Original Research Article

A Pre-Experimental Study to Assess the Effectiveness of Aromatherapy on Depression among Patients Undergoing Hemodialysis in a Selected Hospital at Alappuzha District

Linsha Susan Philip[1], Evangeline. J[2], Rekha. S[3]

[1]Josco College of Nursing, Edappon, Mavelikara.
[2]Principal of Josco College of Nursing, Edappon, Mavelikara.
[3]HOD of Medical Surgical Nursing, Edappon, Mavelikara.

Corresponding Author: Linsha Susan Philip

ABSTRACT

A pre-experimental study was conducted to assess the effectiveness of aromatherapy on depression among patients undergoing hemodialysis in a selected hospital at Alappuzha district. The objectives of the study were to assess the pre and post test level of depression in patients undergoing hemodialysis, find out the effectiveness of aromatherapy on depression, find out the association between pre test level of depression and selected socio demographic variables and to compare the effect of aromatherapy with clinical variables. A quantitative research approach with pre testpost test was adopted for the study. The study was conducted at Century Hospital, Mulakkuzha. The samples were 40 patients undergoing hemodialysis and were selected by purposive sampling technique. Conceptual framework was developed based on King's goal attainment theory. The tools used were structured interview schedule on socio demographic data, clinical variables and Beck Depression Inventory scale to assess the level of depression. Pre test assessments were done and samples were subjected to aromatherapy twice weekly for four consecutive weeks. Post test was done after four weeks using the same tools. Data was analyzed using descriptive and inferential statistics. The study shows that more than half 67.5% of the subjects had severe depression and 32.5% had moderate depression before aromatherapy. The mean post test scores (24.13%) was lower than mean pre test scores (32.88%). The paired 't' test (t= 23.221, p= 0.001) showed that there was significant reduction in depression scores after aromatherapy. Hence, research hypothesis was accepted. The study found association between selected socio demographic variables and no association with clinical variables with the effect of aromatherapy. As a holistic therapy, aromatherapy found to be benefit for both mind and body. It is likely that screening, diagnosing and treating depression properly in hemodialysis patients will be associated with improvement in quality and quantity of life.

Keywords: Effectiveness; Aromatherapy; Depression; Hemodialysis patients.

INTRODUCTION

Health is a fundamental human right. Every human being has the right to enjoy the highest attainable standard of health. According to World Health Organization (WHO), health is a state of complete physical, mental, social and spiritual well-being, not merely the absence of disease or infirmity. Health to a certain extent is not only matter of cleanliness, proper diet and exercise, but it is more than that. It is also the conscious and subconscious recognition of the well-being that comes from doing every day, a full measure of one's duty. The absence of fulfilling such duty makes us prey to anxiety and doubt which weak the mind, body and spirit and opens the door to disease and morbidity. Disease can be described as an alteration in body function,

resulting in reduction of capabilities or shortening of a normal life span. Bones can break, muscles can atrophy, glands can loaf and even brain can go to sleep without immediate danger to survival; but if kidney fails, neither bone, muscle, gland nor brain could carry on. Adequate functioning of kidney is essential for maintenance of healthy body. Chronic Renal Failure (CRF) or End Stage Renal Disease (ESRD) is a progressive, irreversible deterioration in renal function in which the body's ability to maintain metabolic, fluid and electrolyte balance fails resulting in uremia or azotemia.

Statement of the problem

A pre-experimental study to assess the effectiveness of aromatherapy on depression among patients undergoing hemodialysis in a selected hospital at Alappuzha district.

Objectives of the study

1. To assess the pre test level of depression in patients undergoing hemodialysis.
2. To assess the post test level of depression in patients undergoing hemodialysis.
3. To find out the effectiveness of aromatherapy on depression among patients undergoing hemodialysis.
4. To find out the association between pre test level of depression and selected socio demographic variables.
5. To compare the effect of aromatherapy with clinical variables.

Assumptions

1. Depression is a common psychological problem among patients undergoing hemodialysis.
2. Aromatherapy may be effective in reducing depression among patients undergoing hemodialysis.

Hypotheses

The following hypotheses will be tested at 0.05 level of significance:

H_{01}-There will not be a significant difference in the level of depression among patients undergoing hemodialysis after aromatherapy.

H_1-There will be a significant difference in the level of depression among patients undergoing hemodialysis after aromatherapy.

H_{02}–There will not be a significant association between pre test level of depression and selected socio demographic variables.

H_2-There will be a significant association between pre test level of depression and selected socio demographic variables.

H_{03}-There will not be a significant change in clinical variables after aromatherapy.

H_3 - There will be a significant change in clinical variables after aromatherapy.

Research Methodology

Research approach: Quantitative research approach.

Research design: Pre experimental one group pre test post test design.

Variables

Independent variable; Aromatherapy was the independent variable.

Dependent variable; Depression of patients undergoing hemodialysis was the dependent variable.

Setting of the study: Hemodialysis unit in Century Hospital, Mulakuzha.

Population: Patients who were undergoing hemodialysis in Century hospital, Mulakkuzha.

Sample: 40 patients undergoing hemodialysis.

Sampling technique: Non- probability purposive sampling technique.

Inclusion criteria;

1. above 18yrs of age.
2. undergoing dialysis at least twice in a week in the selected hospital.
3. having BDI score above 10.
4. able to understand, read, write, Malayalam/English.
5. willing to participate in the study.

6. married.

Exclusion Criteria;
1. not willing to participate in the study.
2. having any known allergy problems towards application or instillation of lavender.
3. already on any known treatment for depression.

Tools and Technique
Tool 1: Socio-demographic Profile;
Included 10 items of socio demographic variables such as age, gender, religion, educational status, occupation, marital status, monthly income of family, co- morbidity, duration of hemodialysis and total number of hemodialysis undergone.

Technique: Structured Interview Schedule.

Tool 2: Clinical Variable.
Included 8 items such as pre-dialysis weight, systolic blood pressure, diastolic blood pressure, Hb, serum Na+, serum K+, serum urea and serum creatinine level. The researcher was collected the values of clinical variables from the investigation report which was available on the patient's hospital record before and after the therapy.

Tool 3: Beck Depression Inventory Scale
It is a standardized tool consisted of 21 items, created by Dr. Aaron T. Beck, intended to assess the existence and severity of symptoms of depression. The affective subscale contains eight items: pessimism, past failures, guilty feelings, punishment feelings, self-dislike, self-criticalness, suicidal thoughts or wishes, and worthlessness. The somatic subscale consists of the other thirteen items: sadness, loss of pleasure, crying, agitation, loss of interest, indecisiveness, loss of energy, change in sleep patterns, irritability, change in appetite, difficult to concentrate, tiredness and/or fatigue, and loss of interest in sex. Each question has a set of at least four possible answer choices, ranging in

intensity. When the test is scored, a value of 0 to 3 is assigned for each answer and then the total score is compared to a key to determine the severity of depression. The maximum possible score is 63. Internal consistency of BDI was satisfactorily high (alpha>or=0.84), and retest reliability exceeded (r>or=0.75) in clinical samples. Researcher was translated the standardized English version of BDI to Malayalam and retranslated to English. Malayalam tool was administered to the samples and the technique adopted was self-administered rating scale method. The standard cut-offs are as follows:
1 – 10: normal
11 – 16: Mild depression
17 – 20: Borderline depression
21 – 30: Moderate depression
31 – 40: Severe depression
Over 40: Extreme depression

Reliability of the tool
The reliability of BDI was calculated using test- retest method. The 'r' value was calculated and has found to be 0.96. This indicates the tool was highly significant.

Data collection process
An informed consent was taken from the subjects. Fourty subjects were purposively selected from the population as per the inclusion criteria. Socio-demographic data and clinical variable's value were collected and pretest was conducted for the subjects by administering BDI and then checked the patients score and selected the subjects those who are having BDI score more than 10. After that, in cotton ball added one drop of lavender oil and placed it under the patient's pillow and gave lavender oil massage in the temporal region of patients for 10 minutes twice in a week. Posttest was done after 8 sessions of aromatherapy using BDI scale and the values of clinical variables were also obtained.

Plan for Data Analysis
Descriptive statistics: Frequency and percentage.
Inferential statistics: Paired t' test, Chi-square test, ANOVA, McNemar Test and Wilcoxon Signed Rank Test.

RESULTS
Section 1: Description of socio demographic variables of subjects
- More than half (57.5%) of the subjects were included in the age group 37-57yrs.
- More than three fourth (77.5%) of the subjects were males.
- More than half (52.5%) of the subjects were Christians.
- Regarding educational status of the subjects, more than half (57.5%) had completed secondary education.
- More than one third (37.5%) of the subjects were private employee.
- Vast majority (92%) of the hemodialysis patients were married.
- Monthly family income distribution showed that more than three fourth of the subjects (77.5%) had monthly income between Rs.10, 000-20,000.
- Presence of co-morbidity showed majority of the subjects (47.5%) had only hypertension.
- With regard to duration of hemodialysis treatment, 37.5% were receiving hemodialysis treatment between 1 to 3 yrs.
- An equal proportion (35%) of subjects had undergone hemodialysis between 100 -200 and 200-300.

Pre test level of depression score
- 67% of the hemodialysis patients had severe depression and 32.5% had moderate depression before aromatherapy.

Post test level of depression score
Post test score showed that less than three fourth (72.5%) of the subjects had moderate depression and one fourth (25%) of the subjects had borderline depression and 2.5% had mild depression after aromatherapy.

Section II: Description of level of depression before and after aromatherapy.
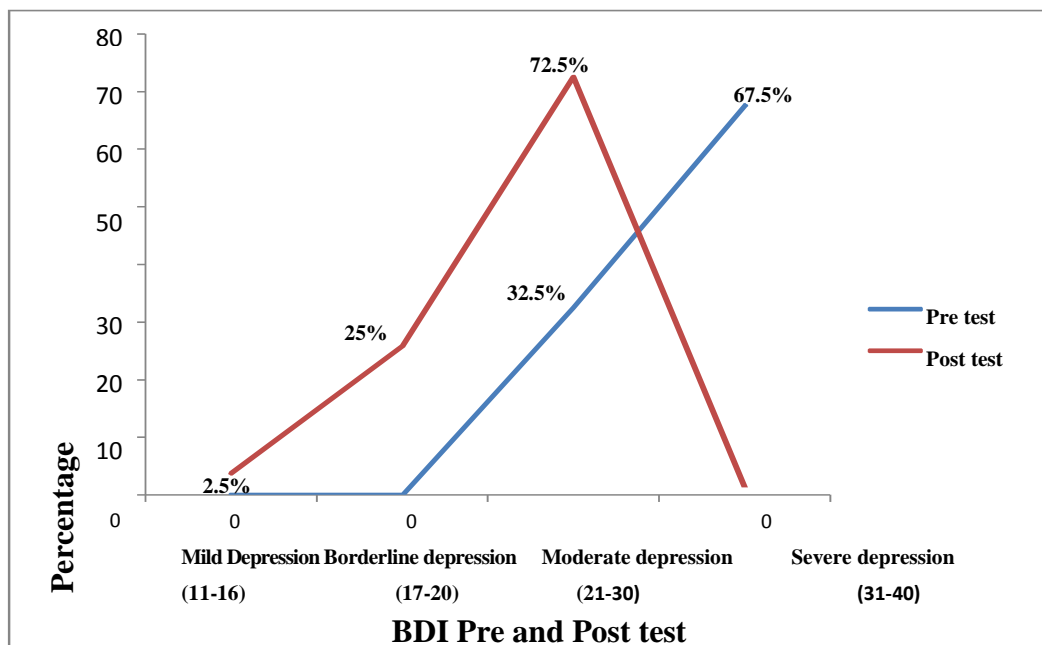
BDI Post test
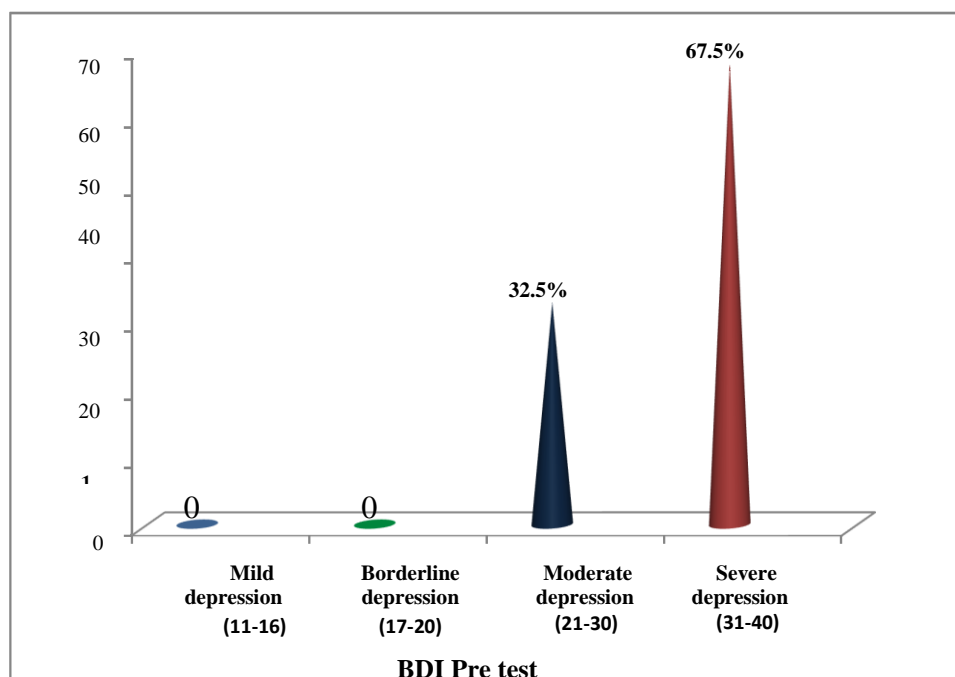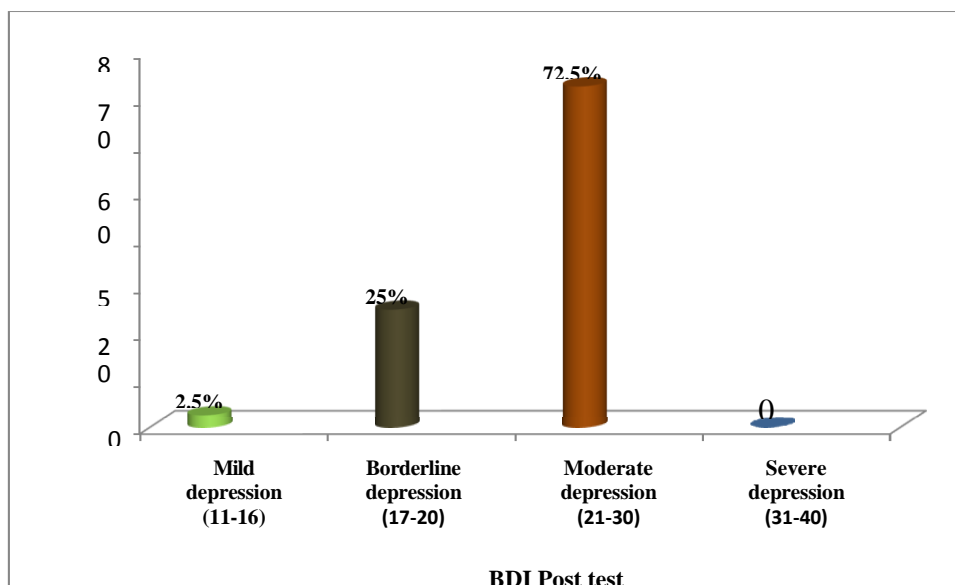
Section III: Effectiveness of aromatherapy on level of depression

H_{01} - There will not be a significant difference in the level of depression among patients undergoing hemodialysis after aromatherapy.

H_1 - There will be significant difference in the level of depression among patients undergoing hemodialysis after aromatherapy.

BDI Pre and Post test

Comparison of mean pretest and post test scores of subjects before and after administration of aromatherapy.

BDI	Mean%	Standard deviation	t
Pretest	32.88	4.49	23.22*
Post test	24.13	4.18	

Significant at 0.05 level.

Section IV: Association between pretest level of depression and selected socio-demographic variables

H_{02}- There will not be a significant association between pre test level of depression and selected socio demographic variables.

H$_2$-   There will be significant association between pre test level of depression and selected socio demographic variables.

The association of pre test level of depression with selected demographic variables such as age, gender, educational status and marital status does not show any significant association. Hence the null hypothesis was accepted.

Section V: Comparison of data related to clinical variables before and after aromatherapy.

The data obtained was analyzed by both descriptive and inferential statistics based on the objectives and hypothesis of the study. Socio-demographic Profile and clinical variables were analyzed using frequency and percentage. Association between the pretest scores of depression and selected socio-demographic variables were tested using ANOVA and chi-square test. Association between the pretest and post test scores of depression and selected clinical variables were tested using Wilcoxon Sign Rank test and ANOVA. The findings showed that mean post test score (24.13%) was lower than the mean pretest score (32.88%). The paired 't' test (t= 23.221, p= 0.001) showed that there was significant reduction in the level of depression after aromatherapy. Hence the research hypothesis was accepted. In the socio demographic variables occupation and monthly income had significant association with pre test level of depression score.

CONCLUSION

The study revealed that aromatherapy was effective in reducing depression among hemodialysis patients. There was an association between pre test level of depression and subject's income and occupation. And there is no significant effect of aromatherapy on pre and post test level of clinical variables of the subjects like pre-dialysis weight, systolic blood pressure, diastolic blood pressure, Hb, serum Na, serum K, serum urea and serum creatinine level. Findings of the study suggested that aromatherapy can be used as an effective intervention programme to reduce the level of depression among hemodialysis patients. Aromatherapy can also be used as an effective strategy to improve the quality of life as well.

REFERENCES
1. Ask.com. Acknowledging your sources [Quotes on life]. [cited 2013 Feb 11]. Available from: http://www.answers.ask.com/Quotes on life/question/hilarious/life-is-like-qouotes.
2. Park K. Textbook of preventive and social medicine. 19th ed. Jabalpur: BanarsidasBhanot Publishers; 2008.
3. Barbara K. Fundamentals of Nursing. 2nd ed. Philadelphia: PearsonEducation; 2003.
4. Black MJ, Jane HH. Medical Surgical Nursing clinical Management for positive outcomes. 7th ed. Missouri: Saunders publishers; 2005.
5. Smeltzer SC, Brenda GB. Brunner and Suddarth's Text book of Medical Surgical Nursing. 10th ed. Philadelphia: Lippincott; 2004.

******