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Effectiveness of Strawbreathing Exercise on Quality of Sleep Among Postmenopausal Women

MERCY RUSSELIN PRABHA
mercyprabha2@gmail.com
NIMS College of Nursing
Sajitha S
NIMS College of Nursing

Research Article

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Abstract

Sleep is a fundamental biological need essential for maintaining optimal health and well-being. Among postmenopausal women, sleep disturbances are a common concern, often attributed to hormonal, psychological, and physiological changes associated with the menopausal transition.

The aim of present study is to determine the “Effectiveness of straw breathing exercise on quality of sleep among post-menopausal women. The objectives of the study was to assess the effectiveness of straw breathing exercise on quality of sleep among postmenopausal women and to find out the association betweenthe pretest scores on sleep disturbances among postmenopausal women in experimental group and control group with their selected demographic variable. The data was collected from 60 samples. Data was analyzed using descriptive statistics and inferential statistics. The Pre test and post test score obtained using Pittsburgh sleep quality index (PSQI). After the intervention of straw breathing Exercise among Postmenopausal women in experimental group, the average score of sleep quality pre- test score was 10.6 +/- 3.401 which significantly reduced to 7.53 +/- 3.019in the post-test. The independent ‘t’ test result (t = 5.97, p > 0.05) shows a highly significant difference between the two groups. Thus, it can be concluded that the straw breathing exercise is statistically effective in improving the sleep quality among postmenopausal women.

INTRODUCTION

Health is one of the most important aspects of human life. Women health is a vital area of health care that focuses on the physical, mental and social wellbeing of women throughout than lives. Menopause is one of the stages of female reproductive life cycle. According to world health organization (WHO 1990) the term natural menopause is defined as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity.

The major health concerns for the postmenopausal women’s are mainly involves the symptoms such as irregular vaginal bleeding, hot flashes, night sweats, vaginal dryness, dyspareunia, mood swings, depression, cognitive decline, joint pain, sleep disturbance,
decreased libido, hair loss, weight gain, wrinkles, acne.

Sleep disturbance is one of the major problem that affect the postmenopausal womens due to their changes in the reproductive hormones. According to WH(and a critical factor for overall health and wellbeing.

Alternative and complimentary therapies are considered as the treatment approach for the menopausal problems. Behavioural modifications such as meditation, relaxation therapies, deep breathing exercises and other alternative therapies including physical exercise and acupuncture are the best approached treatment for menopausal symptoms. Deep breathing and relaxation measures are one of the major techniques that helps to reduce the sleep disturbances. Through the straw breathing exercises it helps the menopausal womens to improve their progress emotionally, biologically and cognitively. Straw breathing is an effective method among breathing exercises it can easily reduces the feeling of anxiety and panic and also increases the feelings of relaxation and calmness. It also improve the positive effects onthe body.

Straw breathing also known as straw breathing exercise or tube breathing, is a simple technique that involves breathing through a straw to slowdown breathing and promote relaxation.

Straw breathing is a respiratory exercise where you exhale slowly through a straw to promote relaxation and slow down breathing. The benefits of straw breathing involves reduce anxiety, improve focus, helps to manage emotions and better sleep.

PURPOSE OF THE STUDY

The purpose of the study is to assess the effectiveness of straw breathing regarding sleep quality among postmenopausal women.

OBJECTIVES

- To assess the effectiveness of straw breathing exercise on quality of sleep among postmenopausal women
- To compare the pre and post intervention sleep quality score , among participants

OPERATIONAL DEFINITION

1. STRAWBREATHING

Specific breathing technique where participants inhale normally through the nose and exhale slowly and completely through a drinking straw. This is practicec period of 4 weeks under guided instruction.

2. QUALITY OF SLEEP

Subjective assessment of sleep patterns measured using the Pittsburgh Sleep Quality Index. A lower Pittsburg Sleep Quality Index score indicates better sleep. Pre and post intervention scores will be compared to assess improvement.

3. POSTMENOPAUSAL WOMEN

Women aged 45-65 years who have experienced natural cessation of menstruation for at least 12 consecutive months and are not currently on hormone replacement therapy.

HYPOTHESIS NULL HYPOTHES

There is no significant difference in the quality of sleep among postmenopausal women before and after practicing straw breathing.

ALTERNATIVE HYPOTHESIS

There is a significant improvement in the quality of sleep among postmenopausal women after practicing straw breathing exercise.

METHODOLOY

Research approach- quantitative evaluative approach.

Research design – experimental one group pre-test and post-test design.

RESEARCH VARIABLES

- Independent variable - straw breathing exercise.
- Dependent variable - quality of sleep among postmenopausal women.

SETTING OF STUDY

The study was conducted at NIMS Medicity, Neyyattinkara, Kerala

POPULATION

The population is the postmenopausal women in NIMS Medicity, Neyyattinkara.

SAMPLEAND SAMPLING TECHNIQUE

Sample - postmenopausal women in NIMS Medicity, Neyyattinkara. Kerala

Sample size- The sample size used for the study was 30 postmenopausal women who meet the inclusion criteria .

Sampling Technique - Convenient sampling technique.

Inclusion criteria:

- Women who are postmenopausal(no menstruation for > 1 year).
- Women reporting poor sleep (PSQI score > 5).
- Willing to participate
- able to perform breathing exercises.

Exclusion criteria:

- Women with diagnosed psychiatric illnesses.
- Women taking sleep medication regularly.
- Women with chronic respiratory diseases (like COPD, asthma).

TOOLS AND TECHNIQUES

Tools are devices or instruments utilized to collect data.

Description of the tool

Tool

Structured questionnaire divided into two sections.

Section A

It consists of demographic characteristics of postmenopausal women. That is age, menopausal status, socioeconomic status, marital status, education level, occupation, health behaviors and chronic health conditions.

Section B

It includes sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping medication and daytime dysfunction. It consists of 7 components carrying 10 questions and which has four options. Based on the score, the quality of sleep was graded.

Data collection process

As per the inclusion and exclusion criteria, 30 samples were selected using a convenient sampling technique. An informed consent was taken and confidentiality was maintained. The validated structured sleep quality index questionnaire was used to assess the pretest sleep quality among postmenopausal women. On the same day the researcher gave training regarding the use of straw breathing. Post-test was conducted 30 days after straw breathing training using the same structured questionnaire.

ANALYSIS AND INTERPRETATION

Section I : Socio demographic data of postmenopausal women

Table 1
Frequency and percentage distribution of socio demographic variables. n = 30

Demographic variables	Frequency	Percentage
Age (years)		
45–50	10	33.33%
51–55	8	26.67%
56–60	8	26.67%
Above 60	4	13.33%
Menopausal status		
Below 12 months	5	16.67%
1–2 years	10	33.33%
2–3 years	6	20.00%
Above 3 years	9	30.00%
Socio economic status		
Low class	5	16.67%
Low middle class	13	43.33%
middle class	12	40.00%
Upper class	0	0%
Marital status		
Single	0	0%
Married	28	93.33%
Separated	0	0%
Widow	2	6.67%
Educational level	13	43.33%
Primary school		
School education	17	56.67%
Higher education	0	0%
Occupation		
Attender	1	3.33%
Cleaning staff	29	96.67%
O P staff & Receptionist	0	0%
Health behaviour (smoking, caffeine)		
Always	8	26.67%
Often	7	23.33%
Sometimes	5	16.67%
None	10	33.33%
Chronic health conditions		
Diabetes	3	10.00%
Hypertension	7	23.33%
Arthritis	10	33.33%
Others	10	33.33%

Table 1 illustrate the distribution of postmenopausal women according to demographic variables. About 10 (33.33%) were belonged to the age group of 45–50 years. 10 (33.33%) had postmenopausal status of 1–2 years, among 13 (43.33%) belongs to low middle class, among samples 28 (93.33%) were married. 17 (56.67%) of them completed school education, among them 28 (96.67%) were cleaning staffs and 10 (33.33%) are not having any bad habits. Among sampled 10 (33.33%) are having arthritis and other chronic health conditions.

Section II: Assessment of sleep quality.

Table 2
Pre-test and post-test scores regarding sleep quality . (n = 30)

Sleep quality	Pretest		Post test	
	Percentage	Frequency	Percentage	Frequency
Normal sleep	3.33%	1	13.33%	4
Abnormal sleep	96.67%	29	86.67%	26

Table 2 shows that during pretest, 96.67% of the postmenopausal women had abnormal sleep, 3.33% of them had normal sleep. After practicing straw breathing exercise,13.33% had normal sleep and 86.67% had abnormal sleep. It reveals that there is an improvement in sleep quality after practicing straw breathing exercise.

Section III: Effect of straw breathing exercise on improving sleep quality.

Table 3
Mean, Standard Deviation and ' t ' value difference between pre-test and post-test sleep quality scores. n = 30

Value	Mean	Standard Deviation	't' value	Df	Table value
Pre test	10.6	3.40	5.97	29	2.05
Post test	7.53	3.01			

Table 3 shows that the calculated paired 't' test value with 29 degree of freedom at 2.05 level of significance is 5.97, which is greater than table value (2.05). Hence the research hypothesis is accepted. (H1: There will be significant difference between quality of sleep among postmenopausal women before and after practicing straw breathing exercise indicates that was effective in improving sleep quality

RESULTS

As per table-2, During pre-test 3.33% of the postmenopausal women had normal sleep and 96.6% of the samples had abnormal sleep. After practicing straw breathing exercise 13.33% of the samples gained normal sleep and 86.67% remained abnormal sleep. It reveals that there is an improvement in sleep quality after practicing straw breathing exercise.

As per table-3, the paired t test value with 29 degrees of freedom at 0.05 level of significance is 5.97 which is greater than table value (2.05). Hence the research hypothesis is accepted (H1: There is a significant improvement in the quality of sleep among postmenopausal women after practicing straw breathing exercise.) It is believed that straw breathing was effective method of improving the quality of sleep among postmenopausal women.

The study found that there is no association between pre-test sleep scores with selected Demographic variables.

DISCUSSION

Pretest score regarding the quality of sleep among postmenopausal women.

Overall sleep quality score, in pretest patients had 10.6 score and in posttest they had 7.53 score. Hence, it is clear that posttest quality of sleep among postmenopausal women is improved.

SCOPE FOR FUTURE STUDIES

- Nurses should take initiative to conduct study on this topic.
- A longitudinal follow up study can be conducted to determine the effectiveness of straw breathing on improving the quality of sleep among postmenopausal women.
- A survey study can be conducted to find out the incidence and related complications of straw breathing.
- Similar form of study can be conducted in the community set up by conducting health campaigns to make aware about the importance of straw breathing on improving the quality of sleep among postmenopausal women.

POLICY IMPLICATIONS

Nurses who are working in clinical areas, are often, initially assess, implements and coordinates the care for the patients. These findings of the study have implications for nursing practice, nursing education, research, and nursing administration.

Nursing Practice

The present study has several implications for nursing practice.

- Planned straw breathing exercise on improvement of sleep quality among postmenopausal women should be made an ongoing continuing education in inpatient and outpatient OBG department.
- Nurses should take specific roles to screen postmenopausal women with poor sleep quality.
- Nurses can conduct community outreach program to make the public more aware about straw breathing.

Declarations

Ethics approval and consent to participate

Study was conducted after obtaining institutional ethical committee approval. Informed consent was obtained from the samples. Privacy and confidentiality of the samples were maintained.

Consent for publication

We, Mercy Russelin Prabha R & Sajitha S, hereby give our consent for the publication of our personal information, photographs and study Materials in the above-mentioned article.

Competing interests

The authors Mercy Russelin Prabha R & Sajitha S declare that they have no competing interests to declare.

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Author Contribution

A. Done data analysis and Wrote manuscriptB. Done data collection and course work

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Figures

A STUDY TO ASSESS THE EFFECTIVENESS OF STRAWBREATHING EXERCISE ON QUALITY OF SLEEP AMONG POSTMENOPAUSAL WOMEN IN NIMS MEDICITY

Figure 3 : DISTRIBUTION OF SAMPLE ACCORDING TO AGE IN YEARS

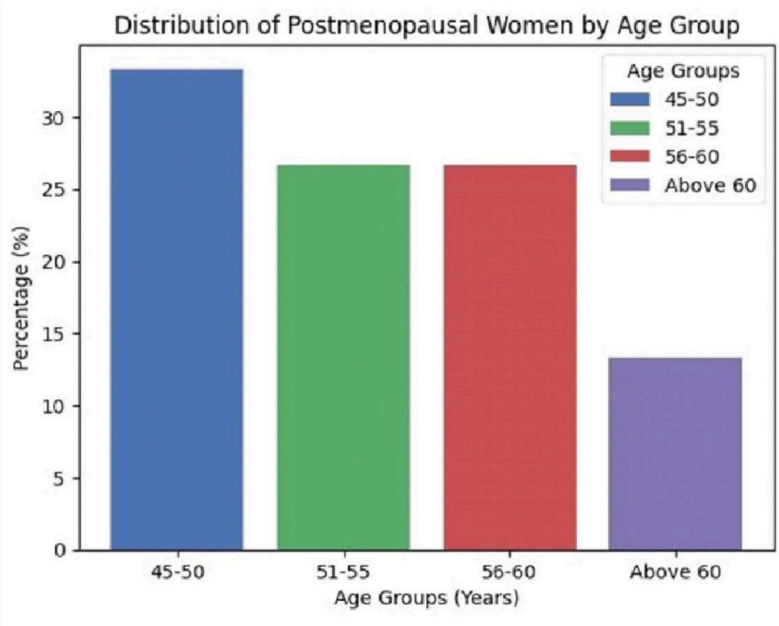


Figure 3 shows that in postmenopausal women group 33.33% belongs to age group of 45-50 years 26.67% belongs to age group of 51-55 years 26.67% belongs to age group of 56-60 years and 13.33% belongs to age group of above 60.

1

Figure 1

See image above for figure legend.

Figure 4 : DISTRIBUTION OF SAMPLE ACCORDING TO MENOPAUSAL STATUS

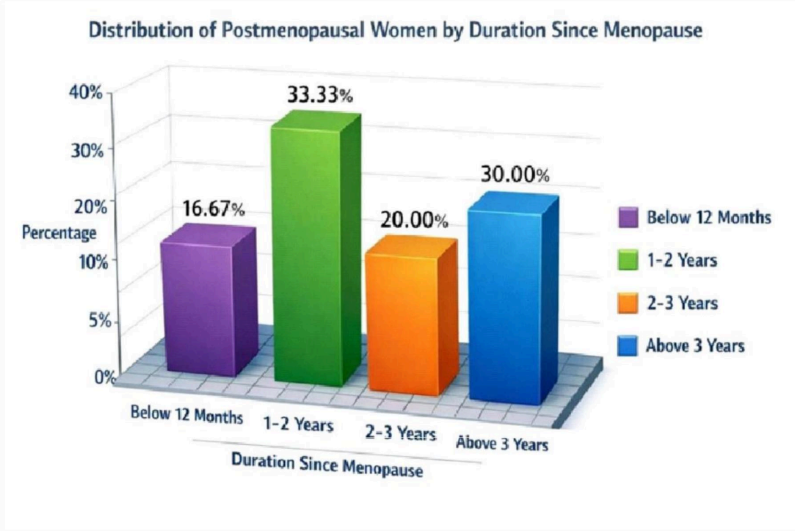


Figure 4 shows that in postmenopausal women group 16.67 % belongs to below 12 months of menopause group 33.33% belongs to 1-2 years of menopause group 20.00% belongs to 2-3 years of menopause group and 30.00% belongs to above 3 years of menopause group.

2

Figure 2

See image above for figure legend.

Figure 5 : DISTRIBUTION OF SAMPLE ACCORDINGTO SOCIOECONOMIC STATUS

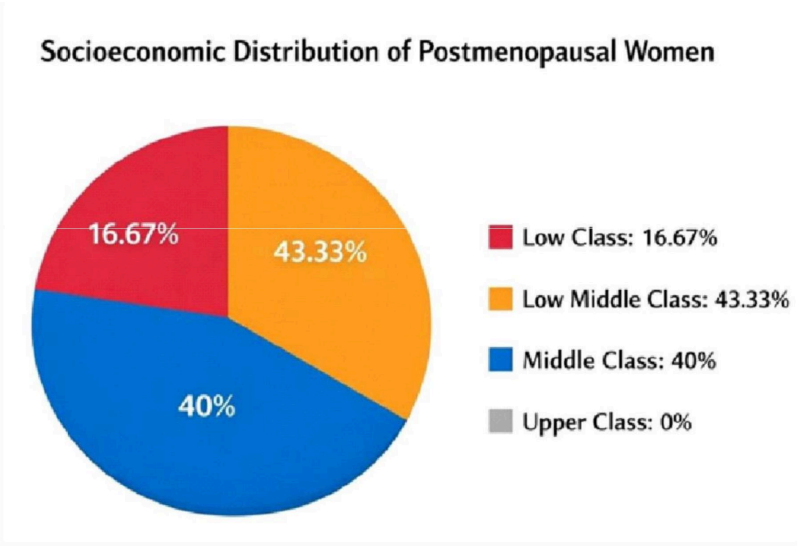


Figure 5 shows that in postmenopausal women group 16.67% belongs to low class group 43.33% belongs to low middle class group 40% belongs to middle class group and 0 % belongs to upper class group.

3

Figure 3

See image above for figure legend.

Figure 6 : DISTRIBUTION OF SAMPLE ACCORDING TO MARITAL STATUS

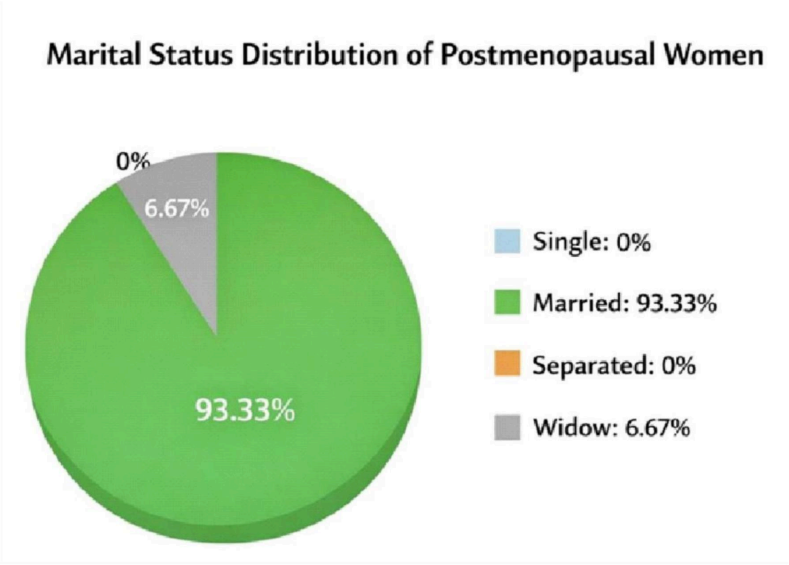


Figure 6 shows that in postmenopausal women group 0 % belongs to single group 93.33% belongs to married group 0% belongs to separated group and 6.67 % widow group.

4

Figure 4

See image above for figure legend.

Figure 7 : DISTRIBUTION OF SAMPLE ACCORDING TO EDUCATIONAL LEVEL

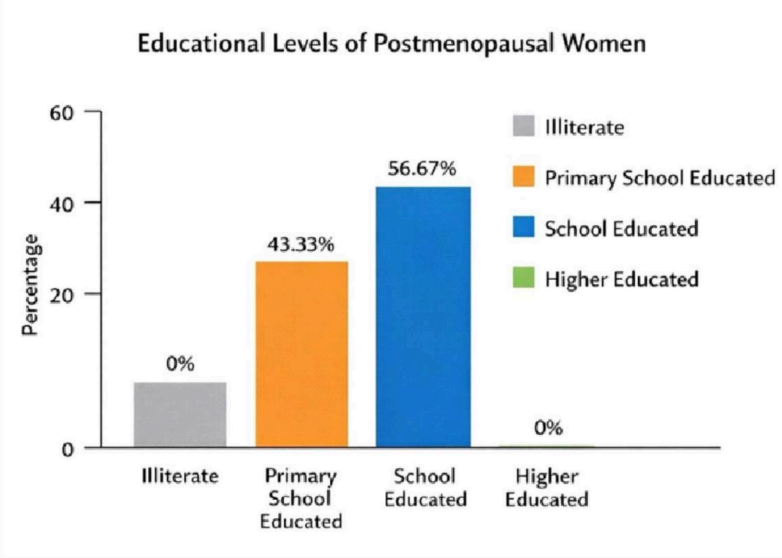


Figure 7 shows that in postmenopausal women group 0 % belongs to illiterate group 43.33% belongs to primary school educated group 56.67% belongs to school educated group and 0 % belongs to higher educated group.

Figure 5

See image above for figure legend.

Figure 8 : DISTRIBUTION OF SAMPLE ACCORDING TO OCCUPATION

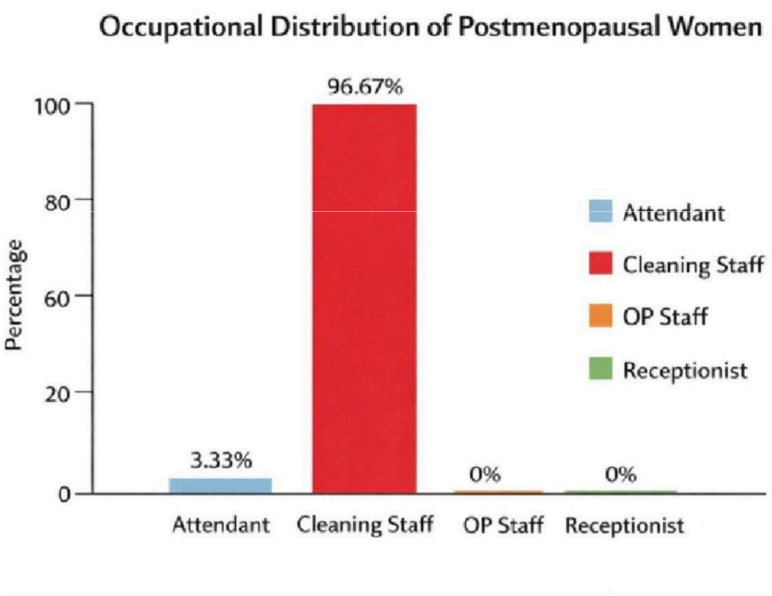


Figure 8 shows that in postmenopausal women group 3.33% belongs to attendant group 96.67% belongs to cleaning staff group 0 % belongs to OP staff group and 0 % belongs to receptionist group.

Figure 6

See image above for figure legend.

Figure 9 : DISTRIBUTION OF SAMPLE ACCORDING TO HEALTH BEHAVIOR

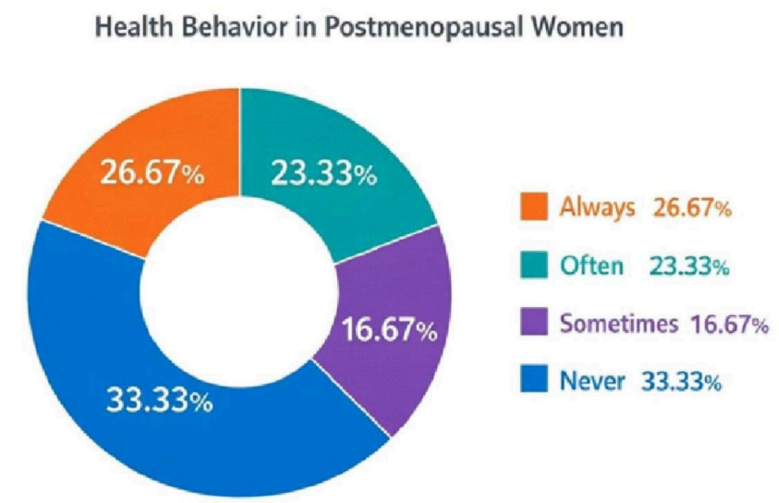


Figure 9 shows that in postmenopausal women group 26.67% always intake caffeine 23.33% often intake caffeine 16.67% sometimes intake caffeine and 33.33% not intake caffeine.

Figure 7

See image above for figure legend.

Figure 9 : DISTRIBUTION OF SAMPLE ACCORDING TO CHRONIC HEALTH CONDITIONS

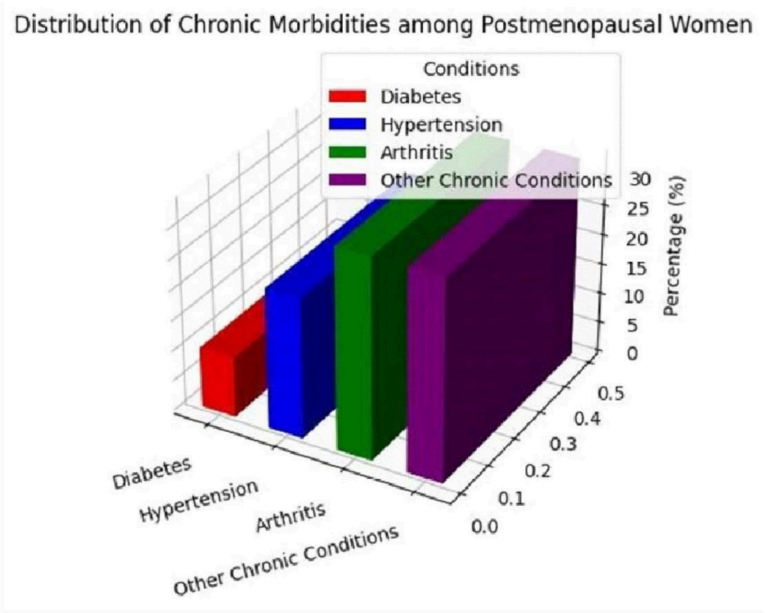


Figure 10 shows that in postmenopausal women group 10.00% have diabetes 23.33% have hypertension 33.33% have arthritis and 33.33% have other chronic health conditions.

Figure 8

See image above for figure legend.