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A Study to Evaluate the Effectiveness of Health Empowerment Program on Knowledge Regarding Selected Lifestyle Diseases (LSD) And the Clinical Parameters Among Perimenopausal Women in Selected Community Settings of West Bengal, India

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Abstract

Back ground of the study: One of the most significant challenges for contemporary nursing is helping women preserve their health after menopause when she is susceptible to cardiovascular diseases, cancer breast, cancer cervix and type 2 diabetes mellitus. Perimenopause represents an opportunity for nurses to establish preventive health goals and helping women understand how they can be responsible for their own wellbeing.

Aim: Aim of the study is to empowering the perimenopausal women to perceive their health status and take necessary action before complication arise in menopausal phase.

Objectives: Objectives are to assess and compare pre and post test knowledge regarding lifestyle diseases (Hypertension, Type 2 Diabetes Mellitus, Osteoporosis), corelate and association in between per and post test knowledge score and clinical parameters.

Material and method to be use: Semi structured questionnaire, yoga, pranayama, Physical biochemical assessment will be done with tape measure, weighing machine, sphygmomanometer, glucometer, BMD machine.

Plan for analysis: Data will be analyse with the use of descriptive statistics (Mean, mean, mode, standard deviation) and inferential statistics (ANOVA, Chi square, Pair t test). Expected outcome: Perimenopausal women are empowered to identify the sign and symptoms lifestyle diseases and take action.

Introduction:

Promoting health and providing a good feeling in each of a woman's life periods will determine a better quality of life (QoL) for her and will prove fruitful for a society. Perimenopause and menopause have affected approximately one billion women worldwide. [1] The number of women aged 45 and older in the United Kingdom is on an increasing upward trajectory. [2] It is estimated that there are currently in the region of

13 million perimenopausal or menopausal women equating to around one-third of the entire female population. [3]

Menopause is the permanent cessation of menses for 12 months. [4] Once 12 months is reached, the woman will be post-menopause. The perimenopause is an ill-defined time period before the woman has her final period [5] and is often associated with the start of a number of perimenopausal symptoms.

Globally, there has little formal teaching about the menopause at any stage of a women's life and the media often present the menopause negatively. A consequence of this is that many women have little knowledge or awareness of what can be a very symptomatic life phase.

Equally, many health professionals have not received adequate and up-to-date training on how to deal with the menopause. [6] Consequently, perimenopausal women often suffer in silence in the absence of education and knowledge. [7]

Both women and health professionals have misconceptions about how hormonal changes relate to the biological and psychological conditions of menopause. [8] Consequently, many women have little awareness that the wide array of symptoms they may be experiencing are related to perimenopause or that these can manifest in a biological, psychological, or social context. A study in the UAE found that 67% of women had poor knowledge of the menopause, [9] and a study of 220 UK women found that women had little formal menopause education. [10] Due to this lack of awareness, they are less likely to seek or receive the medical assistance they require. [11]

Many surveys related to the topic of menopause have been conducted but to our knowledge, none have explored women's knowledge and attitudes with the aim of improving menopause education. This is especially important in the United Kingdom as in 2019 the Department for Education has made it mandatory for menopause education to be included in schools. [12]

Background of the study:

One of the most significant challenges for contemporary nursing is helping women preserve their health after menopause when she is susceptible to cardiovascular diseases, cancer breast, cancer cervix and type 2 diabetes mellitus. Pre menopause represents an opportunity for nurses to establish preventive health goals and helping women understand how they can be responsible for their own wellbeing. Hence the researcher as a nurse and as an educator strongly feels committed to health empowerment of pre - menopausal women and preventing the four conidiations that are associated with high morbidity and mortality in the menopausal period. Methods A quasi experimental approach using the non-equivalent control group [14].

Scope and significance of the study: Menopause is one the most crucial stages in a female's life. Identifying the education gaps regarding menopause is important, thus this study aims to explain the health-related needs and early identification of risk factors females during perimenopause.

Novelty of the study: prevention is better than cure. Secondary level of diseases prevention: early identification and management is the very crucial part of the prevention the complication and holt the diseases condition. Perimenopause is a phase when proper information and empowering them about the lifestyle diseases then can holt the lifestyle diseases. This kind of study is essential to prevent the complications.

Problem statement: **"A study to evaluate the effectiveness of health empowerment program on knowledge regarding selected lifestyle diseases (LSD) and the clinical parameters among perimenopausal women in selected community settings of West Bengal, India"**

Aim of the study: Empowering the perimenopausal women to perceive their health status and take necessary action before complication arise in menopausal phase.

Objectives:

1. To assess and compare the pretest level of Knowledge regarding Life style diseases, clinical parameters among the perimenopausal women between the study and control group.
2. To assess and compare the post test level of Knowledge regarding Life style diseases and clinical parameters among the perimenopausal women between the study and control group.
3. To evaluate the effectiveness of health empowerment program on the level of Knowledge regarding selected Life style diseases and clinical parameters among perimenopausal women in study group.
4. To corelate the pre and post-test level of Knowledge regarding Life style diseases with clinical parameters among perimenopausal women in the study and control group.
5. To associate the pretest and post-test Knowledge regarding selected Life style diseases, and clinical parameters among the perimenopausal women with their demographic and clinical variables in the study and in the control group

Operational definition:

1. **Evaluate:** Evaluation will be conducted by pre and post intervention of structured questionnaire and clinical parameters (such as BMI, blood pressure, fasting blood glucose level, Post prandial blood glucose level. HbA1c, bone densitometry) using standardized measurement tools and structured knowledge questionnaire. Data will be collected at baseline and after completion of the program, and effectiveness will be determined by statistically analyzing changes in these parameters.
2. **Health empowerment program** –consists of two sections:

a. **Health education**: Video assisted teaching on the various aspects on the selected life style diseases, these are Type 2 Diabetes Miletus, Hypertension and Osteoporosis among the perimenopausal women related to nutrition, physical activity, stress management, reproductive health, and prevention of chronic diseases. Provision of pamphlet that cover the taught essential health information for 30 minutes in a group comprising 10 women in the local language.

b. **Skill training**: Demonstrate selected Yoga and Relaxation technique. Recommended exercises e.g. regular walking at 20 minutes a day into five days in a week. At least 20 minutes at early morning or evening of the day of selected yoga/ asana-e.g. Savasana, Setu Band asana (Bridge pose), compression and relaxation of the knee joint refers to the extension and flexion movement, plantar flexion and dorsi flexion of the foot, Bajrasana, Balasana, cobra pose/ Bujangasana, Bow pose/ Dhanurasana, Pranayama- Alternate Nostril Breathing, Kapalbhati. Relaxation technique-Deep breath, progressive muscle Relaxation, meditation.

3. **Knowledge regarding the selected Lifestyle diseases:** It refers to the specific, measurable indicators used to assess an individual's level of understanding about symptoms, prevention and risk factor of hypertension, type 2 diabetes mellitus, and osteoporosis.
4. **Clinical parameters of selected Lifestyle diseases-** It includes the parameters of: **BMI-** (Weight, height), **abdominal circumference**.

Hypertension – Systolic Blood Pressure, Diastolic Blood Pressure,
Type II Diabetes Miletus – Fasting Blood Sugar, Post Prandial Blood Sugar, HbA1c
Osteoporosis- Bone densitometry

4. **Perimenopausal women-** Perimenopausal women are those Women who are in the transitional phase leading up to menopause which occurs between the ages of 45 to 50 years with at least four of the following sign and symptoms are selected for the study-sadness. regular Menstrual cycles (changes in the frequency, duration or flow of menstrual periods)

1. Hot flash (sudden feelings of heat, often accompanied by sweating during sleep, which can disrupt sleep patterns.)
2. Night sweat (Episodes of excessive sweating during sleep, often related to night sweats)
3. Sleep disturbances (Trouble falling asleep or staying asleep, often related to night sweats.)
4. Vaginal dryness (Changes in libido fluctuation in sexual desire)
5. Breast tenderness (Increased sensitivity or pain in the breast)
6. Weight gain: changes in metabolism may lead to an increase in weight or difficulty losing weight
7. Joint pain and muscle pain (Increased discomfort in joints and muscle)
8. Mood swing: increased discomfort in joints or muscle.
9. Joint pain and muscle pain (Increased discomfort in joint muscle)
10. Mood swing: increased irritability or emotional ups and down.
11. Anxiety and depression: some women may experience anxiety or feeling of

Tools and instruments used for the study

Tools and instruments	Techniques
1. Knowledge questionnaire on selected lifestyle diseases and it prevent measures.	Paper pencil test
2. Skill Training Program	Simple Yoga and Relaxation technique
1. Tape measure, weight machine, Sphygmomanometer after calibration	Physical assessment
2. Biochemical investigation: Fasting Plasma glucose, HbA1c	Pathological investigation
3. Bone densitometry	USG guided bone densitometry (Sunlight Mini omni–BMD Machine).

Description of the Research Tool for pretest and post-test questionnaire on assessment of knowledge on prevention of lifestyle diseases on perimenopausal women.

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Section-I: It consists of demographic characteristics of the subjects. It consists of age, education, marital status, occupation, Parity, history of contraceptive use, family history of life style diseases.

Section II: It consists of clinical/physiological data of the sample, it consists of measurement of height, weight, calculation of BMI, abdominal circumference, hip waist ratio, Blood pressure.

Section III: It consists of Pathological characteristics and imaging Characteristics of the subjects. It consists of Fasting plasma glucose, HbA_1c, Bone densitometry.

Section IV: It consists of a structured knowledge questionnaire on prevention of lifestyle diseases among perimenopausal women.

Section – I
Confidential
Demographic characteristics of the subjects of the perimenopausal women:
Instruction: Please give the correct answers of the all items.
Code no:

1. Age in years:
2. Education:
3. Marital status: Married/ Unmarried
4. Occupation:
5. Parity:
6. History of contraceptive use: Name of the agent if any-
3. Year of use-
7. Family history of life style diseases: Specify-

Section II: It consists of clinical/physiological data of the sample.

1. Measurement of height in cm:
2. Weight in kg:
3. BMI

Weight Categories	BMI (kg/m²)
Underweight	< 18.5
Healthy Weight	18.5-24.9
Overweight	25-29.9
Obese	30-34.9
Severely Obese	35-39.9
Morbidly Obese	≥ 40

1. Abdominal circumference, in cm: ≤ 80cm / ≥ 80cm
2. Waist - Hip ratio: <0.85 / > 0.85
3. Blood pressure:

Section III: It consists of Biochemical investigation:

1. Fasting Plasma glucose:
2. HbA1c:
3. Bone densitometry by t score:

Section IV:

Instruction: Please listen the question carefully and answer.

Pretest MCQ Questionnaire on Prevention of Lifestyle Diseases Among Perimenopausal Women

Section A: General Knowledge

1. know what is menopause?

a). At least sensation of menstruation for 12 consecutive months.
b). Irregular menstrual cycle.
c). Hot flashes.
d). Irregular ovulation.

2. Which of the following is a lifestyle disease?

a) Influenza
b) Hypertension
c) Malaria
d) Tuberculosis

3. Lifestyle diseases are primarily caused by:

a) Genetic mutations
b) Infections
c) Unhealthy lifestyle habits
d) Environmental pollution

4. Which of the following is a common lifestyle-related disease that affects perimenopausal women?

a) Osteoporosis
b) Cystic fibrosis
c) Malaria
d) Tuberculosis

5. Yoga has been shown to be helpful for perimenopausal women in managing which of the following lifestyle diseases?

a) Cardiovascular disease
b) Type 2 diabetes
c) Osteoporosis
d) All of the above

6. Which of the following is a common symptom of perimenopause?

a) Irregular periods
b) Severe headache
c) Night sweats
d) All of the above

7. On average, perimenopause lasts for how many years before menopause?
a) 1-2 years
b) 3-5 years
c) 6-10 years
d) 10-15 years
8. What is a typical characteristic of the menstrual cycle during perimenopause?
a) Regular cycles with no changes
b) Longer or shorter cycles
c) Complete cessation of menstruation
d) Increased bleeding during periods
9. At what age does perimenopause typically begin?
a) 20-30 years old
b) 30-40 years old
c) 40-50 years old
d) 50-60 years old
Section B: Risk Factors
10. Which factor increases the risk of developing lifestyle diseases during the perimenopausal period?
a) Balanced diet
b) Regular exercise
c) Hormonal changes
d) Adequate sleep
11. Which of the following is NOT a risk factor for lifestyle diseases?
a) Physical inactivity
b) High-fat diet
c) Regular medical check-ups
d) Smoking
12. What increases the risk of lifestyle diseases in perimenopausal women?
a) Regular exercise
b) Hormonal changes
c) Balanced diet
d) Adequate hydration
Section C: Prevention Strategies
13. How much moderate-intensity physical activity is recommended per day for adults?
a) 30 minutes
b) 10 minutes
c) 60 minutes
d) 80 minutes
14. Which type of diet is most effective in preventing lifestyle diseases?
a) High in processed foods
b) Rich in fruits and vegetables
c) Low in fibre
d) High in sugars and fats

15. Which of the following dietary habits helps prevent lifestyle diseases?
a) High intake of processed foods
b) Consumption of fruits and vegetables
c) Eating high-sugar snacks
d) Skipping meals

16. Which of the following can help perimenopausal women improve bone health and prevent osteoporosis?
a) High-sodium diet
b) Adequate calcium and vitamin D intake
c) Lack of physical exercise
d) Excessive protein intake

17. What is the most effective way for a perimenopausal woman to manage stress and reduce the risk of anxiety and depression?
a) Engage in regular physical exercise
b) Avoid all social interactions
c) Consume high amounts of caffeine
d) Avoid sleep altogether

Section D: Specific Knowledge on Lifestyle Diseases

18. Which of the following conditions is NOT a lifestyle disease?
a) Diabetes
b) Obesity
c) Asthma
d) Coronary artery disease

19. Regular consumption of which of the following food is beneficial in preventing heart disease?
a) Sugary drinks
b) Whole grains
c) Fried foods
d) Processed snacks

20. What is a common mental health concern for perimenopausal women due to hormonal changes?
a) Severe fatigue
b) Anxiety and depression
c) Hearing loss
d) Weight loss

Section E: Attitudes and Perceptions

21. What is the primary benefit of regular physical activity?
a) Increases body fat
b) Reduces stress and improves heart health
c) Causes joint pain
d) Leads to muscle loss

22. How important do you think it is to have regular health check-ups to prevent lifestyle diseases?
a) Very Important

b) Somewhat Important
c) Not Important
d) Unsure

23. How important is it to maintain a healthy weight to prevent lifestyle diseases?
a) Very Important
b) Somewhat Important
c) Not Important
d) Uncertain

24. Which of the following is a commonly used alternative therapy to alleviate hot flashes and improve sleep in perimenopausal women?
a) Acupuncture
b) Meditation
c) Aromatherapy
d) All of the above

Section F: Behaviour and Practices

25. How often should perimenopausal women have their blood pressure checked?
a) Every month
b) Every 6 months
c) Annually
d) Never

26. Which of the following is a healthy way to manage stress?
a) Overeating
b) Physical activity
c) Smoking
d) Avoiding sleep

27. What is a healthy way to manage stress?
a) Overeating
b) Physical exercise
c) Smoking
d) Ignoring the issue

28. Which of the following is a recommended dietary change to prevent type 2 diabetes in perimenopausal women?
a) Increase sugar intake
b) Limit intake of whole grains
c) Consume high-fibre, low-sugar foods
d) Avoid consuming vegetables

29. What type of exercise is most beneficial for perimenopausal women to manage weight and reduce the risk of cardiovascular disease?
a) Aerobic exercises (walking at least 6000 steps in a day)
b) Only strength training
c) Yoga exclusively
d) Only flexibility exercises

30. What lifestyle practice is often used by perimenopausal women to reduce stress and prevent hypertension?

a) Mindfulness meditation
b) High-intensity exercise
c) Excessive caffeine consumption
d) Excessive sleep

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