Assess The Effectiveness of Knowledge on Prevention of Osteoporosis Among Post- Menopausal Women

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**ABSTRACT**

Osteoporosis (OP) is an ongoing dynamic malady. It is characterized as a fundamental skeletal disorder described by low bone thickness and smaller scale design crumbling of the bone tissue with a subsequent increment in a bone delicacy that incredibly increments the danger of breakage. It is a significant general medical issue. It is assessed that influence 200 million ladies Worldwide and cause more than 8.9 million breaks every year. In 2019 Around the world, it is assessed that 1 out of 3 ladies over the age of 50 will encounter osteoporotic breaks, just as 1 of every 5 men. Of total Women, 44.3% were postmenopausal (natural menopause) with 49.2+ 3.5 years as mean age at menopause. The study aims to decide the adequacy of pre-test and Post-test information about osteoporosis among postmenopausal ladies. A pre-test one gathering pre-test post-test structure with advantageous inspecting method was embraced to direct an examination among 50 postmenopausal ladies. Information was assembled by utilizing organized poll. Confidentiality was maintained throughout the procedure. Detailed and inferential insights examined the information. Among 50 postmenopausal women shows that the levels of knowledge regarding prevention of osteoporosis in the pre-test (42%) have inadequate knowledge, (30%) have moderate knowledge and (28%) have adequate knowledge. Whereas in post-test (36%) had moderate information, and (64%) had sufficient information. The examination shows that there is no vast relationship between the degree of information in regards to the anticipation of osteoporosis with segment factors like age, religion, instructive status, salary, occupation and dietary example. The discoveries of the examination uncovered that organized instructing program on prevention of osteoporosis helped to improve the level of knowledge among postmenopausal women.

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Osteoporosis is either essential or optional, of which the essential sort is the most typical structure. It is watched principally in Postmenopausal Women as postmenopausal osteoporosis (Thulkar and Singh, 2015). Secondary osteoporosis is a confusing element of its essential driver. There are a few elements related to more danger of osteoporosis. Then again, a few measures are known to build bone mineral thickness and abatement the danger of breaks (Asha et al., 2019). Osteoporosis is an under-analyzed ailment. However, anticipation is better than treatment, and osteoporosis is a preventable disorder; the first step in quite a while avoidance is to build familiarity with the hazard factors.

As WHO definition based on T- Score, the overall prevalence of osteoporosis was 14.5% in men and 18% in women at the 12.7% in postmenopausal women at the hip. Osteoporosis was noted in 39.4% men and 21.6% women respectively. Since menopause is an important event in the life of women, bone status was assessed in two groups - premenopausal and postmenopausal. Further, the postmenopausal group was divided into postmenopausal <5 years and postmenopausal more than 5 years based on their YSM. In men, since there was no significant decline in BMD with age, they were separated into two groups based on their median age (52.2 years).

After menopausal in ladies, the procedure of osteoporosis is quickened because of lack of estrogen. Estrogen helps in the positive calcium digestion and ontogenesis (Khagta, 2019). Menopause quickens the bone misfortune to 2-5% every year, which may proceed until 10 years. The pervasiveness of osteoporosis is increment with age in ladies and not in men. It is accounted for that 42.5% ladies and 24.6% men over the age of 50 years experience the ill effects of Osteoporosis in India. In India, top bone mineral thickness (BMD) at the hip, lower arm and spine is essentially lower than comparing western partners. Osteoporosis is turning into a general medical issue in India with a lower regularizing list of Bone Mineral Density (Sachan et al., 2016).

In India, postmenopausal women with a significant increase in morbidity and mortality following fragility fractures, it is imperative that they are screened preemptively for the presence of osteoporosis. Very often, screening efforts are hampered by the lack of awareness of the condition among rural postmenopausal women. To promote knowledge and better health-seeking behaviour among postmenopausal women, it is necessary to assess their current state of awareness and work towards reducing the identified gaps in knowledge (Jenifer, 2016).

Osteoporosis is a condition portrayed by a lessening in the thickness of bone, diminishing its quality and bringing about delicate bones. Osteoporosis lead's to the unusually porous bone that is compressible, similar to a wipe and post-menopause having a danger of osteoporosis. The spine, hips, ribs and wrist are primary regions of bone breaks from osteoporosis although osteoporosis-related cracks can happen in practically any skeletal bone. Menopause is a characteristic wonder of the normal maturing process portrayed by a perpetual stopping of the feminine cycle because of a decline in estrogen secretion (Baba et al., 2017). Changes in the body because of the impacts of estrogen deficiency are seen in numerous ladies during menopause.

The administration of osteoporosis includes improving bone wellbeing through sufficient sustenance, calcium and nutrient D enhancements, and falls counteraction techniques. Even though these measures are significant in the administration of everything being equal, most old patients are probably going to require different pharmacological treatment to sufficiently lessen their hazard fracture (Janiszewska et al., 2016). Several pharmacological treatment has been appeared to decrease the danger of break nearly, including, Bisphosphonates (Eg: alendronate, risedronate, ibandronate, zoledronic acid), denosumab, raloxifene, calcitonin and teriparatide. Notwithstanding late advances in osteoporosis care, extra activity is earnestly expected to improve the personal satisfaction of osteoporotic patients by and large and of old patients specifically crack result (Sachdeva, 2018).

One out of three ladies between age gathering of 50-60 years in India experiences osteoporosis. Indian ladies have an early period at the beginning of osteoporosis when contrasted with western partners. There is a requirement for early finding, distinguishing proof of high-chance gatherings and counteraction and treatment of osteoporosis in the Indian setting (Veerabatthini, 2016). Ultimately the planned teaching programme help to identify the knowledge postmenopausal women and also educate them on how to prevent the osteoporosis.
Table 1: Frequency and percentage distribution of level of knowledge on Prevention of Osteoporosis among Postmenopausal women between pre and post-test

| Level of knowledge          | Pre-Test |          | Post-Test |          |
|-----------------------------|----------|----------|-----------|----------|
|                             | Frequency| Percentage| Frequency | Percentage|
| Lacking information        | 21       | 42%      | 0         | 0%       |
| Tolerably sufficient inform-| 15       | 30%      | 18        | 36%      |
| ation                      |          |          |           |          |
| Sufficient information      | 14       | 28%      | 32        | 64%      |
| Total                       | 50       | 100      | 50        | 100      |

Table 2: Mean, Standard deviation, Mean difference and knowledge scores postmenopausal women between pre-test and post-test

| Level of Knowledge | Knowledge Score Mean | Mean Differences | Knowledge Score Standard Deviation |
|-------------------|----------------------|------------------|------------------------------------|
| Pre-test          | 12.64                | 4.86             | 6.036                              |
| Post-test         | 17.5                 |                  | 5.067                              |

MATERIALS AND METHODS

A pre-test one gathering pre-test post-test structure with advantageous inspecting method was used to assess the knowledge on prevention of osteoporosis among postmenopausal women. The study was conducted in the Mapped village, Thiruvallur District. The sample size comprised of 50 postmenopausal women those who fulfill the inclusion criteria. Helpful inspecting strategy was utilized to collect the data from the sample. The inclusion criteria Women with age above 45 years. Those who are willing to participate in the study. Those who are available during the data collection. The women who are affected by fracture. Those who are not willing to participate in the study were excluded. Explained about the study and informed consent was obtained. Structured questionnaires collected data. Confidentiality was maintained throughout the study. The first-day pre-test was conducted, and health education was given, and the third-day post-test was conducted. The gathered information was broke down by utilizing illustrative and inferential insights. The Ethics Committee of the Institution has endorsed the undertaking.

RESULTS AND DISCUSSION

Section I

Description of Sample Characteristics

The majority (68%) of the postmenopausal women in the study with regards to the age in years from 45-55 years, Maximum (76%) of the postmenopausal women were based on Hindu religion Maximum (40%) of postmenopausal women were completed her higher secondary. The highest percentages (46%) of women were unemployed. Maximum (46%) of postmenopausal women having monthly income above Rs .10000 and the highest percentages (60%) belongs to non-vegetarian.

Section II

Description of the level of knowledge on prevention of osteoporosis among postmenopausal women

The information introduced in Table 1 shows that the degree of information for counteraction of osteoporosis among postmenopausal ladies. In Pre-test,(42%) had insufficient knowledge,(30%) had moderate information, and (28%) had sufficient information. In Post-test, (36%) had tolerably adequate information, and (64%) had sufficient information on counteraction of osteoporosis among postmenopausal ladies (Figure 1).

The result was supported by a similar study conducted by Mrs.Lolita Lal, Ms.Prathibha Chandran. L.et.al. (2019) a descriptive study used to assess the effectiveness of STP on Osteoporosis in terms of knowledge among postmenopausal women residing in a selected community area at Chaubepur, Uttar Pradesh (Lal and Chandran, 2019).

The result of the study revealed that13.34 % of the postmenopausal women had below-average knowledge, and 86.66% has average knowledge before a structured teaching program. After a structured teaching program majority, 46.66% postmenopausal women had reported average knowledge and remaining 53.34% postmenopausal women reported above-average knowledge in post-
Table 3: Association between the level of knowledge about osteoporosis among postmenopausal women with selected demographic variables

| S.No | Demographic variable | Lacking Information | Tolerably sufficient information | Sufficient information | Chi-square test and P-value |
|------|----------------------|---------------------|----------------------------------|------------------------|-----------------------------|
|      |                      | No. | %     | No. | %     | No | %     |                        |
| 1.   | Age in years         |     |       |     |       |     |       |                        |
|      | A) 40-45 years       | 2   | 4%    | 2   | 4%    | 2  | 4%    | X= 3.596 P-value: 0.731162 |
|      | B) 45-50 years       | 4   | 8%    | 4   | 8%    | 3  | 6%    |                        |
|      | C) 50-55 years       | 3   | 6%    | 3   | 6%    | 4  | 8%    |                        |
|      | D) 55-60 years       |     |       |     |       |     |       |                        |
| 2.   | Religion             |     |       |     |       |     |       |                        |
|      | A) Hindu             | 12  | 24%   | 12  | 24%   | 14 | 28%   | X= 0.0487 P-value: 0.999708 |
|      | B) Muslim            | 2   | 4%    | 2   | 4%    | 2  | 4%    |                        |
|      | C) Christian         | 2   | 4%    | 2   | 4%    | 2  | 4%    |                        |
| 3.   | Educational status   |     |       |     |       |     |       |                        |
|      | A) Non-illiterate    | 2   | 4%    | 2   | 4%    | 4  | 8%    | P-value: 0.952255      |
|      | B) Primary           | 4   | 8%    | 5   | 10%   | 7  | 14%   |                        |
|      | C) Higher secondary  | 8   | 16%   | 4   | 8%    | 8  | 16%   |                        |
|      | D) Graduate          | 2   | 4%    | 2   | 4%    | 2  | 4%    |                        |
| 4.   | Occupation           |     |       |     |       |     |       |                        |
|      | A) Employee          | 2   | 4%    | 3   | 6%    | 3  | 6%    | X= 0.4576 P-value: 0.998317 |
|      | B) Un-employee       | 7   | 14%   | 8   | 16%   | 8  | 16%   |                        |
|      | C) Heavy worker      | 4   | 8%    | 5   | 10%   | 6  | 12%   |                        |
|      | D) Business          | 1   | 2%    | 1   | 2%    | 2  | 4%    |                        |
| 5.   | Income               |     |       |     |       |     |       |                        |
|      | A) 1000-3000         | 1   | 2%    | 1   | 2%    | 1  | 2%    | X= 0.3063 P-value: 0.999466 |
|      | B) 4000-6000         | 2   | 4%    | 2   | 4%    | 3  | 6%    |                        |
|      | C) 7000-10000        | 5   | 10%   | 5   | 10%   | 7  | 14%   |                        |
|      | D) >10000            | 7   | 14%   | 8   | 16%   | 8  | 16%   |                        |
| 6.   | Dietary pattern      |     |       |     |       |     |       |                        |
|      | A) Vegetarian        | 4   | 8%    | 4   | 8%    | 12 | 24%   | X= 3.6616 P-value: 0.160284 |
|      | B) Non-vegetarian    | 8   | 16%   | 12  | 24%   | 10 | 20%   |                        |

P<0.05, Level of significance#- Not significant

The mean post-test knowledge score (18.6 SD 2.60) was significantly greater than the mean pre-test knowledge score (12.2 SD 2.84). t = 9.2, p<0.05.

Section III

To determine the effectiveness of pre-test and post-test knowledge on osteoporosis among post-menopausal women

To discover the vast mean contrast between the degree of information on osteoporosis among post-menopausal ladies

The information introduced in Table 2 shows that the mean pre-test score was 12.64 and Post-test score was 17.5 were higher than Post-test among Postmenopausal ladies. The mean distinction between Pre-test and Post-test is 4.86. The SD estimation of the pre-test is 6.036 and Post-test is 5.067. The mean Post-test score was higher than the Pre-test. This shows the information level had improved after the instructing program.

These discoveries were bolstered by a comparative investigation directed by Anisha Mary John; Sr. Alphonsa; Roselin Mathew (2019) on the viability of organized training program on the information in regards to the anticipation of osteoporosis among postmenopausal women (John et al., 2019). The examination uncovered that mean post-test score
was improved from 9.63 to 18.27 with mean contrast 9.34, which is factually noteworthy (p <0.05) ‘t’ esteem was critical. Among the examples, the mean post-test scores on information concerning anticipation of osteoporosis among postmenopausal ladies (18-97) were more than that of the mean pre-test scores (9.63). This suggests the information level had improved after the organized instructing program.

Section IV

To find out the association between the level of knowledge about osteoporosis among postmenopausal women with selected demographic variables.

To determine the association of level of knowledge on Prevention of Osteoporosis among Postmenopausal women with selected Demographic variable. Chi-square test was computed for the collected data.

Information in the table shows that there is no huge relationship between the degree of information in regards to the counteraction of osteoporosis among postmenopausal ladies with segment factors like age, religion, instructive status, occupation, pay, and dietary example (Table 3).

These discoveries were bolstered by a comparative report directed by Veeram Reddy (2018) an investigation to evaluate the degree of information among postmenopausal ladies, Nellore (Thejaswi and Kavitha, 2018). There is no huge distinction between the level of mindfulness for the avoidance of osteoporosis t (2.25) at p<0.05 level of note-worthiness. There is no relationship between the level of mindfulness in regards to the anticipation of osteoporosis with chose segment factors, for example, age, religion, pay, occupation, training, achieved menopausal age, kinds of family, menstrual history.

CONCLUSIONS

The discoveries of the examination uncovered that an organized training program on counteraction of osteoporosis assisted with improving the degree of information among postmenopausal ladies. The examinations reasoned that there is no critical contrast between the level of information on learning incapacity among country and urban grade teachers.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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