

**EFFECTIVENESS OF PACED BREATHING EXERCISE ON
HOT FLUSHES AMONG MENOPAUSAL WOMEN
AT SELECTED COMMUNITY, SALEM.**

By

Ms. K. BHUVANESWARI

Reg. No: 30109431



**A DISSERTATION SUBMITTED TO
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CERTIFICATE

Certified that this is the bonafide work of **Ms. K BHUVANESWARI**, final year M.Sc. (Nursing) student, Sri Gokulam College of Nursing, Salem, submitted in partial fulfilment of the requirement for the Degree of Master of Science in Nursing to The Tamilnadu Dr. M.G.R. Medical University, Chennai, under the Registration No.**30109431**.

College Seal:

Signature:

Prof. Dr. A. JAYASUDHA, Ph.D (N).,
PRINCIPAL,
SRI GOKULAM COLLEGE OF NURSING,
3/836, PERIYAKALAM,
NEIKKARAPATTI,
SALEM - 636 010.

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Approved by the Dissertation Committee on: 14.12.2011

Signature of the Clinical Specialty Guide:

Mrs. J. KAMINI CHARLES, M.Sc.(N), Ph.D.,
Associate Professor and Head of the Department,
Department of Community Health Nursing,
Sri Gokulam College of Nursing,
Salem - 636 010.

Signature of Medical Expert:

Dr. Mrs. P. CHELLAMMAL, M.D., DGO,
Consultant, Obstetrician and Gynecologist,
Sri Gokulam Hospital,
Salem-636 010.

.....
**Signature of the Internal Examiner
with date**

.....
**Signature of the External Examiner
with date**

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TABLE OF CONTENTS

CHAPTER	CONTENT	PAGE NO.
I	INTRODUCTION	1-9
	<ul style="list-style-type: none"> ➤ Need for the Study ➤ Statement of the Problem ➤ Objectives ➤ Operational Definitions ➤ Assumptions ➤ Hypotheses ➤ Delimitations ➤ Projected Outcome ➤ Conceptual Framework 	<p>2</p> <p>4</p> <p>4</p> <p>4</p> <p>5</p> <p>5</p> <p>5</p> <p>6</p> <p>6</p>
II	REVIEW OF LITERATURE	10-17
	<ul style="list-style-type: none"> ➤ Literature Related to paced breathing exercise on hot flushes ➤ Literature Related to non-pharmacological measures on hot flushes ➤ Literature Related to pharmacological measures on hot flushes 	<p>10</p> <p>12</p> <p>16</p>
III	METHODOLOGY	18-24
	<ul style="list-style-type: none"> ➤ Research Approach ➤ Research Design ➤ Population ➤ Description of the Setting ➤ Sampling ➤ Variables ➤ Description of the Tool ➤ Validity and Reliability ➤ Pilot Study ➤ Method of Data Collection ➤ Plan for Data analysis 	<p>18</p> <p>18</p> <p>20</p> <p>20</p> <p>20</p> <p>21</p> <p>21</p> <p>22</p> <p>22</p> <p>23</p> <p>24</p>
IV	DATA ANALYSIS AND INTERPRETATION	25-41
V	DISCUSSION	42-45
VI	SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS	46-50
	BIBLIOGRAPHY	51-54
	ANNEXURES	i-xx

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
4.1	Frequency and percentage distribution of samples according to their selected biographic variables in experimental and control group	27
4.2.	Frequency and percentage distribution of samples according to their selected menopause related variables in experimental and control group	29
4.3.	Frequency and percentage distribution on the level of hot flushes among menopausal women in experimental and control group	34
4.4	Mean, standard deviation and mean difference on hot flushes among menopausal women in experimental and control group	35
4.5	Mean, standard deviation and 't' value of post test on hot flushes among menopausal women in experimental and control group	36
4.6	Chi-square test on pretest level of hot flushes among menopausal women and their selected biographic variables in experimental and control group.	37
4.7	Chi-square test on pretest level of hot flushes among menopausal women and their selected menopause related variables in experimental and control group.	38
4.8	Chi-square test on pretest level of hot flushes among menopausal women and their selected socio economic related variables in experimental and control group.	39
4.9	Chi-square test on pretest level of hot flushes among menopausal women and their selected personal variables in experimental and control group.	40

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE NO.
1.1	Conceptual framework based on Rosenstocks health belief model	8
3.1	Schematic representation of research methodology	19
4.1	Percentage distribution of samples according to their socio economic variable in experimental and control group	30
4.2	Percentage distribution of samples according to their personal variable in experimental and control group	31
4.3	Percentage distribution of samples according to their pretest level of hot flushes in experimental and control group	32
4.4	Percentage distribution of samples according to their post test level of hot flushes in experimental and control group	33

LIST OF ANNEXURES

ANNEXURE	TITLE	PAGE NO
A	Letter Seeking Permission to Conduct a Research Study	i
B	Letter Granting Permission to Conduct a Research Study	ii
C	Letter Requesting Opinion and Suggestions of Experts for Content Validity of the Research Tools	iii
D	Tool for Data Collection	iv
E	Certificate of Validation	xvii
F	List of Experts for Content Validity	xviii
G	Certificate of Editing	xix
H	Photos	xx

ABSTRACT

A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at selected Community, Salem. A Quantitative evaluative approach with Quasi experimental research design was used and 60 samples were selected by non-convenience sampling technique. 30 samples from Poolavari were assigned to experimental group and 30 samples from Karipatti were assigned to control group. The general information was collected and the hot flushes level was categorized according to the Four point rating scale. After the pretest, paced breathing exercise was demonstrated to 30 samples in experimental group. Posttest was done after 21 days. In experimental group, 2(6.66%) women had mild hot flushes, 17(56.66%) had moderate hot flushes and 11(36.66%) had severe hot flushes during pretest. In post test, majority, 22(73.33%) of them had mild hot flushes, 8(26.66%) had moderate hot flushes and none of them had severe hot flushes. In control group, 2(6.66%) had mild hot flushes, majority, i.e. 20(66.66%) of them had moderate hot flushes and 8(26.66%) had severe flushes during pretest. In post test 2(6.66%) had mild hot flushes, majority i.e., 20(66.66%) of them had moderate hot flushes, and 8(26.66%) had severe hot flushes. In the experimental group, the mean pre test score was 44.03 ± 6.07 , and mean post test score was 25.46 ± 6.05 with the difference of 18.51. In the control group, the mean pretest score was 41.8 ± 5.56 and mean post test score was 41.66 ± 5.9 with the difference of 0.14. The 't' value is 10.39 which shows that the paced breathing exercise is effective on hot flushes among menopausal women in experimental group. Hence the formulated hypothesis H_1 was retained at $p < 0.05$ level. There was no significant association between the level of hot flushes and their selected background variables. Hence the formulated hypothesis H_2 was rejected at $p > 0.05$ level. This shows paced breathing exercise is a simple, inexpensive and effective method to practice even without any supervision.

CHAPTER I

INTRODUCTION

Menopause is a natural event most women experience as they enter their fifth decade and which results in mood swings to hot flushes to sleepless nights. It is a confusing minefield of information and misinformation. Almost all women at some point in their lives go through menopause. **(Prasanna baby, Sridevy, 2008)**

The age of forty is an important landmark in a woman's medical life. This may be the beginning of declining oestrogen and its short and long term consequences, as well as the initiation of menopause.

Menopause is the permanent cessation of menses. The prefix men- is derived from Greek word men, which refers to the menstrual cycle, pause, a Latin word, signifies the cessation of the process. Since cessation of menstruation affects only few days in a women's life, it is worthwhile to think of menopause more broadly as the period of time during which women define themselves to be in the "change". This refers to the period when social, physiological, or psychological changes are occurring- a phase that can last from a few months to more than a decade. **(Varney, 2005)**

Menopause is a defining point in the transition phase of a woman's life with declining levels of oestrogen, progesterone and androgen. This brings about metabolic, structural and physical changes in the immediate postmenopausal period. In many situations, women have menopause induced surgically before its natural onset; at a relatively younger age these women experience symptoms of estrogen deficiency leading to significant biological and psychological effect on their health and well-being. Estrogen as a hormone therapy for the prevention of certain chronic ailment or relief of menopausal symptoms has been used for decades. Some non-

pharmacological measures also showing significant effect on menopausal symptoms. **(Bhattacharya.S.M., 2007)**

Menopause is the physiological cessation of menses associated with declining ovarian function. It is usually considered complete after 1 year of amenorrhea (absence of menstruation). Menopausal starts gradually and is usually associated with changes in menstruation including menstrual flows that are increased, decreased, and / of irregular cessation of menses finally occur. **(Lewis, 2010)**

Women all over world now have to spend almost 1\3rd of their lives in menopause years because average life expectancy for Indians is 68 years and 80 years for Americans, average age of menopause being 46-51 years. So knowledge and treatment about menopause and various problem related to menopause is very important. **(Pratapkumar, NarendraMalhotra, 2008)**

In most western countries as well as the United States, the most common physical change that women describe is the “hot flush”, which is reported to occur in anywhere from 25 to 85 percent of the women passing through the climacteric. Kronenberg defines hot flushes subjectively as recurrent, transient periods of flushing, sweating, and a sensation of heat, often accompanied by palpitation and a feeling of anxiety, and sometimes followed by chills. These symptoms are also variously called hot flushes, night sweat, and vasomotor symptoms. Women may experience hot flushes for short periods of time to many years. The highest prevalence is in the first two years post menopause. **(Varney’s, 2005)**

Need for the Study:

In 2025, India will reach 165 million populations. More than 12% of population will be above 60 years of age. Almost 50% of them will be women; a staggering population in menopausal post-menopausal age, 70% of the population in

rural India average age of menopause is somewhat lower in rural population than urban mean age (44.8/48.2). (**Munshi, 2010**)

According to the **Sonia puri, (2010)** over 6% of our population is above the age of 60. According to IMS (Indian Menopause Society) research there are about 65 million Indian women over the age of 45.

According to **Sudhaa Sharma, (2007)** the mean age of menopause was 47.35 years. The percentages of menopausal symptoms are fatigue and lack of energy (72.93%), headache (55.9%), hot flushes, cold sweats, cold hand and feet (53.86%), weight gain (43.13%).

In the American Association society, it was found that paced breathing had a positive effect on women during the menopause. Hot flushes occur in 70 to 90% of women after menopause, other symptoms include sleep disturbance, depression, irritability and anxiety, night sweats, atrophic vaginitis, dyspareunia and mood swings.

Menopause is a feminine milestone that marks the position to another period of life affect the woman's body image, sexual identity and quality of life. This results primarily from the profound falls in estradiol due to loss of ovarian follicular activity. Reports from different parts of world show variation in the age and symptoms of menopause in women. (**Obi SN, Obikili E, 2004**)

As per African research foundation, the most frequent complaints were hot flushes (79.6%), fatigue (74.8%), joint pain (69.6%), memory loss (52.2%), irritability (68.4%), anxiety (68.1%), dyspareunia (44.7%), urinary symptom (43.5%), depression (37.5%) and post-menopausal bleeding (29.8%).

The above statistics reveals that majority of menopausal women suffer from hot flushes and they need to know the appropriate intervention to manage this

symptoms. Since, Paced Breathing exercise is one of the most easiest and effective methods, the researcher have chosen this intervention to reduce hot flushes among menopausal women.

Statement of the Problem:

A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at selected Community, Salem.

Objectives:

1. To assess the level of hot flushes among menopausal women in experimental and control group.
2. To evaluate the effectiveness of paced breathing exercise on hot flushes among menopausal women in experimental group.
3. To find out the association between the pretest level of hot flushes among menopausal women and their selected background variables in experimental and control group.

Operational Definitions:

Assess:

Measurement of the effectiveness of paced breathing exercise on hot flushes among menopausal women by using four point rating scale.

Effectiveness:

It refers to the significant effects on hot flushes and determined by the differences between post test scores in experimental and control group.

Paced breathing exercise:

Paced breathing is a deeper, slower way of breathing. It involves filling the lungs to full capacity when inhaling and then pushing out as much air as possible when exhaling. It is given 15 minutes, twice a day for three weeks.

Hot flushes:

A hot flush is described as a sensation of warmth in the upper part of the chest, neck and face followed by the profuse perspiration. These sensation last from several seconds to 5 minutes and occur most often at night, there by disturbing sleep.

Symptoms are warmth in the upper part, physical discomfort, distress, social embarrassment and sleep disturbance. **(Lewis)**

Menopause:

The end of a woman's reproductive life is marked by the gradual cessation of menstruation, the cycles first becoming irregular and then ceasing altogether at the menopause.

Assumption:

1. Paced breathing exercise may have some effect on hot flushes among menopause women.
2. Each individual's knowledge regarding paced breathing exercise is unique.

Hypotheses:

H₁: There will be a significant difference in the post test level of hot flushes among menopausal women in experimental group after paced breathing exercise in experimental and control group at $P \leq 0.05$ level.

H₂: There will be a significant association between the pretest level of hot flushes among menopausal women and their selected background variables in experimental and control group at $P \leq 0.05$ level.

Delimitation:

1. The study was limited to menopausal women residing at selected community, Salem.
2. The study was limited to women having hot flush.
3. Data collection period was limited to 4 weeks.

Projected outcome:

The finding of this study would help to assess the level of hot flushes and determine the effectiveness of paced breathing exercise on hot flushes among menopausal women.

Conceptual frame work:

The conceptual framework selected for the study was based on Rosenstock's Health belief Model (1974). This model explains how individual perception, cues to action and demographic variables develop the perception of threat in individual which encourage them to adopt certain measures to overcome that problem or threat.

Individual perception:**Perceived seriousness:**

Menopausal women feel uncomfortable with hot flushes which is affecting their health status.

Modifying factors:

Factors that modify a person's perception include the following,

- Demographic variables: It consists of age, education, occupation, family monthly income. This factors influence the individual perception regarding menopausal problems.
- Socio psychological variables: It includes influence from the peer group and other reference group. It provides knowledge and opinion about menopausal problems.
- Structural variables: These include the menopausal women's knowledge and experiences with hot flushes.

Cues to action:

Demonstration of paced breathing exercise on hot flushes among menopausal women in experimental group.

Likelihood of action:

The likelihood of action involves the person's perception on the benefits of taking action. Here, the women in experimental group perceived that there were reduction in the level of hot flushes and also expressed willingness to practice paced breathing exercise.

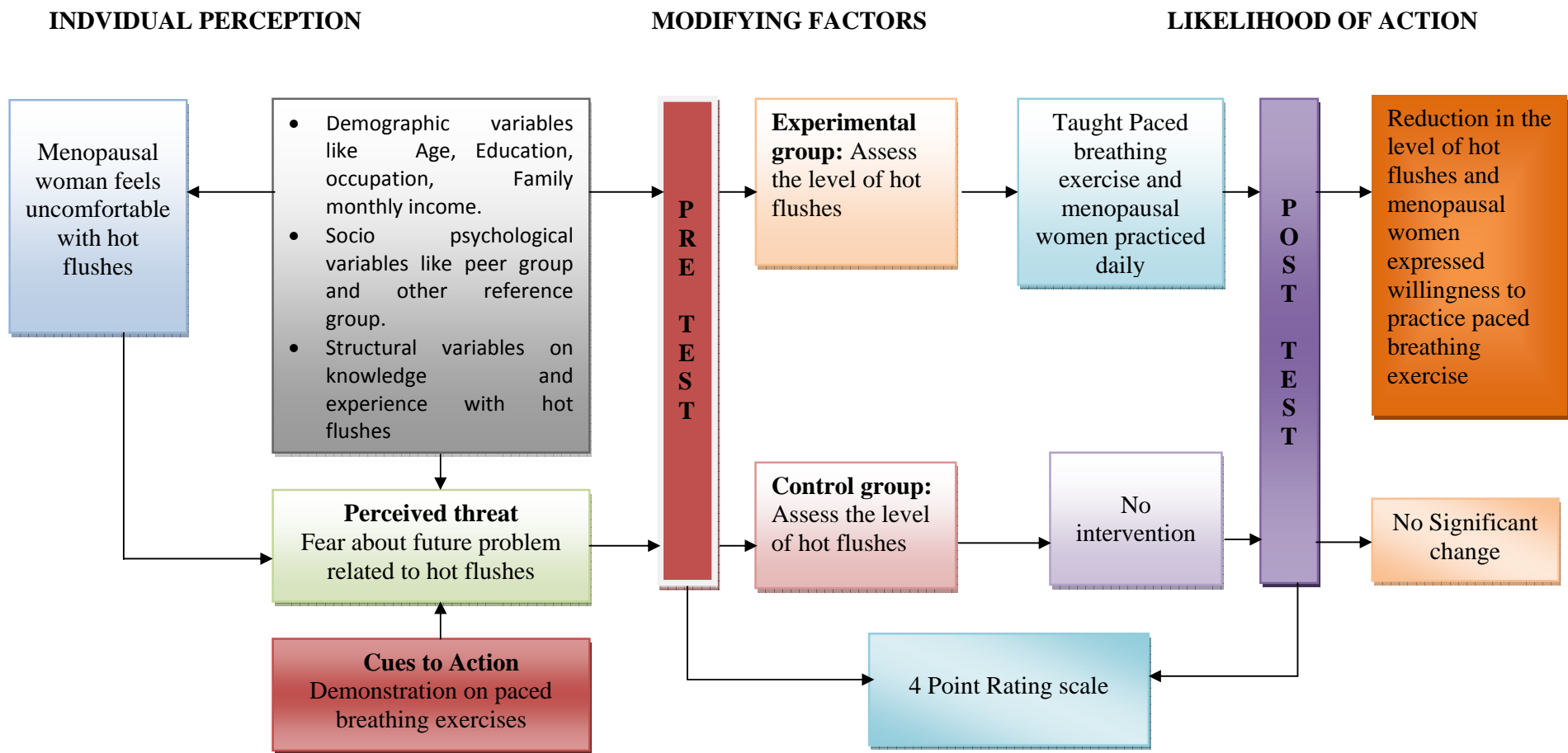


Fig-1.1: CONCEPTUAL FRAME WORK BASED ON ROSENSTOCK'S HEALTH BELIEF MODEL(1974)

Summary:

The first chapter consists of Introduction, Need for the study, Statement of the problem, Objectives, Operational definition, Assumption, Hypotheses, Delimitation, Projected outcome and Conceptual framework.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is one of the sources of a research problem. It provides the reader with a background for understanding the significance of the new study. The review of literature equips the investigator to be familiar with the existing studies, provides for future investigation and helps in development of methodology, tool and research design.

The literature review is an extensive systematic election of potential sources of previous work in which the investigator finds the fact after scrutinization. For the purpose of the review of literature had been reset under the following headings.

- i. Literature related to paced breathing exercise on hot flushes
- ii. Literature related to non-pharmacological measures on hot flushes
- iii. Literature related to pharmacological measures on hot flushes

Literature related to Paced Breathing Exercise on Hot Flushes

Vincy bala et.al., (2010) conducted prospective study to assess the effectiveness of deep breathing exercise on hot flushes experience of menopausal women in Coimbatore. 30 menopausal women were randomly selected. She provided deep breathing exercise to the experimental group for 15 minutes in twice a day for 4 weeks. The symptoms were measured through menopausal rating scale. The researcher found that, there was a significant difference between experimental and control group after the intervention. ($t\text{-test}=20.56, P>0.05$). The researcher concluded that, deep breathing exercise is effective in hot flushes symptoms among menopausal women.

Sulabha Joshi et.al., (2010) observed the effect of paced breathing exercise on menopausal symptoms. The menopausal Rating Scale and three subscale scores (Somatovegetative, Psychological and Urogenital) were used to measure the menopausal symptoms. In this study paced breathing was provided to 68 menopausal women for 3 months. The researcher concluded that it was effective in reducing menopausal symptoms in 8.47 ($P < 0.05$).

Chatta, et.al., (2008) published a single blind, prospective randomized control study of practicing integrated paced breathing or physical exercise for 8 weeks duration. A totally 120 menopausal women were taken between the age group of 40 to 55 years. Experimental group women practiced yoga postures, breathing exercise and cyclic meditation for 1hr 5 days per week. The control groups receive only simple physical exercise for the same amount of time per week. The researcher identified that paced breathing 11.4 ($P < 0.05$) decreased climacteric symptoms, perceived stress and neuroticism in perimenopausal women more than physical exercise 16.7 ($P < 0.05$) at 8 weeks period.

Mouloud AD, (2008) conducted a study to evaluate the effectiveness of deep breathing exercise on menopause symptoms. 47 menopausal women were selected between the ages of 45-63, practiced 12 weeks yoga intervention. The menopausal symptoms were assessed through the 20 items checklist. The women who had the score of 15 and above were selected for deep breathing practice which included breathing technique, posture and relaxation process. The researcher found significant improvement from pretest to post test mean hot flushes score ($P = 0.001$). Mean hot flush was 0.8 ± 0.4 at baseline, 0.72 ± 0.46 at week 4, 0.54 ± 0.50 at 8 week and 0.41 ± 0.50 at week 12. The researcher concluded that deep breathing is power full technique which relieved hot flushes symptoms.

Thurston RC et.al., (2007) conducted the pilot study to check the feasibility and efficacy of yoga treatment for menopausal symptoms. The subjects included 12 pre and post-menopausal women who experienced at least 4 hot flushes per day, 4 days per week. 10 weeks yoga program was provided. Pre and post test was assessed through the Wiklund symptoms check list related to menopausal symptoms frequency, duration, and severity of hot flushes measured by 24 hours ambulatory skin conductance monitoring and subjective sleep quality checked by Pittsburgh sleep quality index. Yoga was practiced 15 min each day for 10 weeks. Eleven women completed the study and attended a mean of 7.45(S.D.1.63) classes. Significant pre to post treatment improvement were found related to menopausal symptoms, like hot flushes, sleep disturbances and quality.

Literature Related to Non Pharmacological Measures on Hot Flushes

Avis, et.al., (2009) conducted randomized, single blind prospective study to evaluate effectiveness of alternative treatments on menopausal symptoms in Brazil. 3 group pre and post test design was used in this study. Participants were 56 menopausal women aged 44 to 55 years, experiencing four or more hot flushes per day. Participated in this study subjects were randomized based on the intervention like usual care (19), sham acupuncture (18) and standardized individual acupuncture based on traditional Chinese medicine (19) for 8 weeks duration. All groups demonstrated a significant decrease in mean frequency of hot flushes ($P=0.01$). The two acupuncture groups (sham and traditional Chinese medicine) demonstrated a significantly greater decrease than the usual care group ($P<0.05$). So the researcher found that acupuncture treatment have the effect on hot flushes and menopausal symptoms.

Borud EK, Alraek T, White A, Grimsgaard S, et.al.,(2009) conducted the study to compare the effectiveness of individualized acupuncture treatment plus self-care versus self-care alone on hot flushes and health related to quality of life in post menopausal women. Totally 267 participants were post menopausal women experiencing, average 12.6 hot flushes per 24 hours. The acupuncture group received 10 individualized acupuncture treatments for 12weeks and advice on self care, whereas the control group received only advice on self care. Hot flushes were measured by the frequency, intensity (1-10 scale) and hours of sleep per night and were registered in a diary. Hot flash frequency decreased by 5.8 per 24 hours in the acupuncture group (n = 134) and 3.7 per 24 hours in the control group (n = 133), a difference of 2.1 (P < 0.001). Hot flash intensity decreased by 3.2 units in the acupuncture group and 1.8 units in the control group, a difference of 1.4 (P < 0.001). It showed significant reduction in hot flushes symptoms in acupuncture group.

Elkins et.al., (2009) conducted prospective study, randomly assigned women to complete five weekly hypnotic sessions or serve as the study control by American society of medicine, UK. Totally 51 menopausal women were taken as study participants. Hot flushes scores 68% decreased from baseline to end point (p<0.001). The researcher found that significant 4.73 to 2.94 (p<0.005) change in the menopause symptoms like self reported anxiety, depression, interference of hot flushes on daily activities and sleep for treated subjects compared with control subjects.

Wyon, et.al., (2009) prospective study to assessed 45 menopausal women, was randomized to electro acupuncture, superficial needle insertion, exercise, oral estrogen treatment or relaxation. The effect on mean number of hot flushes per 24 hours were as in the acupuncture and hormone group was decreased from 7.3 to 3.5 (P<0.001), in electro acupuncture group was decreased from 8.1 to 3.8 (P<0.001 in

the superficial needle insertion in control group, and in estrogen was decreased from 8.4 to 0.8 (<0.001). All the groups demonstrated persistent effects over the 24 weeks follow up. The researcher concluded that estrogen reduced hot flushes more effectively than electro acupuncture (no p-value given). Both the superficial (control group) and deep acupuncture group demonstrated decreased hot flushes.

Fenlon, (2008) conducted a study on effectiveness of relaxation therapy on hot flushes among menopausal women. 150 menopausal women were selected. The symptoms were assessed out the end of the intervention program. The researcher concluded that number of hot flushes was decreased by one month (median difference 7 hot flushes per week; 95% CI 4 to 7; $P < 0.001$) but the effect was not significant by three months (median difference 5 hot flushes per week; 95% CI 0 to 10; $P < 0.06$). Severity of hot flushes was also lowered by one month (median difference 0.54; 95% CI 0.11 to 1.01; $P = 0.01$) but the difference became non-significant by three months (median difference 0.56; 0.02 to 1.18; $P = 0.05$).

Julia. G, (2008) designed a prospective randomized pilot study to evaluate the effectiveness of professional herbal practice in the treatment of the menopausal symptoms in a primary health care center in UK. Julia's selected study participants were 45 menopausal women aged 46 to 59 years, experiencing self defined menopausal symptoms. Experimental group received the intervention from herbal practitioners ($n=30$), and control group ($n=30$) has no intervention. 15 menopausal symptoms was measured in the both the group by using the validated Greene diametric scale. Statistically and clinically significant reduction for the treated group was 9.05 ($P<0.001$) point greater than that for the control group CI 5.08-13.03, as were changes in vasomotor scores (mean 1.81, CI 1.00-2.62). Libido increased (mean

0.69, CI 0.38-0.99) in the treatment group. It showed significant reduction in menopausal symptoms in herbal practice compared with control group.

Albertazzi, et.al., (2003) conducted a randomized, double-blind, placebo-controlled trial to assess the effect of daily dietary supplementation of soy protein isolate powder on hot flashes in postmenopausal women by Menopause and Osteoporosis center, Italy. Age in the treatment group (n=51) was 48-61 years, while in the control group (n=53) it ranged from 45-62 years. The diets of the 104 women were supplemented with either 60 g soy powder (40 g isolated soy protein) or 60 g placebo (casein) daily for 12 weeks. By the end of the 12th week, women taking the soy protein isolate had a 45-percent reduction in daily hot flashes compared to a 30-percent reduction obtained with the placebo group(P<001).

Seidl MM, Stewart DE., et.al., (2000) reviewed the scientific literature on common alternative remedies for treatment of symptoms attributed to menopause. The scientific articles were identified by midline, cinahl, and health databases from 1966 to 1997 for English language. More than 200 references were reviewed; 85 were selected for citation based on specific reference to alternative medicine for symptoms commonly attributed to menopause (e.g., hot flushes), to the effects of changing levels (e.g., irregular menses, vaginal dryness), and to reported side effects of the treatments. The scientific articles were categorized under the headings nutritional supplements, herbal remedies, homeopathic remedies, and physical approaches. The researcher concluded that scientific evidence of the safety and efficacy of alternative treatments (nutritional supplements, herbal remedies and homeopathic remedies) during menopause was uncovered, with the strongest evidence emerging in favors of phytoestrogens, which occurs in high concentration as isoflavones in soy products. So

randomized controlled trials, standardization of dosage and accurate safety and efficacy labeling are required to ensure proper use of alternative remedies.

Literature Related Pharmacological Measures on Hot Flushes

Pauliina Tuomikoski, et.al., (2009) conducted study to compare the vascular responses to hormone therapy in women with and without hot flushes. She randomly assigned 143 post-menopausal women (mean age 52 ± 0.2 , time since menopause 19.5 ± 0.9 months) with intolerable hot flushes (more than seven moderate/severe episodes per day) or tolerable hot flushes (fewer than three mild episodes per day) to receive 1 mg of transdermal estradiol gel, oral estradiol 2mg with and without daily medroxyprogesterone acetate, or placebo for 6 months. The hot flushes were assessed by pulse wave analysis and endothelial function testing. The researcher identified, the women with tolerable hot flushes oral estradiol caused a decreased of hot flushes 13.2% ($P=0.028$) in first systolic peak after nitroglycerin. In addition the time to the pulse-wave velocity after nitroglycerin was decreased by 8.4% $P=0.018$. So researcher concluded that estradiol was effective in tolerable hot flushes.

Evans M.L, et.al., (2005) conducted the prospective randomized, with placebo control study to assess the efficacy of extended release venlafaxine for the treatment of post-menopausal hot flushes in Malaysia. 80 post-menopausal women were selected with more than 14 hot flushes per week. 40 were in the experimental group and 40 were in the control group. The researcher reported that the hot flushes symptoms on daily living were significantly reduced in experimental group. Mean values of at entry the treatment group had higher average score (72.4 versus 61.5; $P=0.07$). The symptoms was assessed the average difference at the months 2 and 3 visits. The estimate of the treatment effect was 28 points (95% CI 16-39, $P<0.001$). it shows that 51% reduction in the score in the venlafaxine group, compared with a 15%

reduction in placebo group ($P < 0.001$). The researcher identified that extended release venlafaxine per day, is an effective treatment for post-menopausal hot flushes.

Pandya, (2005) conducted a study to evaluate the effectiveness of the two different doses of gabapentin. 347 post menopausal women were selected. The researcher reported that after the intervention the frequency of hot flushes was reduced with the 900mg/day dose of gabapentin (mean change -2.1; 95% CI -2.95 to -1.23). A lower dose (300 mg/day) did not achieve a significant effect (mean change -0.8; 95% CI -1.7 to 0.1). The same effects were observed on severity scores (low dose mean change -1.79; 95% CI -4.38 to 0.80 and high dose mean change -4.88; 95% CI -7.23 to -2.53).

Summary

This chapter dealt with review of literature related to paced breathing exercise on hot flushes, non-pharmacological measures on hot flushes and pharmacological measures on hot flushes.

CHAPTER III

METHODOLOGY

This chapter deals with a brief description of methodology which was undertaken by the investigator for the research study.

Research Approach:

The selection of the research is a basic procedure for conducting the research study, in view of the nature of problem selected for the study and objectives to be accomplished. **Quantitative evaluative approach** was considered as an appropriate research approach to assess the effectiveness of paced breathing exercise on hot flushes among menopausal women at selected community, Salem.

Research Design:

Quasi experimental pretest and post test research design was used for this study.

E	O ₁	X	O ₂
C	O ₁		O ₂

E - Experimental group

C - Control group

X - Intervention – Paced breathing exercise

O₁ - Pre-test on hot flushes among menopausal women

O₂ - Post-test on hot flushes among menopausal women

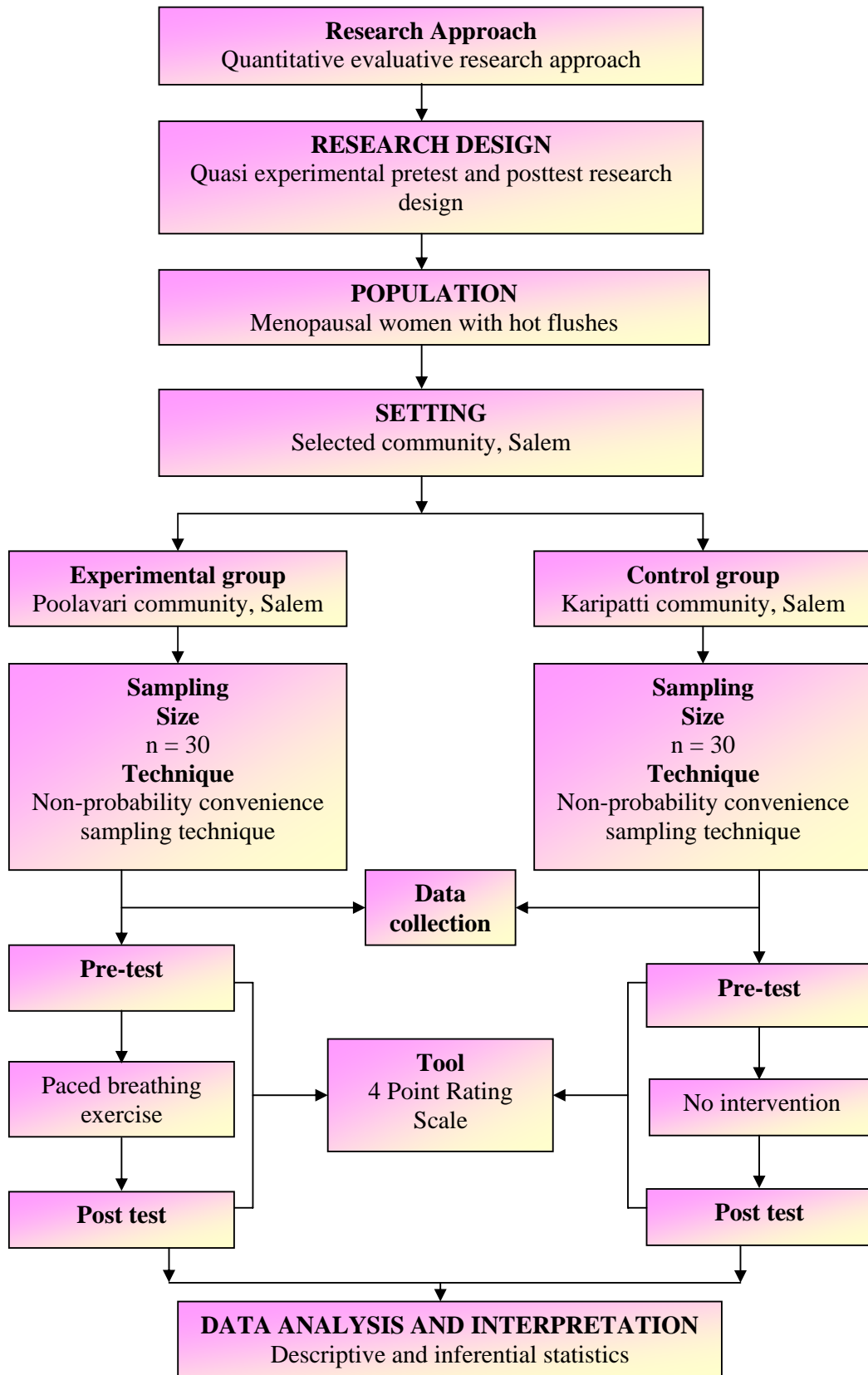


Figure -3.1: Schematic Representation of Research Methodology

Population:

The population for present study comprised of menopausal women with the age group of 40-55yrs residing at selected community, Salem.

Description of Setting:

Setting is the general location and condition in which data collection takes place for the study (**Polit, D.F., and Hungler, 2003**). The study was conducted at selected community, Salem. The samples for the experimental group were selected from Poolavari community and the samples for the control group were selected from Karipatti community which is 2kms and 15 kms away respectively from the College of Nursing. These areas were selected based on availability of samples and feasibility in terms of co-operation extended by the community.

Sampling:**Sample:**

Menopausal women with the age group of 40-55 years at Poolavari and Karipatti community, Salem, who met the inclusion criteria.

Sample size:

Sample size - 60

Experimental group - 30

Control group - 30

Sampling technique:

Non Probability Convenience Sampling technique was used for the study.

Criteria for the sample selection:

Inclusion criteria:

Menopausal women,

1. between the age group of 40 and 55 yrs.
2. who are available during data collection period.
3. who are willing to participate in the study.
4. who are having hot flushes symptoms.

Exclusion criteria:

Menopausal women,

1. who are with any other medical problems.
2. who are undergoing any other alternative therapy.
3. who had practiced paced breathing exercise.

Variables:

Independent variable : Paced Breathing Exercise.

Dependent variable : Hot Flushes.

Description of the Tool:

The tool for this study consists of two sections.

Section-A:

This section consists of background data such as Age, Age at Menopause, Duration of Menopause, Education, Occupation, Family Monthly Income, Marital Status, Number of Children, and Dietary Habits.

Scoring procedure:

No scoring was allotted for this section. The data were used only for descriptive analysis.

Section-B:

This section consists of four point rating scale, which was used to assess the hot flushes among menopausal women.

Scoring procedure:

It consists of the symptoms related to hot flushes of menopausal women. There was 15 items in this section. The rating scale was as follows,

Frequently	- 4
Occasionally	- 3
Rarely	- 2
Never	- 1

The total score has been converted to three levels and interpreted as follows.

Level of hot flushes	Score
1. Mild hot flushes	- 15-30
2. Moderate hot flushes	- 31-45
3. Severe hot flushes	- 46-60

Validity and Reliability of the Tool:

Validity of the tool was obtained on the basis of opinion of Medical and Nursing Experts (two Medical Experts, three Community Health Nursing specialists, two Obstetrics and Gynecological Nursing specialists).

Reliability of the tool was checked by test retest reliability method and the reliability coefficient was $r = 0.9$ which showed that the tool was reliable.

Pilot Study:

The pilot study was conducted from 27.06.2011 to 03.07.2011, after the tool presentation and approval by College of Nursing faculty and dissertation committee. Validity and reliability of the tool were tested during this time. 6 menopausal women

were selected through Non Probability Convenience Sampling technique. The experimental group (3) was selected from Uthamasolapuram and control group (3) from Neikarapatti, Salem. After getting verbal consent from samples, pretest was done for both groups on 27.06.2011. The experimental group was taught Paced Breathing Exercise and they practiced it for 15 minutes, twice a day, for 5 days. The posttest was done for both groups on 3.7.2011. The tool was administered and checked for its feasibility, language and appropriateness. The samples chosen were similar to characteristics to those of the population under study. The tool was reliable and the study was found feasible, practicable and helped for further proceedings.

Method of Data Collection:

Ethical consideration:

Written permission was obtained from the Panchayat Presidents of Poolavari and Karipatti community, Salem, and verbal consent was obtained from the menopausal women.

Data collection procedure:

Data collection was done over a period of 4 weeks from 13.07.2011 to 07.08.2011. The investigator had done survey of the selected community and identified menopausal women who met the inclusion criteria. The samples were chosen from Poolavari (30) and Karipatti (30) community as experimental and control group respectively through Non Probability Convenience Sampling technique. The selected samples were explained about the purpose and nature of the study. Good rapport was developed with the samples to get the co-operation for the study.

Pretest on hot flushes in experimental group was done on 14.07.11 & 15.07.11 and in control group on 16.07.11 & 17.07.11 with 4 Point Rating Scale by using structured interview schedule. Paced breathing exercise was provided twice a day for

the period of 21 days to the experimental group, no intervention was given to the control group.

Paced breathing is a deeper, slower way of breathing. It involves filling the lungs to full capacity when inhaling and then pushing out as much air as possible when exhaling. During breath in abdomen expands and contracts during breathing out. After intervention, posttest on hot flushes in experimental group was done on 03.08.11 and 04.08.11 and in control group on 05.08.11 and 06.08.211.

Plan for Data Analysis:

Descriptive statistics like frequency, percentage, mean, and standard deviation will be used for categorizing data. Inferential statistics such as independent ‘t’ test will be used to determine the effectiveness of Paced breathing exercise and Chi-square test will be used to associate the pretest level of hot flushes with their selected demographic variables.

Summary:

This chapter dealt with Research approach, Research design, Population, Description of the setting, Sampling, Variables, Description of the tool, Validity and Reliability, Pilot study, Method of data collection and Plan for data analysis.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Research data must be processed and analyzed in an orderly fashion so that patterns and relationship can be discerned, validated, and hypotheses can be tested. Quantitative data analyzed through statistical analysis includes simple procedures as well as complex and sophisticated methods. **(Polit , 2004)**

This chapter deals with the analysis and interpretation of the data collected from the menopausal women at selected community, Salem. The data collected from the samples were tabulated, analyzed and preserved in the tables and interpreted under the following sections based on the objectives and hypotheses of the study.

Presentation of Data:

This chapter is divided into four sections,

Section-A:

Distribution of samples according to their selected background variables in experimental and control group.

Section-B:

- a) Distribution of samples according to their pretest level of hot flushes in experimental and control group.

Section-C:

- a) Distribution of samples according to their post test level of hot flushes in experimental and control group.
- b) Comparison between the pretest and post test level of hot flushes among menopausal women in experimental and control group.
- c) Comparison between the pretest and post test on hot flushes among menopausal women in experimental and control group.

Section-D: Hypothesis testing

- a) Effectiveness of paced breathing exercise on hot flushes among menopausal women in experimental and control group.
- b) Association between the pretest level of hot flushes among menopausal women and their selected background variables in experimental and control group.

Section – A

Distribution of samples according to their selected background variables in experimental and control group.

Table-4.1:

Frequency and percentage distribution of samples according to their biographic variables in experimental and control group

n=60

Sl. No	Biographic variables	Experimental group		Control group	
		Frequency	%	Frequency	%
1	Age in years				
	a) 40-45	2	6.67	7	23.33
	b) 46-50	15	50.0	9	30
	c) 51-55	13	43.33	14	46.67
2	Education				
	a) No formal education	11	36.67	8	26.67
	b) Primary level	11	36.67	17	56.67
	c) Secondary level	5	16.66	5	16.66
	d) Diploma	3	10.0	-	-
	e) Graduate	-	-	-	-
f) Post graduate	-	-	-	-	
3	Occupation				
	a) House Wife	7	23.33	18	60.0
	b) Farmer	7	23.33	4	13.33
	c) Daily wagers	12	40.0	6	20.0
d) Other	4	13.34	2	6.67	
4	Marital status				
	a) Unmarried	-	-	-	-
	b) Married	27	90	26	86.67
c) Widow/Separated	3	10	4	13.33	
5	Number of children				
	a) No Child	1	3.33	-	-
	b) One child	4	13.34	1	3.33
	c) Two children	15	50	24	80
d) More than two	10	33.33	5	16.67	

The above table shows that in experimental group 15(50%) menopausal women are in the age group of 46-50 yrs, 11(36.67%) have no formal education and also have primary education respectively, 12(40%) are daily wagers, 27(90%) are married women, and 15(50%) have two children.

In control group 14(46.67%) menopausal women are in the age group of 51-55 yrs., 17(56.7%) have primary education, 18(60%) are house wife, 26(86.67%) are married women and 24(80%) have two children.

Table-4.2:

Frequency and percentage distribution of samples according to their Menopause related variables in experimental and control group

n=60

Sl. No	Menopause related variables	Experimental group		Control group	
		Frequency	%	Frequency	%
1	Age at Menopause				
	a) Below 40 years	4	13.33	5	16.67
	b) 40-45 years	19	63.34	24	80
	c) 46-50 years	7	23.3	1	3.33
2	Type of Menopause				
	a) Natural	23	76.67	17	56.67
	b) Surgical	7	23.33	13	43.33
3	Duration of menopause				
	a) Less than 1 year	-	-	3	10
	b) 1-3 years	12	40	9	30
	c) More than 3 years	18	60	18	60

The above table shows that in experimental group 19(63.34%) have the menopause between the age of 40-45yrs, 23(76.67%) have menopause naturally, 18(60%) have more than 3 years duration of menopause.

In control group 24(80%) have the menopause between the age of 40-45 yrs, 17(56.67%) have menopause naturally, and 18(60%) have more than 3 years duration of menopause.

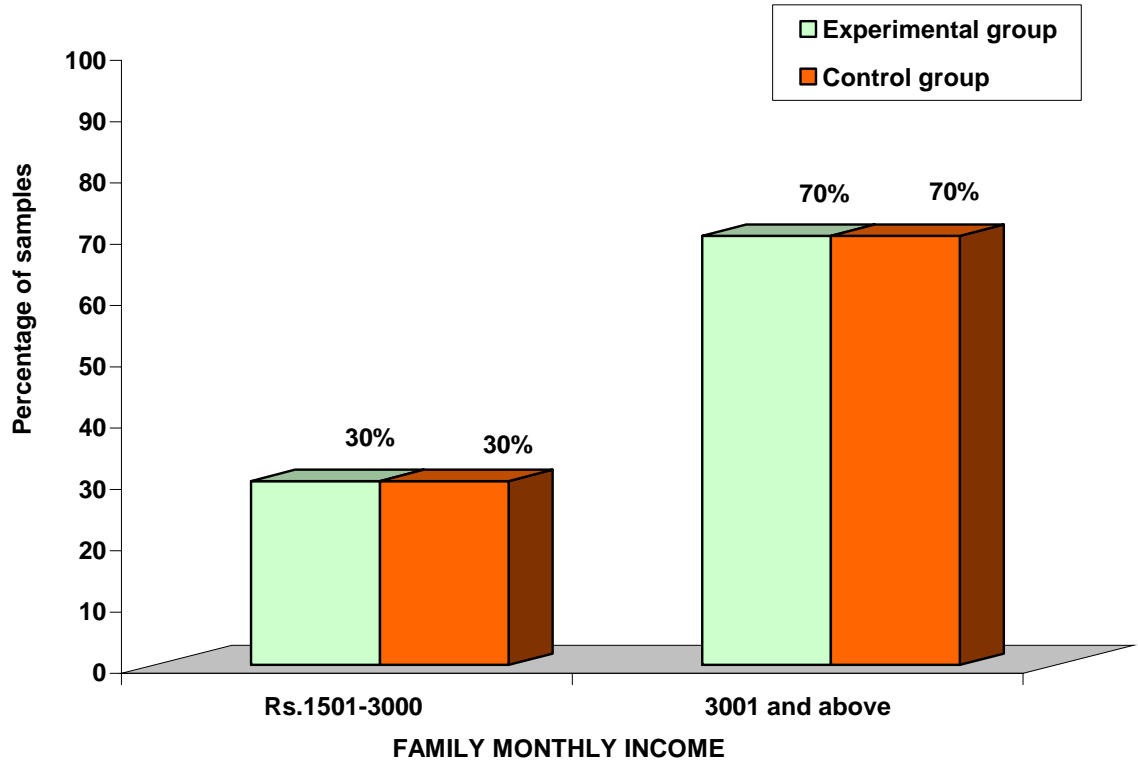


Figure-4.1: Percentage distribution of samples according to their socio economic variable in experimental and control group

The above figure shows that both in experimental and control groups 21(70%) have family monthly income of Rs.3001 and above and 9(30%) have family monthly income of Rs.1501-3000.

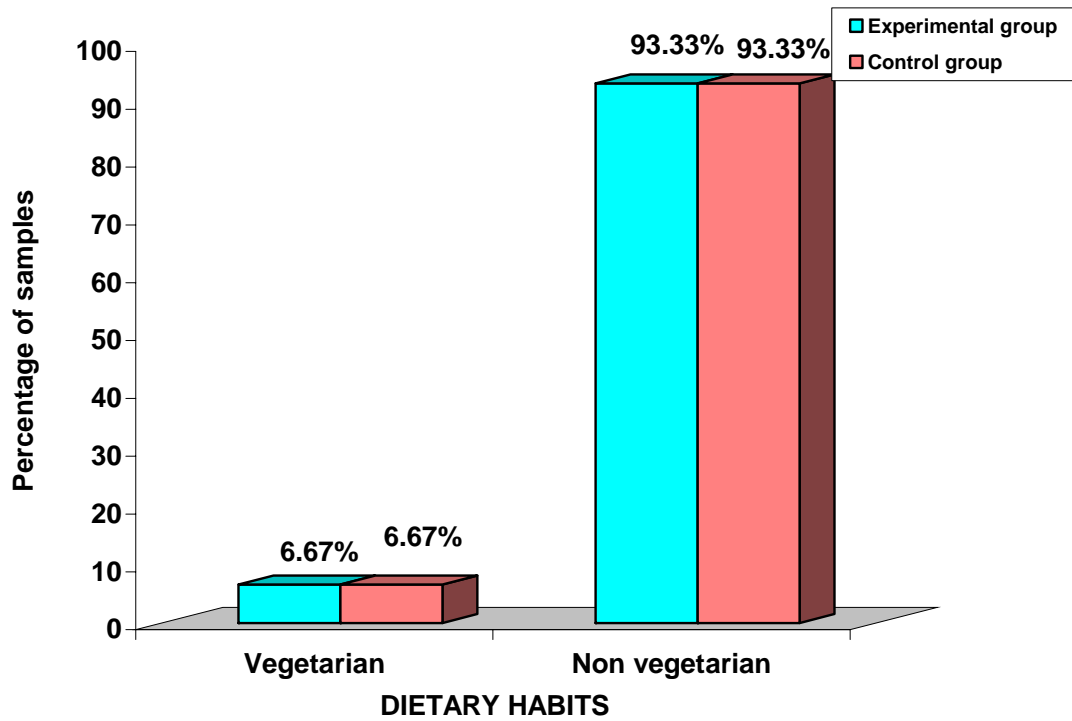


Figure-4.2: Percentage distribution of samples according to their personal variable in experimental and control group

The above figure shows that both in experimental and control groups 28(93.33%) are non vegetarian and 2(6.67%) are vegetarian.

Section – B

a) Distribution of samples according to their pretest level of hot flushes in experimental and control group

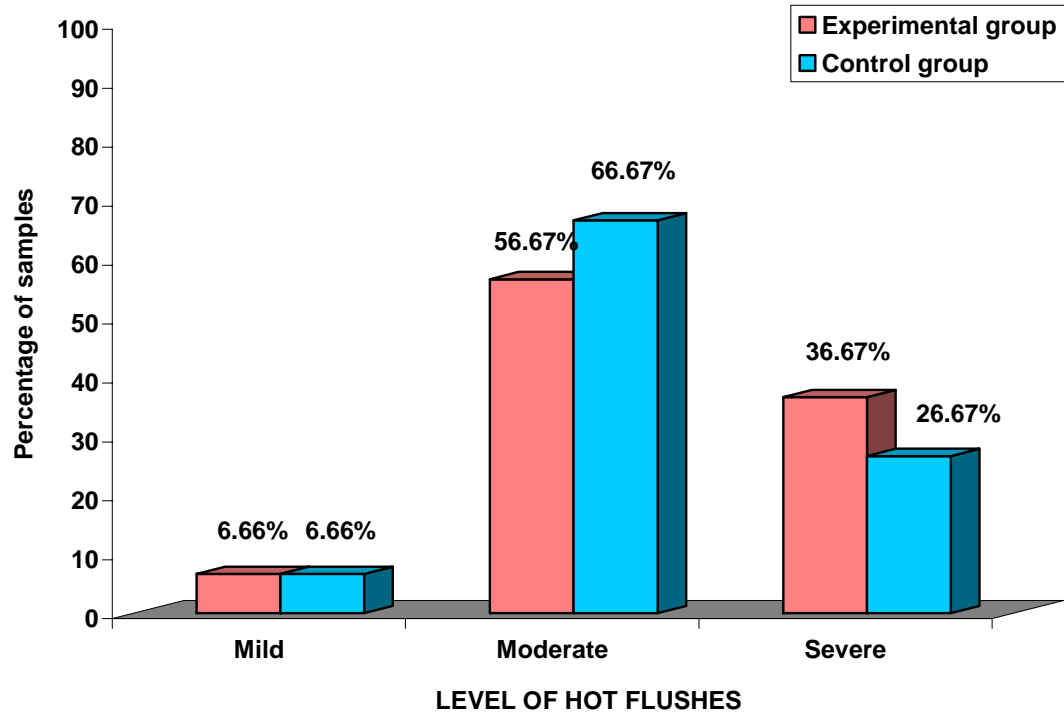


Figure-4.3: Percentage distribution of samples according to their pretest level of hot flushes in experimental and control group

The above figure shows that, in pretest experimental group, 2(6.66%) have mild hot flushes, 17(56.66%) have moderate hot flushes and 11(36.67%) have severe hot flushes. In control group, 2(6.66%) have mild hot flushes, 20(66.66%) have moderate hot flushes and 8(26.66%) have severe flushes.

Section-C

a) Distribution of samples according to their post test level of hot flushes in experimental and control group

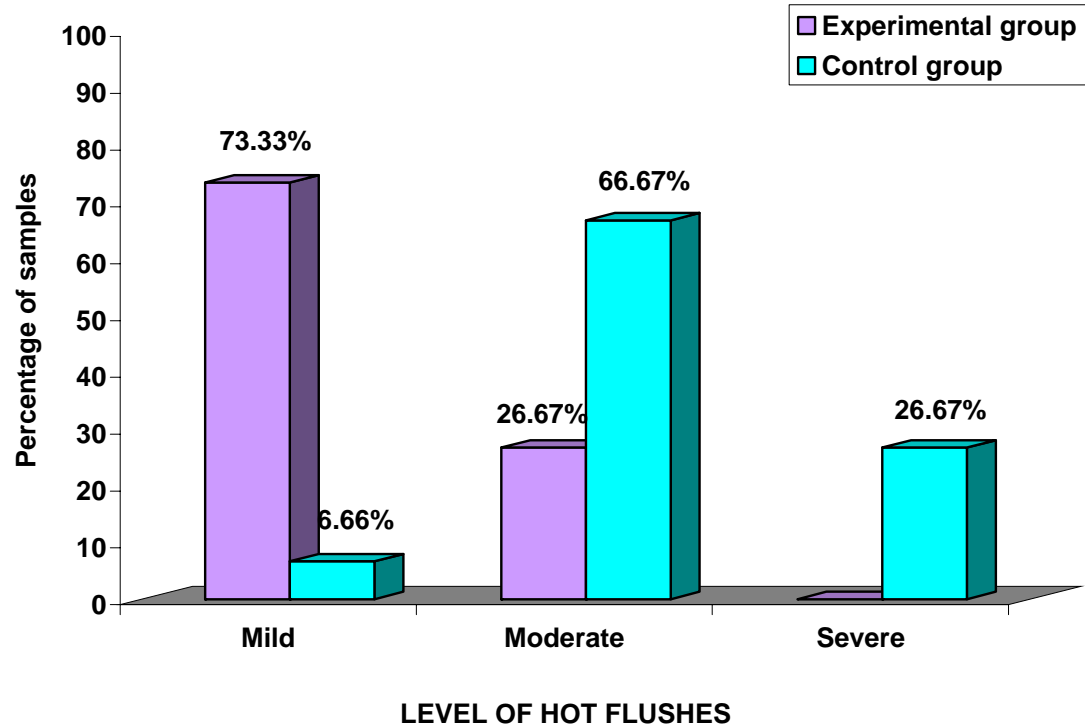


Figure-4.4: Percentage distribution of samples according to their post test level of hot flushes in experimental and control group

The above figure shows that in post test experimental group, 22(73.33%) have mild hot flushes, 8(26.66%) have moderate hot flushes and none of them have severe hot flushes. In control group 2(6.66%) have mild hot flushes, 20(66.66%) have moderate hot flushes, and 8(26.66%) have severe hot flushes.

b) Comparison between the pretest and post test level of hot flushes among menopausal women in experimental and control group

Table-4.3:

Frequency and percentage distribution on the level of hot flushes among menopausal women in experimental and control group.

n=60

Sl.No	Level of hot flushes	Experimental Group				Control Group			
		Pre Test		Post Test		Pre Test		Post Test	
		F	%	f	%	f	%	f	%
1.	Mild	2	6.66	22	73.33	2	6.66	2	6.66
2	Moderate	17	56.67	8	26.67	20	66.67	20	66.67
3	Severe	11	36.67	-	-	8	26.67	8	26.67

Above table shows that, in the experimental group, 2(6.66%) women have mild hot flushes, 17(56.66%) have moderate hot flushes and 11(36.66%) have severe hot flushes during pretest. In post test, majority, 22(73.33%) of them have mild hot flushes, 8(26.66%) have moderate hot flushes and none of them have severe hot flushes.

In control group, 2(6.66%) have mild hot flushes, majority, i.e. 20(66.66%) of them have moderate hot flushes and 8(26.66%) have severe flushes during pretest. In post test 2(6.66%) have mild hot flushes, majority i.e., 20(66.66%) of them have moderate hot flushes, and 8(26.66%) have severe hot flushes.

c) Comparison between the pretest and post test on hot flushes among menopausal women in experimental and control group

Table -4.4:

Mean, standard deviation and mean difference on hot flushes among menopausal women in experimental and control group

n=60

S. No	Group	Maximum Score	Pre Test		Post Test		Mean Difference
			Mean	S.D	Mean	S.D	
1	Experimental Group	60	44.03	6.07	25.46	6.05	18.51
2	Control Group		41.8	5.56	41.66	5.9	0.14

The above the table shows that, the overall pre test and post test score on hot flushes symptoms in experimental group, the mean pre test score is 44.03 ± 6.07 , and mean post test score is 25.46 ± 6.05 with the difference of 18.51.

In the control group, the mean pretest score is 41.8 ± 5.56 and mean post test score is 41.66 ± 5.9 with the difference of 0.14. The above mean difference in experimental group shows that paced breathing exercise has reduced hot flushes among menopausal women.

Section – D

Hypothesis testing

Effectiveness of paced breathing exercise on hot flushes among menopausal women in experimental and control group.

a) Mean, standard deviation and ‘t’ value of post test on hot flushes among menopausal women in experimental and control group

Table-4.5:

n=60

S. No	Group	Post Test		‘t’ value	df	Table value
		Mean	S.D			
1	Experimental Group	25.46	6.05	10.39*	58	1.96
2	Control Group	41.66	5.9			

***significant at $p < 0.05$ level**

The above table shows that in experimental group the post test mean score on hot flushes is 25.46 ± 6.05 and the control group the post test mean score is 41.66 ± 5.9 . The ‘t’ value is 10.39 which shows that the paced breathing exercise is effective on hot flushes among menopausal women in experimental group. Hence the formulated hypothesis H_1 was retained at $p < 0.05$ level.

b) Association between the pretest level of hot flushes among menopausal women and their selected background variables in experimental and control group.

Table-4.6:

Chi-square test on pretest level of hot flushes among menopausal women and their selected biographic variables in experimental and control group.

n=60

Sl. No	Biographic variables	Experimental group (n=30)			Control group (n=30)		
		df	χ^2	Table value	df	χ^2	Table value
1	Age in years	4	3.000	9.49	4	4.786	9.49
2	Education	6	4.720	12.59	4	6.086	9.49
3	Occupation	6	8.690	12.59	6	6.229	12.59
4	Marital status	2	0.370	5.99	2	2.524	5.99
5	Number of children	6	3.792	12.59	4	3.425	9.49

Significant at $p>0.05$ level

The above table shows that in experimental and control group there was no significant association between the level of hot flushes and their selected Biographic variables. Hence the formulated hypothesis H_2 was rejected at $p>0.05$ level.

Table-4.7:

Chi-square test on pretest level of hot flushes among menopausal women and their selected menopause related variables in experimental and control group.

n=60

Sl. No	Menopause related variables	Experimental group (n=30)			Control group (n=30)		
		df	χ^2	Table value	df	χ^2	Table value
1	Age at menopause	4	6.776	9.49	4	2.231	9.49
2	Type of menopause	2	1.118	5.99	2	0.271	5.99
3	Duration of menopause	2	0.139	5.99	4	7.875	9.49

Significant at $p>0.05$ level

The above table shows that in experimental and control group there was no significant association between the level of hot flushes and their selected menopause related variables. Hence the formulated hypothesis H_2 was rejected at $p>0.05$ level.

Table-4.8:

Chi-square test on pretest level of hot flushes among menopausal women and their selected socio economic variables in experimental and control group.

n=60

Sl. No	Socio economic variables	Experimental group (n=30)			Control group (n=30)		
		df	χ^2	Table value	df	χ^2	Table value
1	Family monthly income	2	0.536	5.99	2	1.786	5.99

Significant at $p>0.05$ level

The above table shows that in experimental and control group there was no significant association between the level of hot flushes and their selected socio economic variables. Hence the formulated hypothesis H_2 was rejected at $p>0.05$ level.

Table-4.9:

Chi-square test on pretest level of hot flushes among menopausal women and their selected personal variables in experimental and control group.

n=60

Sl. No	Personal variables	Experimental group (n=30)			Control group (n=30)		
		df	χ^2	Table value	df	χ^2	Table value
1	Dietary habits	2	0.905	5.99	2	0.670	5.99

Significant at $p>0.05$ level

The above table shows that in experimental and control group there was no significant association between the level of hot flushes and their selected personal variables. Hence the formulated hypothesis H_2 was rejected at $p>0.05$ level.

Summary:

This chapter dealt with data analysis and interpretation in the form of statistical values based on the objectives. Here the frequency and percentage were used to distribute the menopausal women according to their selected demographic variables and pre-test level of hot flushes. The independent 't' test was used to evaluate the effectiveness of Paced Breathing Exercise on hot flushes. The chi-square analysis was used to associate the pre-test level of hot flushes with their selected background variables.

CHAPTER V

DISCUSSION

This chapter discusses the findings of the study derived from the descriptive and inferential statistics. This study was conducted to assess the effectiveness of paced breathing exercise on hot flushes among menopausal women at selected Community, Salem.

Description of the background Variables

The background variables were collected through structured interview schedule and hot flushes were assessed by 4 point rating scale. The symptoms of hot flushes were assessed before after intervention of paced breathing exercise.

- The investigator found that, in the experimental group, 15(50%) menopausal women were in the age group of 46-50 years and in the control group, 14(46.67%) menopausal women were in the age group of 51-55 years.
- In the experimental group, 11(36.67%) menopausal women had no formal education and also primary education and in control group 17(s56.67%) menopausal women had primary education.
- In the experimental group, 12(40%) menopausal women were daily wages and in control group, 18(60%) menopausal women were house wife. This study was supported by **Sonia Puri 2010**, assessed the perception of menopause and post menopausal bleeding among Indian women. This study comprises of totally 528 women, in that 70% women were house wife and 14.9% were employee.
- In the experimental group, 27(90%) menopausal women were married and in the control group, 26(86.67%) menopausal women were married. This study was supported by **Obi SN (2004)**, assessed the age, symptoms and perception of

menopause. In this study 402 women were studied among them 376 women were married.

- In the experimental group, 15(50%) menopausal women had two children and in control group 24(80%) menopausal women had two children.
- In the experimental group 19(63.34%) menopausal women had the menopause between the age of 40-45yrs and in control group 24(80%) menopausal women had the menopause between the age of 40-45yrs. This study was supported by **Mehreen Adhi, et.al., (2007)** who had done a study of age and symptomatology of menopause in Pakistan. In this study 200 women were selected and 67% of had menopause between 40-45 years of age.
- In the experimental group, 23(76.67%) menopausal women had menopause naturally and in control group 17(56.67%) menopausal women had menopause naturally. This study was supported by **Nagata C, et.at., (2011)** who had done a study of association of physical activity and diet with the symptoms of menopause in Japanese women. In this study 3115 women were selected and about 1790 women attain the natural menopause.
- Both in experimental and control group, 18(60%) menopausal women had more than 3yrs duration of menopause.
- Both in experimental and control group 21(70%) menopausal women had family monthly income of Rs.3001 and above.
- Both in experimental and control group 28(93.33%) menopausal women were non vegetarian.

The first objective of the study was to assess the level of hot flushes among menopausal women in experimental and control group.

In the experimental group, 2(6.66%) had mild hot flushes, 17(56.66%) had moderate hot flushes and 11(36.67%) had severe hot flushes in pretest. In control group, 2(6.66%) had mild hot flushes, 20(66.66%) had moderate hot flushes and 8(26.66%) had severe flushes in pretest.

In the experimental group, 22(73.33%) had mild hot flushes, 8(26.66%) had moderate hot flushes and none had severe hot flushes in posttest. In control group 2(6.66%) had mild hot flushes, 20(66.66%) had moderate hot flushes, and 8(26.66%) had severe hot flushes in posttest.

The second objective was to evaluate the effectiveness of paced breathing exercise on hot flushes among menopausal women in experimental group.

In experimental group the posttest mean score on hot flushes was 25.46 ± 6.05 and in control group the posttest mean score was 41.66 ± 5.9 . The 't' value was 10.39 which showed that the paced breathing exercise was effective on hot flushes among menopausal women in experimental group. Hence the formulated hypothesis H_1 was retained at $p < 0.05$ level. This study was supported by **Freedman, Irvin, et.al, (2009)**, to evaluate effectiveness of paced respiration on hot flushes among menopausal women. Breathing exercise was performed for 15 minutes twice day, using a pattern of 5seconds inhale, 5 seconds exhale. An ambulatory monitoring device was used to measure the hot flushes frequency. The researcher identified the paced respiration had 50% efficacy ($P < 0.05$) using objective laboratory recorded symptoms and diary-recorded hot flushes compared with positive wave electroencephalographic biofeedback or muscle relaxation.

The third objective was to find the association between the pre-test level of hot flushes among menopausal women and their background variables in experimental and control group.

In experimental and control group there were no significant association between the pretest level of hot flushes and their selected background variables. Hence the formulated hypothesis H₂ was rejected at p>0.05 level. This study was opposed by **Obi.S.N., Obikili.E, et.al,(2004)** (i.e.) descriptive study to assess the age, symptoms and perception of menopause among Nigerian women. The researcher used the biosocial data like age, marital status, educational attainment and reproductive characteristics of Nigerian women. The results revealed that there is a significant relationship in the Age of menopause, surgical menopause and educational attainment.

Summary

The discussion made in this chapter was based on the objectives of the study and its relation with similar studies conducted by other investigators. All the three objectives had been obtained. The first formulated hypothesis was retained and second hypothesis was rejected in this study.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and the conclusion are presented. In the last two sections, the implications for nursing practice and the recommendations for further research are presented.

Summary

The purpose of this study was to assess the effectiveness of paced breathing exercise on hot flushes among menopausal women at selected community, Salem. The Quasi experimental research design, pre-test and post-test design were used in this study. The conceptual framework was based on the Rosenstock's Health belief Model. A total of 60 samples who met the inclusion criteria were selected. The instrument used in this study consisted of two sections, Section- A was background variables; Section- B was 4 point rating scale.

The data were analysed using descriptive and inferential statistics. To test the hypotheses, independent 't' test and chi-square were used. The 0.05 level of significance was used to test the hypotheses.

- The investigator found that, in the experimental group, 15(50%) menopausal women were in the age group of 46-50 years and in the control group, 14(46.67%) menopausal women were in the age group of 51-55 years.
- In the experimental group, 11(36.67%) menopausal women had no formal education and also primary education and in control group 17(56.67%) menopausal women had primary education.
- In the experimental group, 12(40%) menopausal women were daily wages and in control group, 18(60%) menopausal women were house wife.

- In the experimental group, 27(90%) menopausal women were married and in the control group, 26(86.67%) menopausal women were married.
- In the experimental group, 15(50%) menopausal women had two children and in control group 24(80%) menopausal women had two children.
- In the experimental group 19(63.34%) menopausal women had the menopausal between the age of 40-45yrs and in control group 24(80%) menopausal women had the menopause between the age of 40-45yrs.
- In the experimental group, 23(76.67%) menopausal women had menopause naturally and in control group 17(56.67%) menopausal women had menopause naturally.
- Both in experimental and control group, 18(60%) menopausal women had more than 3yrs duration of menopause.
- Both in experimental and control group 21(70%) menopausal women had family monthly income of Rs.3001 and above.
- Both in experimental and control group 28(93.33%) menopausal women were non vegetarian.
- In pretest in experimental group, 2(6.66%) had mild hot flushes, 17(56.66%) had moderate hot flushes and 11(36.67%) had severe hot flushes.
- In pretest in control group, 2(6.66%) had mild hot flushes, 20(66.66%) had moderate hot flushes and 8(26.66%) had severe flushes.
- In post test in experimental group, 22(73.33%) had mild hot flushes, 8(26.66%) had moderate hot flushes and none had severe hot flushes.
- In post test in control group 2(6.66%) had mild hot flushes, 20(66.66%) had moderate hot flushes, and 8(26.66%) had severe hot flushes.

- In the experimental group, 2(6.66%) women had mild hot flushes, 17(56.66%) had moderate hot flushes and 11(36.66%) had severe hot flushes during pre-test. In post test, majority, i.e., 22(73.33%) of them had mild hot flushes, 8(26.66%) had moderate hot flushes and none had severe hot flushes. In control group, 2(6.66%) had mild hot flushes, majority, i.e. 20(66.66%) of them had moderate hot flushes and 8(26.66%) had severe flushes during pre-test. In post test 2(6.66%) had mild hot flushes, majority i.e., 20(66.66%) of them had moderate hot flushes, and 8(26.66%) had severe hot flushes.
- In experimental group the posttest mean score on hot flushes was 25.46 ± 6.05 and in control group the posttest mean score was 41.66 ± 5.9 . The 't' value was 10.39 which showed that the paced breathing exercise was effective on hot flushes among menopausal women in experimental group. Hence the formulated research hypothesis H_1 was retained at $p > 0.05$ level.
- In experimental and control group there were no significant association between the pretest level of hot flushes and their selected background variables. Hence the formulated research hypothesis H_2 was rejected at $p < 0.05$ level.

Conclusion

This study was done to assess the effectiveness of paced breathing exercise on hot flushes among menopausal women at selected community, Salem. The result of this study showed that level of hot flushes was reduced after the paced breathing exercise. In experimental and control group there were no significant association between the pretest level of hot flushes and their selected background variables.

Implications

Nursing Service:

- There is a need for integration of the indigenous systems of medicine into the general health care services.
- Educate the benefits of paced breathing exercise and its role in reducing hot flushes among menopausal women.
- In-service education can be provided to the peripheral level health workers and train them on the alternative therapies available.
- Conduction of camps and rule out hot flushes among menopausal women.

Nursing Education:

- Nurse educators should provide adequate training to the students regarding paced breathing exercise.
- Provide exposure to various alternative complementary therapies and encourage the students to participate in the specialization and expand their carrier.
- Motivate the students to update the knowledge on various innovation approaches in treatment modalities

Nursing Administration:

- The nurse administrator coordinates her work along with the staffs, to encourage them to do selected alternative nursing measures like paced breathing exercise on hot flushes.
- Nursing administrator should organize in service educational program to the staffs regarding the management on hot flushes of menopausal women.
- Plan policies and guidelines on practice of home based intervention in treating problem.

Nursing Research:

- This study can be used as a baseline for future studies to build upon.
- Nursing research need to be done to find out various other innovative measures in the management of hot flushes.
- Nursing research need to be done to find out the use of paced breathing exercise in treatment of various populations.
- Disseminate the findings through conferences, seminar, publication in professional, national & international journals.

Recommendations

- A similar study can be done using large samples.
- A similar study can be undertaken by allotting more time on data collection.
- A comparative study can be done to assess the effectiveness of paced breathing exercise and hormone replacement therapy on reducing hot flushes.
- A comparative study can be done to assess the effectiveness of paced breathing exercise and acupuncture on hot flushes.
- A comparative study can be done to assess the effectiveness of paced breathing exercise and soya bean consumption on reducing hot flushes.
- A comparative study can be done to assess the effectiveness of paced breathing exercise on hot flushes between the urban and rural menopausal women.

Summary

This chapter dealt with summary, conclusion, implications for nursing and recommendations.

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ANNEXURE – A

LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY

From

Ms.K.Bhuvaneswari,
M.Sc (N) II Year,
Sri Gokulam College of Nursing,
Salem.

To

The Principal,
Sri Gokulam College of Nursing,
Salem.

Respected Madam,

Sub: Permission to conduct research project – reg.

I **Ms.K. Bhuvaneswari**. II Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, is conducting a research project in partial fulfilment of the TamilNadu Dr. M.G.R. Medical University, Chennai as a part of the requirement for the award of M.Sc(Nursing) Degree.

Topic: “A study to assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at Selected Community, Salem”.

I request you to kindly do the needful.

Thanking you,

Yours obediently,

Place : Salem

Date :

(K.Bhuvaneswari)

ANNEXURE – B
LETTER GRANTING PERMISSION TO CONDUCT RESEARCH STUDY

To

The Panchayat President,
Poolavari,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct Research Project -Reg.

This is to introduce **Ms K.Bhuvaneshwari**, a Final year M.Sc (Nursing) student of Sri Gokulam College of Nursing. She is to conduct a research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfilment of University requirement for the award of M.Sc (Nursing) Degree.

Topic: A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes Among Menopausal Women in Selected Community, Salem.

Kindly permit to conduct a research project in Poolavari community, Salem, from 13-07-2011 to 7-08-2011 .I assure that the collected data would be kept confidential and used only for the study purpose.

Thanking you

Yours Sincerely,

(DR. A. JAYASUDHA)

PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

Date:12.7.11

Place: Salem

உப தலைவர்
ஊராட்சி மன்றம்.
பூலாவரி.

ANNEXURE - C

**LETTER REQUESTING OPINION AND SUGGESTIONS OF EXPERTS FOR
CONTENT VALIDITY OF THE RESEARCH TOOLS**

From

Ms.K.Bhuvanewari
II Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To,

Respected Sir/ Madam,

**Sub: Requesting opinion and suggestions of experts for establishing
content validity of the tools.**

I, **Ms.K.Bhuvanewari**, an II Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, Salem. I have selected the topic mentioned below for the research project to be submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai for the partial fulfilment of Master's Degree in Nursing.

Topic: "A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at selected Community, Salem."

I wish to request you kindly validate the tool and give your expert opinion for necessary modification. I will be grateful to you for this.

Thanking you

Yours sincerely,

Place : Salem

Date :

(Ms.K.Bhuvanewari)

Enclosed:

1. Certificate of validation
2. Criteria checklist of evaluation of tool
3. Tool for collection of data
4. Procedure

ANNEXURE - D

TOOL

SECTION –A: BACKGROUND VARIABLES

Dear Participants,

This section consists of the personal information and you are requested to answer the questions correctly. The personal information will be collected by using structured interview schedule. The data given by you will be kept confidential.

Biographic Variables

1. Age in years

- a) 40 - 45 []
- b) 46 – 50 []
- c) 51 – 55 []

2. Education

- a) No formal education []
- b) Primary level []
- c) Secondary level []
- d) Diploma []
- e) Graduate []
- f) Post graduate []

3. Occupation

- a) House wife []
- b) Farmer []
- c) Coolie []
- d) Others []

4. Marital status

- a) Unmarried []
- b) Married []
- c) Widow / Separated []

5. Number of children

- a) No child []
- b) One child []
- c) Two children []
- d) More than two []

Menopause Related Variables

6. Age at menopause

- a) Below 40 yrs []
- b) 40 – 45 yrs []
- c) 46 – 50 yrs []

7. Type of menopause

- a) Natural []
- b) Surgical []

8. Duration of menopause

- a) Less than 1 yr []
- b) 2 – 3 yrs []
- c) More than 3 yrs []

Socio Economic Variable

9. Family monthly income

a) Below Rs.1500 []

b) Rs.1501 – 3000 []

c) Above 3000 []

Personal Variable

10. Dietary habits

a) Vegetarian []

b) Non Vegetarian []

SECTION – B

CHECKLIST FOR THE ASSESSMENT OF HOT FLUSHES SYMPTOMS

AMONG MENOPAUSAL WOMEN

S. No	Questions	Frequently (4)	Occasionally (3)	Rarely (2)	Never (1)
1	How often do you experience heat radiating to upper body parts				
2	How often do you feel temperature elevation during the radiating heat in the finger and toes				
3	How often do you have sleep disturbance				
4	How often do you experience palpitation				
5	How often do you have nausea				
6	How often do you have night sweat				
7	How often do you experience fatigue				
8	How often do you feel vaginal dryness				
9	How often do you feel anxious				
10	How often do you feel anger and irritability				
11	How often do you experience headache				
12	How often do you feel air hunger				
13	How often do you have thirst				
14	How often do you experience				

	skin dryness				
15	How often do you have difficulty in doing household activity				

Scoring key

- 15 – 30 -Mild symptoms of hot flushes
- 31 – 45 - Moderate symptoms of hot flushes
- 46 – 60 - Severe symptoms of hot flushes

PACED BREATHING EXERCISE

Meaning

Paced breathing is a deeper, slower way of breathing. It involves filling the lungs to full capacity when inhaling and then pushing out as much air as possible when exhaling.

Advantages

- Increases oxygen supply to the brain and muscle
- Improve the efficiency of the excretion of bodily toxins.
- Correct the body to the mind
- Calm the mind
- Relieves hypertension
- Can be practical any where
- Relieves stress
- Improve the ability to control breathing problems

General instructions

- Wear loose clothing
- Be clam and quiet
- Concentrate on your breathing

Procedure

Step-1

- Explain the procedure
- Get the prior permission
- Arrange comfortable place with minimum disturbance

Step-2

- Make comfortable position either sitting or standing

Step-3

- Place one or both hands on your abdomen, just below the ribs
- Take a cleansing breath at the beginning of a exercise.
- First take the breath slowly.
- Then go deeply (with more use of intercostals muscles)
- Inhale as much air up to the full capacity of lungs then pushing out as much air as possible when exhaling
- Breathe in deeply through the nose, keeping the mouth closed
- Concentrate on feeling your abdomen rise (expand) as far as possible. Stay relaxed, and avoided arching your back. If you have difficulty raising your abdomen, take a quick, forceful breath through the nose.
- Then purse your lips as if about to whistle, and breathe out slowly and gently, making a slow ‘whoosing’ sound without puffing out the cheeks.

Step-4

- End of exercise take a cleansing breath.
- Breathing out slowly and relaxing completely
- Repeat the same procedure for 15 minutes twice a day.

தனிநபர் பற்றிய அடிப்படை விபரங்கள்

அன்பார்ந்த பங்கேற்பாளர்களே,

இப்பகுதியில் கொடுக்கப்பட்ட கேள்விகள் உங்களின் தனிப்பட்ட விபரங்களை அறிந்து கொள்ள பயன்படுத்தப்படுகிறது. நீங்கள் அளிக்கும் விபரங்கள் பத்திரமாக பாதுகாக்கப்படும்.

1. வயது வரம்பு

அ) 50 - 55 []

ஆ) 56 - 60 []

இ) 61 - 65 []

2. மாதவிடாய் சுழற்சி முடிவுறும் பொழுது வயது என்ன?

அ) 40 வயதிற்கு கீழ் []

ஆ) 40 - 45 வயது []

இ) 46 - 50 வயது []

3. எந்த வகையான முறையில் மாதவிடாய் சுழற்சி நின்றது:

அ) இயற்கையான முறை []

ஆ) அறுவை சிகிச்சை முறை []

4. மாதவிடாய் சுழற்சி நின்று எவ்வளவு காலமாகிறது?

அ) ஒரு வருடத்திற்கு முன் []

ஆ) 1 - 3 வருடங்கள் []

இ) மூன்று வருடத்திற்கு மேல் []

5. படிப்பறிவு

அ) படிப்பறிவில்லாதவர் []

ஆ) தொடக்கக்கல்வி []

இ) உயர்நிலைக்கல்வி []

ஈ) பட்டயப்படிப்பு []

உ) இளநிலைக்கல்வி []

ஊ) முதுநிலைக்கல்வி []

6. தொழில்

- அ) இல்லத்தரசி []
- ஆ) விவசாயம் []
- இ) கூலி []
- ஈ) மற்றவை []
7. குடும்ப மாதவருமானம்
- அ) ரூ.1500க்கு கீழ் []
- ஆ) ரூ.1501 - 3000 []
- இ) ரூ.3000க்கு மேல் []
8. திருமணத்தகுதி
- அ) திருமணமாகாதவர் []
- ஆ) திருமணமானவர் []
- இ) விவகாரத்தானவர்/ தனிமையில் உள்ளவர் []
9. குழந்தைகள் எண்ணிக்கை
- அ) குழந்தையில்லை []
- ஆ) ஒரு குழந்தை []
- இ) இரண்டு குழந்தைகள் []
- ஈ) இரண்டு குழந்தைகளுக்கு மேல் []
10. உணவு முறை
- அ) சைவம் []
- ஆ) அசைவம் []

பிரிவு - ஆ

வ. எண்	கேள்விகள்	தொடர்ச்சி யாக (4)	அடிக்கடி (3)	எப்பொழு தாவது (2)	ஒருபோதும் இல்லை (1)
1.	உங்கள் உடலின் மேல் பகுதியில் வெப்பத்தன்மையை உணர்கிறீர்களா				
2.	உங்கள் உடலின் வெப்பநிலை உயரும்பொழுது எத்தனை முறை உங்கள் கை கால் விரல்களில் வெப்பத்தை உணர்ந்திருக்கிறீர்கள்				
3.	எத்தனை முறை உங்களுக்கு உறக்கத்தில் தடை ஏற்பட்டுள்ளது.				
4.	படப்பட்ப்பு தன்மையை எத்தனை முறை உணர்ந்திருக்கிறீர்கள்				
5.	எத்தனை முறை உங்களுக்கு குமட்டல் உணர்வு ஏற்பட்டிருக்கிறது				
6.	இரவில் அதிகமாக வியர்த்தல் எத்தனை முறை ஏற்பட்டிருக்கிறது				
7.	வேலை செய்யும் பொழுது எத்தனை முறை உடல் அலுப்பு, சலிப்பு ஏற்பட்டிருக்கிறது				
8.	உங்களின் பிறப்புறுப்பில் வறண்ட தன்மையை உணர்ந்திருக்கிறீர்களா				
9.	எத்தனை முறை நீங்கள் கவலைப்பட்டிருக்கிறீர்கள்				

வ. எண்	கேள்விகள்	தொடர்ச்சி யாக (4) xiii	அடிக்கடி (3)	எப்பொழு தாவது (2)	ஒருபோதும் இல்லை (1)
10.	நீங்கள் எத்தனை முறை கோபமும், எரிச்சலும் அடைந்திருக்கிறீர்கள்		1		
11.	நீங்கள் எத்தனை முறை தலைவலியை உணர்ந்திருக்கிறீர்கள்				
12.	எத்தனைமுறை உங்களுக்கு காற்று வேட்கை ஏற்பட்டுள்ளது				
13.	எத்தனை முறை நீங்கள் தாகம் அடைவீர்கள்				
14.	எத்தனைமுறை நீங்கள் சருமம் வறண்ட நிலையை உணர்ந்திருக்கிறீர்கள்				
15.	வீட்டுவேலை செய்யும்பொழுது எத்தனை முறை கடுமையான நிலையை உணர்ந்தீர்கள்				

மூச்சுப்பயிற்சி

வரையறை:

xiv

மூச்சுப்பயிற்சி என்பது மிதமாகவும், ஆழமாகவும் மூச்சுவிடும் முறையாகும். அதாவது நுரையீரல் தனது கொள்ளளவு முழுமைக்கும் மூச்சினை உள்ளிழுத்து முடிந்த அளவு காற்றை வெளிவிடுவதாகும்.

நன்மைகள்:

- மூளைக்கும், தசைகளுக்கும் அதிகமான ஆக்ஸிஜன் செல்ல உதவுகிறது.
- உடலின் நச்சுப்பொருட்கள் வெளியேற்றும் தன்மையை அதிகரிக்க உதவுகிறது.
- மனதையும் உடலையும் சமநிலைப்படுத்துகிறது.
- மனதை அமைதிப்படுத்த உதவுகிறது.
- அனைத்து இடத்திலும் செயலாற்றக்கூடிய பயிற்சியாகும்.
- மன அழுத்தத்தை அகற்ற உதவுகிறது.
- சுவாசக் கோளாறுகளைக் கட்டுப்படுகிறது.

குறிப்புகள்:

- இந்த பயிற்சிகளை செய்யும்போது தளர்வான உடைகளை அணியவும்.
- மனதை அமைதியாக வைக்கவும்.
- உங்களின் சுவாசத்தை கவனிக்கவும்.

செயல்முறை:

1. முதல் நிலை

- பயிற்சி பற்றிய செயல்முறை விளக்கம்
- பயிற்சிக்கு முன் அனுமதி பெறுதல்
- இடையூறு இல்லாத தகுதியான இடத்தை தேர்வு செய்தல்

2. இரண்டாம் நிலை

- பயிற்சி செய்வதற்கு ஏற்றவாறு வசதியான நிலையில் அமரவும்.

3. மூன்றாம் நிலை:

- உங்கள் கைகளை வயிற்றின் மீது விலா எலும்புக்கு சற்று கீழே வைக்கவும்.
- பயிற்சி தொடங்கும்போது மிதப ^{xv} சிக்கவும்.
- முதலில் மெதுவாகவும், பின்பு ஆழமாகவும் சுவாசிக்க வேண்டும்.
- சுவாசிக்கும் போது நுரையீரலின் கொள்ளளவு முழுமைக்கும் மூச்சினை உள்ளிழுத்து, பின்பு வெளிவிடும் போது முடிந்த அளவு காற்றை வெளிவிடவும்.
- மூச்சினை உள்ளிழுக்கும்போது வாயை மூடி, மூக்கின் வழியே உள்ளிழுக்கவும்.
- மனதை அமைதியாகவும் மற்றும் முதுகு நேராக வைத்து, சுவாசிக்கும் போது வயிறு விரிவடைவதை கவனிக்கவும்.
- பின்பு உதடுகளை இலேசமாக பிரித்து, வாயின் வழியாக மூச்சினை மெதுவாக வெளியிடவும்.
- பயிற்சி முடிவின் போதும் மிதமாக சுவாசிக்க வேண்டும்.

4. நான்காம் நிலை:

- பயிற்சி நிறைவின் போது, மிதமாக சுவாசிக்கவும், உடலையும், மனதையும் அமைதிப்படுத்தவும்.
- பயிற்சியை 15 நிமிடங்கள் வரை தொடர்ந்து செய்யவும்.
- இதை தினமும் இரண்டு முறை செய்யவும்.

ANNEXURE – E

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Ms.K.Bhuvaneswari**, Final year M.Sc. Nursing student of Sri Gokulam College of Nursing, Salem (affiliated to Dr. M.G.R. Medical University) is validated and can proceed with this tool and content for the main study entitled **“A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at selected Community, Salem”**.

Signature with Date

ANNEXURE- F
LIST OF EXPERTS FOR CONTENT VALIDITY

- 1. Dr. P. Chellammal, M.D., D.G.O.,**
Consultant, Obstetrician and Gynecologist,
Sri Gokulam Hospital,
Salem.
- 2. Dr. G.Prakash, M.D.,**
Consultant community medicine
Sri Gokulam Hospital,
Salem.
- 3. Mrs. J.Kamini Charles, M.Sc.(N), Ph.D.,**
Associate Professor, Head of the dept,
Community Health Nursing,
Sri Gokulam College of Nursing,
Salem.
- 4. Mrs. Nalini, M.Sc. (N),**
Associate Professor,
Obstetrical and Gynaecological Nursing,
Sri Gokulam College of Nursing,
Salem.
- 5. Mrs.Malathy, M.Sc. (N),**
Associate Professor,
Community Health Nursing,
Vinayaka Mission Annapoorna College of Nursing,
- 6. Mrs.Akila, M.Sc. (N),**
Associate Professor,
Community Health Nursing,
Vivekananda College of Nursing.
- 7. Mrs. Sheella Theres , M.Sc (N).,**
Lecturer,
Sri Gokulam College of Nursing, Salem.


ANNEXURE -G

CERTIFICATE OF EDITING

Certified that the dissertation paper titled “**A Study to Assess the Effectiveness of Paced Breathing Exercise on Hot Flushes among Menopausal Women at selected Community, Salem**” by **Ms.K.Bhuvaneswari**, has been checked for accuracy and correctness of English language usage, and that the language used in presenting the paper is lucid, unambiguous, free of grammatical / spelling errors and apt for the purpose.

Date :

Signature:


S. MUTHUVAPPA. M.COM., M.Ed.,
HEADMASTER
MUNICIPAL PRIMARY SCHOOL
GRIBLESPET, ARAKKONAM

ANNEXURE - H

PHOTOS

Photo of paced breathing exercise

