The sample size was 30, the girls studying in 9th standard of new model English school, Kolhapur other than the pilot study conducted. Demographic data, structured knowledge questionnaire and development of information booklet were prepared for data collection procedure. The tool was finalized by consulting seven experts in the field of nursing. Pilot study was done for its clarity, unambiguity & feasibility on similar subject. Demographic data of the students were presented in graphs. Association of variables was tested by Chi-square with Yates correction test. The age range of the participants was 13-15 years. Majority of them belonged to middle class family. The knowledge level on menstrual hygiene was maximum good in more than half of the participants 24(80%) and 6(20%) were average. The data presented indicates that the majority of girls 15 (50%) belongs to the age group of 14 years, minimum of 8 (2.66%) belongs to 13 years and 7 (2.34%) belongs to 15 years. Majority of the girls 20 (66.72%) belongs to middle class family.

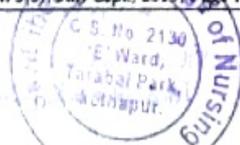
KEY WORDS: Menstrual cycle, Adolescent, Knowledge, Effectiveness, Hygiene.

INTRODUCTION:

Life is a dynamic process in which a different stage comes and every stage of life comes with different problems. Adolescent is a period of transition between childhood and adulthood.

It is a time of biologic, intellectual, psychosocial and economic changes. The adolescent girls constitute a vulnerable group in India. The girls who enter the adolescent period have rapid physical and psychological changes. During this period girls develop breast, hair under arms and private parts, oily skin and body odors. At this stage of adolescent majority of girls attain menarche. Menarche is first menstruation of the girls which occurs every month periodically menstruation is phenomenon

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Asian J. Nur. Edu. and Research 3(3): July-Sept. 2013; Page 177-179



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Terabai Park, Kolhapur.

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Terabai Park, Kolhapur.

unique to females. It is process in which the uterine endometrium breaks down and sheds cells, resulting in bleeding. Menstrual flow is blood and tissue sloughed from endometrial which is free of toxins. On average women lose about four tablespoon of blood on each menstruation.¹ Menarche is a significant event in the course of puberty. Although the age of menarche varies among adolescents, it occurs in most adolescents with the onset of ovulatory cycles. local prostaglandins are released, often causing dysmenorrhea and abnormal uterine bleeding usually is the result of an ovulatory cycles. However, complications of pregnancy, systemic illnesses, and local pathology must be considered. Significant bleeding usually responds to hormonal therapy. Amenorrhea may result from abnormalities affecting the hypothalamus, pituitary, or ovaries. The evaluation should be in a logical order.² Menstruation is a phenomenon unique to the females. It is clear from the study that majority of the girls were not having correct knowledge about menstruation. Few of them have knowledge using boiled and dried cloth as menstrual absorbent. This shows that the mothers of these girls were lacking of right knowledge and the same thing was transferred to their off springs. The girls should be educated about the significance of menstruation and development of secondary sexual characteristics, selection of a sanitary menstrual absorbent and its proper disposal. This can be achieved through educational television programmes, school nurses personnel, compulsory sex education in school curriculum and knowledgeable parents, so that she does not develop psychological upset and the received education would indirectly wipe away the age old wrong ideas and make her to feel free to discuss menstrual matters without any inhibitions.³

Adolescent girls constitute a vulnerable group, particularly in India where female child is neglected. Menstruation is regarded as something unclean or dirty in Indian society. The reaction to menstruation depends upon awareness and knowledge about the subject. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. Although menstruation is a natural process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes.⁴ Learning about menstrual hygiene is a vital aspect of health education for adolescent girls asked about type of sanitary protection used, frequency of changing pads or cloths, means of disposal and bathing during menstruation. Girls were selected by cluster sampling technique in public secondary schools in urban and rural areas. The significant predictors of use of sanitary pads were availability of mass media at home, high and middle social class and urban residence. Use of sanitary pads may be increasing, but not among girls from rural and poor families and other aspects of personal hygiene were generally found to be poor, such as not changing pads regularly or at night, and not bathing during menstruation.⁵

MATERIALS AND METHODS:

The descriptive study carried out to assess the knowledge among 30 adolescent girls. The study was conducted in selected schools of Kolhapur. The main study was carried out at new model English school, Kolhapur, Maharashtra. The protocol of study was explained to samples and informed consent was obtained. The samples were selected Probability sampling technique. Self prepared socio-demographic and knowledge questionnaire were prepared. Section - A: socio demographic characteristics (08 items) and Section: B multiple knowledge questionnaire (30 items) The scoring of knowledge questionnaire done as each correct answer carry 1 mark and false answer carry 0 marks. The categorized in three groups Good (15-20 correct answer), Average (10-14) and Poor (0-9). Association of variables was tested by Chi-square with Yates correction test and chi square test for knowledge.

RESULTS:

The data presented indicates that the majority of girls 15 (50%) belonged to the age group 14 years, and a minimum 8 (2.66%) belonged to 13 years and 7 (2.34%) belonged to 15 years. Majority of the girls 20 (66.72%), belonged to middle class family (i.e; income 10,000-30,000 monthly) 5(16.69%) girls parents had their monthly income below 10,000 and the remaining 5(16.69%) girls parents had their monthly income above 30,000 . Maximum i.e; 21(70%) parents of girls were graduates, 6(20%) parents were post graduate and minimum parents i.e.; 3(10%) were under graduates. maximum 27(90%) girls were from urban area while 3(10%) belonged to rural area. At the end of the study it is found that maximum of 80% students scored good in the questionnaire, 20% scored average and 0% scored poor.

DISCUSSION:

The study focused on the assessment of knowledge regarding menstrual hygiene among 9th standard girls. The findings of the study are discussed. Majority of girls 15 (50%) belonged to the age group 14 years, and a minimum 8 (2.66%) belonged to 13 years and 7 (2.34%) belonged to 15 years. Majority of the girls 20 (66.72%), belonged to middle class family (income 10,000-30,000 monthly), 5(16.69%) girls parents had their monthly income below 10,000 and the remaining 5(16.69%) girls parents had their monthly income above 30,000 Maximum 21(70%) parents of girls were graduates, 6(20%) parents were post graduate and minimum parents 3(10%) were under graduates. maximum 27(90%) girls were from urban area while 3(10%) belonged to rural area. The knowledge level on menstrual hygiene was maximum good in more than half of the participants 24 (80%), 6 (20%) were average and no one performed poor. Judging by the results of the level of knowledge of the participants, more awareness programs should be directed to the target group of girls to provide them with information they need to know about menstruation and menstrual hygiene.

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International Workshop

On "UGC-NAAC Revised accreditation process"

Organised by



Research Foundation of India

रिसर्च फाउंडेशन ऑफ इंडिया

In Association With



World Virtual Conference Forum
International Research Centre



Jointly Organised By : World Virtual Conference Forum

It is Certified that Prof./Dr./Mr./Ms./Mrs. Sushila Kumari

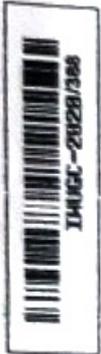
of Associate Professor, Kolhapur

Participated in The International Workshop on "UGC-NAAC Revised accreditation process" (IWUGC-2020)

Organised by Research Foundation of India on 05 June 2020.



IWUGC-2020



IWUGC-2020/366

Dr. Rubesh Shukla
Speaker-IWUGC-2020
(Master Trainer)

Dr. Prakashini Tiwari
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Terabai Park, Kolhapur.

CERTIFICATE

This is to certified that paper entitled 'A Study to Assess the Effectiveness of Planned Teaching Programme on the Knowledge regarding Menstrual Hygiene among Adolescence Girls Studying in the Selected Schools, Kolhapur' author by Mrs. Sushila Kumari has been published in Asian Journal of Nursing Education and Research (AJNER) (print ISSN 2231-1149), July-September 2013, Vol. 3, Issue 3, pages 177-179.

The paper has been published after getting reviewed by reviewers.

The journal is indexed in Google Scholar, Indian Science Abstract, ProQuest Central, Gale Group Inc. USA, EBSCO Publishing's Electronic Databases, Indian Citation Index.

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Tarabai Park, Kolhapur.



Editor-in-Chief
Dr. (Mrs.) Monika S. Daharwal



"A PRE-EXPERIMENTAL STUDY TO EVALUATE KNOWLEDGE REGARDING VARICOSE VEIN & ITS PREVENTION AMONG STAFF NURSES IN SELECTED HOSPITALS, KOLHAPUR WITH A VIEW TO DEVELOP SELF INSTRUCTIONAL MODULE"



By Third Year Students,

Ms. Apeksha Ghevade

Ms. Sejal Gawas

Ms. Poonam Bansode

Ms. Dhanashri Jadhav

Ms. Prajakta Bhanase

Ms. Akshata Gaikwad

Ms. Pavitra Hegade

Mr. Tahir Bagwan

Ms. Amisha Dhanawade

Project Work

Submitted to the

**SHRI SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
SAVITRIBAI PHULE COLLEGE OF NURSING, KOLHAPUR,
MAHARASHTRA**

In partial fulfillment

Of the requirements for the degree of
BASIC BSc NURSING

UNDER THE GUIDANCE OF

Ms. Varsha V Tondale (MSc Nursing - Child Health Nursing Department)

Ms. Shweta S Jadhav (MSc Nursing - Medical Surgical Nursing Department)

PRINCIPAL

Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

2021 - 2022



Savitribai Phule College of Nursing,

2130, E Ward, Tarabai Park, Kolhapur - 416 001 (MH) Ph: No. 0231-2668763

Ex: 0231-2668763, Website: www.spcnkolp.com E-mail: spcon-seves@gmail.com

Hon'ble Dr. (Dada) Patil

Hon'ble Abhaykumar G. Satarkhe

Hon'ble Mrs. Shubhash

President

M.A.

M.A.

Executive Chairman

Secretary

211/SPCON/2022-23

Date 19/6/22

From

3rd Year B.Sc. Nursing
Savitribai Phule College of Nursing,
Kolhapur

To,

Apple - Saraswati
Hospital,
Kadamwadi, Kolhapur.

Through Proper Channel

Subject - Permission to conduct Research Study

We, above mentioned students of 3rd Basic B.Sc. Nursing from Savitribai Phule College of Nursing, kindly request you to grant us permission to conduct research study in your esteemed institution, titled "A Study To Assess the Knowledge Regarding Varicose Vein and Prevention among Staff Nurses of Selected Hospital, Kolhapur With a View to Develop Self Instructional Model" As a part of partial fulfillment of our B.Sc. Nursing 3rd year programme from 18/5/22 to 25/8/22. We assure you that we will not interfere in the routines of the a have menticened Hospital and maintain confidentiality, kindly do the needful.

Thanking You

Yours Faithfully

Tahir Bagwan (T. Bagwan)
Apeksha Ghevade (A. Ghevade)
Sejal Gawas (S. Gawas)
Dhanashri Jadhav (D. Jadhav)
Poonam Bausode (P. Bausode)
Akshata Gaikwad (A. Gaikwad)
Pavitra Hegade (P. Hegade)
Pranjata Bhanuse (P. Bhanuse)
Amisha Dhanwade (A. Dhanwade)

PRINCIPAL

Savitribai Phule College of Nursing,
Tarabai Park, Kolhapur



PRINCIPAL

Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

A study to assess the effectiveness of planned teaching program regarding eye care to prevent eye problems among adolescent in selected schools of kolhapur city.

BY

Ms. Joshi Anagha
Ms. Diksha Kamble
Ms. Rutuja kambale
Mr Kambale Vishal
Mr Khade Rohit

Ms Kakade Sakshi
Ms. Kambale Pramodini
Ms. kambale swapnaja
Ms. Karande Pradnya

UNDER THE GUIDANCE OF

MR. SOLOMON .S. ATHAWALE (Lecturer)

DEPT.MEDICAL & SURGICAL NURSING

Project work submitted to the

SAVITRIBAI PHULE COLLEGE OF NURSING, KOLHAPUR (MAHARASHTRA)

OCT - 2022



PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

A study to assess the effectiveness of planned teaching program regarding eye care to prevent eye problems among adolescent in selected schools of kolhapur city.

BY

Ms. Joshi Anagha

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Mr Kambale Vishal

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Ms. Kambale Pramodini

Ms. kambale swapnaja

Ms. Karande Pradnya

UNDER THE GUIDANCE OF

MR. SOLOMON .S. ATHAWALE (Lecturer)

DEPT.MEDICAL & SURGICAL NURSING

Project work submitted to the

SAVITRIBAI PHULE COLLEGE OF NURSING,KOLHAPUR(MAHARASHTRA)




PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

VENTILATOR AMONG STAFF NURSES WORKING IN CRITICAL
AREAS OF SELECTED HOSPITALS, KOLHAPUR WITH A VIEW
TO DEVELOP AN INFORMATIONAL BOOKLET



BY

Mr. Omkar Savairam

Mr. Vaibav Patil

Mr. Sanket Patil

Ms. Kranti Patil

Ms. PRatiksha Powar

Ms. Shraddha Sarnaik

Mr. Nilesh Patil

Mr. Karan Redekar

Project Work

Submitted to the

SAVITRIBAI PHULE COLLEGE OF NURSING

SWAMI VIVEKANAND SHIKSHAN SANSTHA'S, KOLHAPUR

MAHARASHTRA

In partial fulfilment of the requirements for the degree of

B.Sc. NURSING & MIDWIFERY

UNDER THE GUIDANCE OF

MR. HUSAIN NADAF, CLINICAL INSTRUCTOR

DEPT. OF MEDICAL – SURGICAL NURSING



PRINCIPAL

OCTOBER 2021

Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

श्रद्धा, शिक्षण आणि पुनर्जागरण यांचा ही त्रिवेणी संगम - सवित्रीबाई फुले कॉलेज

Dr. Savitri Vaidyanath Shrinagar Shirur

Savitribai Phule College of Nursing

2130, 'E' Ward, Tarabai Park, Kolhapur - 414 003 MH. Ph. No. 266714

Fax: 0231-266763 Website: www.spconkop.com E-mail: spcon.saves@gmail.com

Hon'ble Chandrakant (Dada) Patil
President
M.A.

Hon'ble Abhaykumar G. Salunke
Executive Chairman
M.A.

Hon'ble Mrs. Sheshkanti Gowar
Secretary
M.A.

Ref No. S35/SPCON/2021

Date: 02/12/2021

From:

4th Year B.Sc. Nursing
Savitribai Phule College of Nursing,
Kolhapur

To,
Amal

Superspeciality
Hospital, Kolhapur.

Through Proper Channel

Subject - Permission to conduct Research Study

We, above mentioned students of 4th Basic B.Sc. Nursing from Savitribai Phule College of Nursing, kindly request you to grant us permission to conduct research study in your esteemed institution, titled "A Descriptive Study To Assess The Knowledge Regarding Mechanical Ventilator Among Staff Nurses Working In Critical Areas At Selected Hospitals, Kolhapur With A View To Develop An Informational Booklet". As a part of partial fulfillment of our B.Sc. Nursing 4th year programme from _____ to _____. We assure you that we will not interfere in the routines of the hospital and maintain confidentiality, kindly do the needful.

Thanking You



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Savitribai Phule College of Nursing,
Tarabai Park, Kolhapur

PRINCIPAL

Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

Yours Faithfully

Sanket Patil
Omkar Sawairam
Vaibhav Patil
Nilesh Patil
Karan Redkar
Krunal Patil
Shradha Shingde
Pranksha Power

ok
permitted
due consideration
6/12/21 @ 3.50 pm

APPENDIX 1

"ज्ञानं विद्यां शक्तिं मूर्खकारेण पराधीनं विद्यायाः प्रसारः" - श्रीगणेशाय नमः
श्रीगणेशाय नमः
Shri Gwami Vivekanand Bhikshan Granthas
Savitribai Phule College of Nursing
2130, 'E' Ward, Tarabai Park, Kolhapur - 416 003 (MH) Ph. No. 0231 - 2668196
Fax: 0231-2668763, Web: www.apconkop.com E-mail: apcon.svas@gmail.com
Hon'ble Chandrakant (Dada) Patil
President
Hon'ble Abhaykumar G. Salunkhe
Executive Chairman
Hon'ble Mrs. Shubhangi Gawade
Secretary
Date: 08/06/2022

Ref No. 175/APCN/2022-2023

From:
3rd Year B.Sc. Nursing
Savitribai Phule College of Nursing,
Kolhapur

To,
The Principle
New model English
School Kolhapur

Through Proper Channel

Subject - Permission to conduct Research Study

We, above mentioned students of 3rd Basic B.Sc. Nursing from Savitribai Phule College of Nursing. Kindly request you to grant us permission to conduct research study in your esteemed institution, titled "A Study To Assess the Effectiveness of Planned Teaching Program among Primary School Children as student of 5th std" - As a part of partial fulfillment of our B.Sc. Nursing 3rd year programme from 08/06/2022 to 08/06/2022. We assure you that we will not interfere in the routines of the Primary School Children and maintain confidentiality, kindly do the needful.
Thanking You



- Yours Faithfully
- Diksha Kamble *D.Kamble*
 - Anagha Joshi *AJ*
 - Sakshi Kakade *S.Kakade*
 - Rutuja Kamble *R.Kamble*
 - Swapanaja Kamble *S.Kamble*
 - Vishal Kamble *V.Kamble*
 - Pramodini Kamble *P.Kamble*
 - Pradnya Karande *P.Karande*

OK
✓
RI
PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur
PRINCIPAL
Savitribai Phule College of Nursing

"A study to assess the effectiveness of planned teaching program regarding vision care among primary school children at selected schools, Kolhapur."



BY

Ms. Diksha Kamble

Ms. Anagha Joshi

Ms. Pramodini Kamble

Ms. Pradnya Karande

Mr. Vishal Kamble

Ms. Sakshi Kakade

Mr. Rohit Khade

Ms. Swapnaja Kamble

Ms. Rutuja Kamble

Project Work

Submitted to the

SHRI SWAMI VIVEKANAND SHIKSHAN SANTHA'S

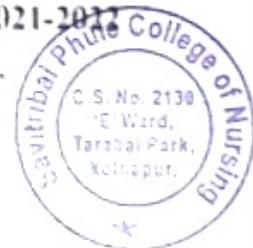
SAVITRIBAI PHULE COLLEGE OF NURSING KOLHAPUR.2021-2022

In partial fulfillment of the requirements for the degree of

BASIC BACHELOR OF SCIENCE IN NURSING

UNDER THE GUIDENCE OF

GUIDE MR. SOLOMON SATWASEN ATHAWALE (M. Sc NURSNG) LECTURE DEPT OF MEDICAL SURGICAL NURSING) AND CO-GUIDE MRS. MILKA KALEKAR (M.SC NURSING) DEPT OF MEDICAL SURGICAL NURSING



OCTOBER 2022

PRINCIPAL

Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

**"A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE ABOUT
OSTEOPOROSIS AND ITS PREVENTION AMONG WOMEN
ATTENDING OPD AT SELECTED HOSPITAL, KOLHAPUR IN
VIEW TO DEVELOPING AN INFORMATIONAL BOOKLET"**



BY

Ms.Pournima Kalekar

Ms.Sonal Gurav

Ms.Jyoti Jagadale

Ms.Aishwarya Harale

Ms.Sonali Kamble

Ms.Rajeshree Girigosavi

Ms.Swamini Jadhav

Mr. Sachin Kadam

Project Work

Submitted to the

**SAVITRIBAI PHULE COLLEGE OF NURSING
SWAMI VIVEKANAND SHIKSHAN SANSTHA'S, KOLHAPUR
MAHARASHTRA**

**In partial fulfilment of the requirements for the degree of
B.Sc. NURSING & MIDWIFERY**

UNDER THE GUIDANCE OF

MS. DIANA WILSON,

ASSISTANT PROFESSOR

HOD OF MENTAL HEALTH NURSING



OCTOBER 2021

PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

CHAPTER X

ANNEXURES

A. Letter requesting permission to conduct research study

From:
4th Year Basic B.Sc. Nursing
Savitribai Phule College of Nursing

Date:

To,

Medical Superintendent
D.Y Patil Hospital
Kolhapur

Subject: Permission to conduct the Project Study

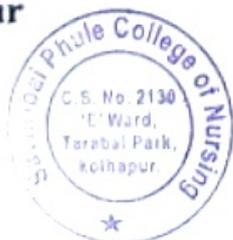
Respected Madam,

With reference to the above mentioned subject, we the Final Year B.Sc. Nursing group students are going to conduct the project study in your esteemed institution on the following topic. "A descriptive study to assess the Knowledge about Osteoporosis & its Prevention among Women attending O.P.D. at selected Hospital, Kolhapur in view of developing Information Booklet" You are requested to kindly allow them to do so; I assure that this data will be kept confidential and utilized only for study.

Thanking You,

Date:

Place: Kolhapur




PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

"A study to assess the knowledge regarding foot ulcer among diabette client in kanan Nagar of kolhapur district with a new to develop on information pamphlets"



MISS. PRATIKSHA ADNAIK

MISS. APURVA GADE

MISS. SONALI BHINGARE

MISS. MAHIMA GAIKWAD

MISS. MAYURI DANDALE

MISS. PRAJAKTA GAVALI

MISS. SNEHAL EKAWADE

MR. VIJAY GAVALI

GRUP PROJECT SUBMITTED TO

**SAVTRIBAI PHULE COLLEGE OF NURSING KOLHAPUR,
MAHARASHTRA IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS**

DEGREE OF

BACHELOR OF NURSING

UNDER THE GUIDANCE OF

**SUSHILAKUMARI LAMBA (M.SC. OBSTETRICS & GYENACOLOGY
(N)**

ASSOCIATE PROF, DEPT. OF OBSTERICS & GYENACOLOGY. (N)

SAVTRIBAI PHULE COLLGE OF NURSING, KOHAPUR



2020 - 2021

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PRINCIPAL
Savitribai Phule College of Nursing
Tarabai Park, Kolhapur

"ज्ञान, विज्ञान आणि सुरक्षित यासाठी शिक्षण प्रसार" - शिक्षणमहती व. वापूजी साबुले

Reg No- KESCE/2018/134

Shri Swami Vivekanand Shikshan Sanstha's

Savitribai Phule College of Nursing

2130, 'E' Ward, Tarabal Park, Kolhapur - 416 003 (MH) Ph. No 0231 - 2668196

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Hon'ble Chandrakant (Dada) Patil
President
MLA

Hon'ble Abhaykumar G. Salunkhe
Executive Chairman
MA

Hon'ble Mrs. Shubhangi Gawade
Secretary
M. Sc. & Ed.

Ref No. 548/SPCON/2024

Date: 06/10/2024

From:

4th Year B.Sc. Nursing
Savitribai Phule College of Nursing,
Kolhapur

To,

Kolhapur Church Council,
E.P. School Compound, Nagol Park,
Kolhapur.

Subject - Permission to conduct Research Study

We, above mentioned students of 4th Basic B.Sc. Nursing from Savitribai Phule College of Nursing, kindly request you to grant us permission to conduct research study in your esteemed institution, titled "A descriptive study to assess the knowledge regarding diabetic foot ulcer among diabetic client in Kanan Nagar of Kolhapur District with a view to develop an information pamphlets". As a part of partial fulfillment of our B.Sc. Nursing 4th year programme on 14/10/2021. We assure you that we will not interfere in the routine of the community people & maintain confidentiality, kindly do the needful.

Thanking You

Yours Faithfully

Pratiksha Adnaik
Sonali Bhingare
Mayuri Dandale
Snehal Ekawade
Apurva Gade
Mahima Gaikwad
Prajakta Gavali
Vijay Gavali

(Handwritten signatures)

(Handwritten signature)
Executive Secretary,
Kolhapur Church Council,
Kolhapur.

(Handwritten signature)
PRINCIPAL
Savitribai Phule College of Nursing
Tarabal Park Kolhapur



(Handwritten signature)
PRINCIPAL
Savitribai Phule College of Nursing
Tarabal Park, Kolhapur

"A PRE-EXPERIMENTAL STUDY TO EVALUATE KNOWLEDGE REGARDING VARICOSE VEIN & ITS PREVENTION AMONG STAFF NURSES IN SELECTED HOSPITALS, KOLHAPUR WITH A VIEW TO DEVELOP SELF INSTRUCTIONAL MODULE"



By Third Year Students,

Ms. Apeksha Ghevade

Ms. Sejal Gawas

Ms. Poonam Bansode

Ms. Dhanashri Jadhav

Ms. Prajakta Bhanase

Ms. Akshata Gaikwad

Ms. Pavitra Hegade

Mr. Tahir Bagwan

Ms. Amisha Dhanawade

Project Work

Submitted to the

**SHRI SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
SAVITRIBAI PHULE COLLEGE OF NURSING, KOLHAPUR,
MAHARASHTRA**

In partial fulfillment

Of the requirements for the degree of
BASIC BSc NURSING

UNDER THE GUIDANCE OF

Ms. Varsha V Tondale (MSc Nursing - Child Health Nursing Department)

Ms. Shweta S Jadhav (MSc Nursing - Medical Surgical Nursing Department)

2021 - 2022

**“A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE
REGARDING DIETARY MANAGEMENT AMONG
PATIENTS WITH CHRONIC KIDNEY DISEASE (CKD) IN
SELECTED HOSPITALS IN KOLHAPUR”**



BY

**Ms. Arati Patil
Ms. Rutuja Patil
Ms. Pooja Pujari
Ms. Varsha Pujari
Ms. Mayuri Rathod**

**Mr. Prashant Sangade
Ms. Sneha Sargar
Ms. Rashmi Singh
Mr. Kiran Sonule
Mr. Vaibhav Sutar**

Project Work

Submitted to the

**SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
SAVITRIBAI PHULE COLLEGE OF
NURSING, (MAHARASHTRA)**

**In Partial fulfilment of the requirement for the
degree of**

BASIC B.Sc. NURSING

**UNDER THE GUIDANCE OF
MR. HUSAIN NADAF, ASSISTANT PROFESSOR
DEPT. MEDICAL – SURGICAL NURSING**

OCTOBER 2022

**"TO ASSESS THE KNOWLEDGE REGARDING MENSTRUAL HYGIENE
AMONG ADOLESCENT GIRLS IN NEW MODEL ENGLISH SCHOOL
WITH A VIEW TO DEVELOP INFORMATIONAL BOOKLET"**



BY

**Ms. Riya Nadaf
Ms. Shalom Mane
Ms. Rajeshree Modak
Ms. Pratiksha Neharkar
Ms. Anjali Patil
Mr. Shubham Magar
Mr. Shreyas Mallakmir
Mr. Sachin Mane
Mr. Vaibhav Mehtre**

PROJECT WORK

**Submitted to the
SWAMI VIVEKANAND SHIKSHAN SANTHA'S
SAVITRIBAI PHULE COLLEGE OF NURSING,
(MAHARASHTRA)**

**In Partial Fulfillment of the requirements for
Degree of**

**BASIC B.Sc.Nursing
UNDER THE GUIDANCE OF
Assoc. Prof. Mrs. Sushilakumari Lamba,
DEPT. Obstetrics & Gynecology Nursing**

OCTOBER 2022

"A study to assess the effectiveness of planned teaching program regarding vision care among primary school children at selected schools, Kolhapur."



BY

Ms. Diksha Kamble

Ms. Anagha Joshi

Ms. Pramodini Kamble

Ms. Pradnya Karande

Mr. Vishal Kamble

Ms. Sakshi Kakade

Mr. Rohit Khade

Ms. Swapnaja Kamble

Ms. Rutuja Kamble

Project Work

Submitted to the

SHRI SWAMI VIVEKANAND SHIKSHAN SANTHA'S

SAVITRIBAI PHULE COLLEGE OF NURSING KOLHAPUR.2021-2022

In partial fulfillment of the requirements for the degree of

BASIC BACHELOR OF SCIENCE IN NURSING

UNDER THE GUIDENCE OF

**GUIDE MR. SOLOMON SATWASEN ATHAWALE (M. Sc NURSNG) LECTURE DEPT OF
MEDICAL SURGICAL NURSING) AND CO-GUIDE MRS. MILKA KALEKAR (M SC
NURSING) DEPT OF MEDICAL SURGICAL NURSING**

OCTOBER 2022