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A study to assess the knowledge and effectiveness of soyabean consumption on menopausal symptoms among women in selected community, Dhamtari, C.G.

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Abstract

This study investigates the effectiveness of knowledge and soya bean consumption in managing menopausal symptoms among women aged 45-60 years. A quasi-experimental pre-test, post-test design with a non-equivalent control group was used, revealing significant improvements in knowledge and reduction in menopausal symptoms in the experimental group. Comparisons between groups showed statistically significant differences in knowledge and symptom severity, with a negative correlation between post-test knowledge and menopausal symptoms. The study demonstrates the effectiveness of health education and soya bean consumption in empowering women to manage menopausal symptoms, enhancing their well-being, and promoting healthy living, with practical implications for developing non-pharmacological interventions for menopausal women.

Keywords: Menopause, soya bean, health education, menopausal symptoms, non-pharmacological interventions, women's health, midlife health

Introduction

In developing countries like India, women in rural and remote areas face socioeconomic limitations and cultural barriers that hinder their access to healthcare and education, exacerbating their experience of menopause. Menopause brings physical, psychological, and sexual symptoms that can diminish wellbeing and impair daily life. Limited awareness and resources worsen the situation. To address this, healthcare planners and policy makers must prioritize women's health needs. Community health personnel, especially nurses, can play a crucial role in empowering women with simple and effective health measures to manage menopausal distress. This study aims to address the knowledge gap on Indian women's wellbeing during menopause and promote healthy lifestyle choices.

Need of the study: Menopause is a universal biological phenomenon affecting millions of women worldwide, with India having a substantial proportion of menopausal women, currently estimated at 43 million, and projected to increase to 103 million by 2026, emphasizing the need for attention to their unique health needs. Despite being a natural transition, menopause poses significant physical, emotional, and psychological challenges, impacting women's quality of life, exacerbating existing health issues, and increasing the risk of chronic diseases like osteoporosis, cardiovascular disease, and mental health disorders. Limited awareness, cultural taboos, and inadequate healthcare resources, particularly in rural and underserved areas, further compound these challenges, leading to delayed diagnosis, inadequate management, and reduced access to supportive care, ultimately affecting women's wellbeing, empowerment, and overall health outcomes. Therefore, this study aims to address the knowledge gap and explore the experiences, perceptions, and management strategies of menopausal women, investigating the sociocultural, economic, and healthcare factors influencing their menopausal transition, and informing effective interventions, healthcare policies, and supportive care programs to improve their health, wellbeing, and empowerment during this critical life stage.

Review of Literature

A cross-sectional survey of 863 women aged 45-58 in Hyderabad found Most women had

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little knowledge about menopause, Majority viewed menopause as a natural process, Common symptoms reported included backache, body aches, insomnia, hot flushes, night sweats, and short-term memory loss. The study concludes that most women lacked awareness about menopause symptoms and health effects, considering it a natural process, but were bothered by symptoms and didn't seek consultation due to lack of awareness and poverty.

A descriptive cross-sectional study of 102 menopausal women in Karachi found that most were from poor socioeconomic backgrounds, had no formal education, and lacked knowledge on menopause and Hormone Replacement Therapy (HRT), despite considering menopause a natural transition rather than a medical condition. The mean age was 55.1 years, with a mean age at menopause of 47.4 years, and common symptoms reported included decreased libido and frequency, with many having a positive or neutral attitude towards menopause, highlighting the need for awareness and education on menopause and its management. An observational study of 179 postmenopausal women attending a menopause clinic for the first time found that the most common coping styles for managing stressful events were catharsis (68%), direct action (66%), and seeking social support (63%). The women, aged 50-74 years, reported stressful events related to family problems, menopause symptoms, work problems, daily hassles, and other health problems. Notably, socio-demographic variables, menopausal symptoms, and general stress levels did not predict coping styles, suggesting that individual differences in coping mechanisms may be more complex than previously thought.

An experimental study conducted in 2000 among 62 postmenopausal Italian women examined the effectiveness of hormone replacement therapy (HRT) versus socio-economic and personality factors in improving postmenopausal mood disorders. The study found that HRT and vaginal estriol therapy improved symptoms of inadequacy and anxiety, with HRT showing greater improvement in inadequacy ($p < 0.01$) and a decline in anxiety ($p < 0.06$). However, socio-economic factors were mainly related to overall mood and anxiety, while coping style was related to depression symptoms, suggesting that HRT and socio-economic factors have distinct effects on postmenopausal mood disorders. (Cag., Cruz., 2015) [36].

A randomized double-blinded study conducted in Brazil among 80 women aged 45-55 years found that soy isoflavone therapy significantly decreased menopausal symptoms after 4 months ($p < 0.01$) compared to baseline and placebo groups. Additionally, the study showed a decrease in low-density lipoproteins (LDL) levels, suggesting a positive effect on the cardiovascular system, highlighting the potential benefits of soy isoflavone in alleviating menopausal symptoms and promoting heart health.

A prospective clinical trial in the US randomized 19 postmenopausal women (45- 65 years old) to either a soya food diet or usual diet for 4 weeks. The soya diet provided 165mg of conjugated isoflavones daily, with 73% compliance. Results showed no significant differences in vaginal cytology between the two groups, with 68% of soya consumers and 71% of controls showing no change in superficial cell percentage, suggesting that soya food consumption did not significantly impact vaginal health in postmenopausal women.

Objectives

The objectives of the present study are:

1. To assess and compare the pretest and posttest level of knowledge on menopausal symptoms among women in experimental and control groups.
2. To assess and compare the pretest and posttest level of menopausal symptoms among women in experimental and control groups.
3. To evaluate the effectiveness of health education and soya bean consumption on menopausal symptoms among women within and between experimental and control groups.
4. To correlate the knowledge with menopausal symptoms among women in experimental and control groups.
5. To associate the mean difference score of knowledge with selected demographic variables in experimental and control groups.
6. To associate the mean difference score of menopausal symptoms with selected demographic variables in experimental and control groups.

Material and methods

A quantitative approach and quasi-experimental non-equivalent control group design to assess the knowledge and effectiveness of soya bean consumption on menopausal symptoms among women in selected villages in Dhamtari. The study included 395 menopausal women aged 45-60 years, divided into experimental (198) and control (197) groups. Non-probability purposive sampling was used, with inclusion criteria being age, ability to understand Hindi, willingness to participate, and residency in selected villages for at least 6 months. Exclusion criteria included reproductive tract infections, systemic disorders, depression, mental illness, severe sensory or cognitive impairment, and ongoing hormonal or alternative treatments. The study involved pretest and posttest assessments of knowledge and menopausal symptoms, with the experimental group receiving health education and consuming 50g of cooked soya bean on alternate days for 3 months.

Data collection tools included a structured questionnaire and a symptom checklist, with content validity and reliability ensured through expert review and pilot testing.

Statistical analysis

The study's demographic characteristics showed that the experimental group consisted of women aged 45-60 years (31.3% in 45-50 years, 32.8% in 51-55 years, 35.9% in 56-60 years), with 20.7% being illiterate, 41.9% having secondary school education, and 15.2% being graduates, while the control group had similar characteristics. Occupation-wise, 36.4% of the experimental group were homemakers and 47% were private employees, similar to the control group. Most women in both groups were married (60.6% and 60.9%) and lived in nuclear families (74.2% and 71.6%). Hindus, Muslims, and Christians were represented in both groups, with varying percentages. Family income and source of information also showed similar patterns, with most women earning between 15,001-20,000 rupees and receiving information from friends and relatives. Finally, 85.4% of the experimental group and 84.8% of the control group lived in urban areas. The study's personal variables showed that in the experimental group, 67.2% of women attained menarche between 11-15 years, 31.8% got married before 20 years,

and 59.1% had their first child between 21-25 years. Most had normal vaginal delivery (59.6%), had one or two children (76.3%), and lived with their children (81.3%). Few had reproductive system abnormalities (7.1%) or non-communicable physical ailments (52%). Dietary patterns were mostly vegetarian (41.4%) or non-vegetarian (33.3%), with few having habits of tobacco/betel chewing (5.1%) or regular exercise (1.5%). Similar patterns were observed in the control group, with some variations in percentages.

The study's menopause-related variables showed that in the experimental group, 94.4% of women attained menopause, with 20.2% below 45 years, 76.3% between 46-50 years, and 3.5% above 50 years. Most had natural menopause (97%), with 42.4% having less than one year of menopause duration, 34.8% between two-three years, and 22.7% more than three years. Perimenopausal menstrual bleeding volume changes showed 19.2% had lesser volume, 61.1% normal, and 19.7% heavy. Similar patterns were observed in the control group, with 93.4% attaining menopause, 21.3% below 45 years, 75.1% between 46-50 years, and 3.6% above 50 years, with 98.5% having natural menopause, and 44.2% having less than one year of menopause duration.

The study assessed the level of knowledge on menopausal symptoms among women in the experimental and control groups before and after health education. The Chi-Square test results showed that before health education, 96.5% of the experimental group and 94.4% of the control group had inadequate knowledge (<50%). After health education, the experimental group showed significant improvement, with 70.7% having adequate knowledge (>75%) and 29.3% having moderately adequate knowledge (51-75%), whereas the control group still had 94.4% with inadequate knowledge. The Chi-Square value of 358.014 was highly significant at $p = 0.0001$ level, indicating a significant difference in knowledge levels between the two groups after health education.

The co-relation between knowledge and menopausal symptoms at the pre-test level. The results indicate that there is no significant correlation between the two variables, with a p -value of 0.994 (NS), indicating no significance. The mean knowledge score is 11.40 with a standard deviation of 3.61, while the mean menopausal symptoms score is 25.63 with a standard deviation of 5.14. This suggests that at the pre-test level, knowledge about menopause does not correlate with the severity of menopausal symptoms experienced by the women.

Discussion

The study's demographic characteristics showed that most women in both experimental and control groups were between 51-55 years old (32.8% and 32%, respectively), married (60.6% and 60.9%), living in urban areas (85.4% and 84.8%), and had a family income above 20,000 rupees (56.1% and 54.8%). Most were Hindus (40.4% and 38.6%), had secondary school education (41.9% and 42.1%), and were private employees (47% and 48.2%). The majority had two children (32.3% and 31%), experienced natural menopause (97% and 98.5%), and had no history of reproductive system abnormalities (96.5% and 94.9%). Dietary patterns were mostly vegetarian (41.4% and 42.1%), with few having habits of tobacco/betel chewing (5.1% and 6.1%) or regular exercise (1.5% and 3.6%).

The study's findings revealed that health education significantly increased knowledge on menopausal symptoms

among women in the experimental group ($p = 0.0001$), and soya bean consumption significantly reduced menopausal symptoms ($p = 0.0001$). A negative correlation existed between knowledge and menopausal symptoms, indicating that increased knowledge leads to reduced symptoms. Certain demographic variables, such as age at menopause, duration of menopause, marital status, type of family, age at menarche, and age at first childbirth, showed significant associations with knowledge gain and menopausal symptoms in both experimental and control groups. Overall, the study demonstrated the effectiveness of health education and soya bean consumption in reducing menopausal symptoms and improving knowledge among women.

Recommendations

Future studies can explore assessing family members' knowledge and educating them to support women's reproductive development, examining coping strategies used by menopausal women, and conducting time series, qualitative, longitudinal, and cross-sectional studies to investigate various aspects of menopause, such as the effects of interventions, alternative therapies, and cultural influences. Additionally, researching the dimensions of hot flashes, including the long-term effects of menopause, and incorporating menopause into reproductive health education can provide valuable insights. Establishing a menopausal wellness clinic and expanding the current study to include more participants, longer durations, and different soya products can also enhance understanding. Comparative studies between pre- and post-menopausal women, natural and surgically induced menopause, and communicating findings to rural areas can further contribute to addressing menopausal health issues, ultimately promoting safe, natural, and affordable health measures for menopausal women.

Limitations

The study faced several limitations, including the inability to meet all participants at their homes due to their work schedules, resulting in privacy being ensured during data collection at alternative locations. Additionally, a 0.8% attrition rate occurred due to the prolonged study duration. The researcher also encountered challenges with transportation between settings, which were geographically distant. Furthermore, the cost and quantity of soya beans posed constraints, limiting the scope of the study. These limitations may have impacted the study's findings and generalizability, highlighting the need for future research to address these challenges.

Implications

The study's findings have significant implications for the nursing profession, spanning practice, education, research, and administration. Nurses can provide holistic care, prepare women for menopausal changes, and use evidence-based practices to improve care. They can also educate women about menopausal symptoms, dietary modifications, and organize awareness programs and health clinics. In education, periodic conferences and workshops can update knowledge on recent developments, focusing on non-pharmacological therapies and alternative measures like soya bean consumption. Nursing administrators should prioritize holistic care, health tasks, and in-service education

programs, encouraging research activities and counseling programs. Further research is needed to explore menopausal problems, alternative therapies, and non-pharmacological measures, emphasizing the importance of healthy lifestyles in managing menopausal symptoms.

Conclusion

This study demonstrated the effectiveness of health education and soya bean consumption in reducing menopausal symptoms among women. The results showed that group health education improved knowledge, attitudes, and skills, leading to a significant reduction in menopausal symptoms. Consuming 50g of soya bean on alternative days for three months was found to be an effective alternative form of medicine, reducing menopausal symptoms. Soya bean, a natural food rich in phyto-estrogen and isoflavone, is a suitable alternative method for managing menopausal symptoms. Therefore, the researcher concludes that soya bean consumption effectively reduces menopausal symptoms, providing a natural and alternative approach to managing menopausal health.

Conflict of Interest

Not available

Financial Support

Not available

References

1. Tomey AM. Nursing theorists and their works. 3rd ed. St. Louis, Missouri: Mosby; c2004.
2. Basavanhappa BT. Medical surgical nursing. 4th ed. New Delhi: Jaypee Publications; c2005.
3. Brunner LS, Suddarth DS. Textbook of medical surgical nursing. 11th ed. Philadelphia: JB Lippincott Company; c2007.
4. Choudhury ML. Gynaecology for students. 1st ed. Kolkata: Unique Print and Process; c2005.
5. Polit DF, Beck CT. Nursing research. 7th ed. New Delhi: Lippincott Williams & Wilkins; c2004.
6. Dutta DC. Textbook of Gynaecology. 5th ed. Calcutta: New Central Book Agency; c2008.
7. Dutta DC. Textbook of gynaecology including perinatology and contraception. 6th ed. Kolkata: New Central Book Agency; c2004.
8. Gupta SP. Statistical methods. 3rd ed. New Delhi: Sultan Chand & Publishers; c2005.
9. Strausz IK. Women's symptoms: A comprehensive guide to common symptoms and diseases, their causes and treatment. 1st ed. New York: Dell Publishing Group; c2004.
10. Bobak IM, Jensen MD, Duncan M. Essentials of maternity nursing. 4th ed. Philadelphia: Mosby; c2005.
11. Jacob A. A comprehensive textbook of midwifery. 2nd ed. New Delhi: Jaypee Publications; c2008.
12. Studd J. Progress in obstetric and gynaecology. Vol 12. New Delhi: Churchill Livingstone; c2007.
13. Fitzpatrick JJ. Annual review of nursing research. New York: Springer Publishing Company; c2009.
14. Black JM. Medical surgical nursing: Clinical management for positive outcomes. 7th ed. Missouri: Saunders Publications; c2005.
15. Marcus R, Kelsey TW. Menopause biology and pathobiology. 1st ed. New York: Academy Press; c2000.
16. Stanhope M, Lancaster J. Community health nursing: Promoting health of aggregates, families and individuals. 4th ed. St. Louis, Missouri: Mosby; c2004.
17. McMillan J. Research in education: Conceptual introduction. 1st ed. New York: Harper Collins; c2009.
18. Mudaliar AL, Menon MKK. Clinical obstetrics. 10th ed. Chennai: Orient Longman; c2005.
19. Myels S. Textbook for midwives. 14th ed. Philadelphia: Churchill Livingstone; c2003.
20. Potter PA. Basic nursing: Essentials for practice. 5th ed. Philadelphia: Mosby Publication; c2003.
21. Polit DF. Nursing research: Principles and methods. 3rd ed. Philadelphia: JB Lippincott Company; c2003.
22. Nedrow A. Complementary and alternative therapies for the management of menopause-related symptoms. Arch Intern Med 2016;166(14):931-939.
23. Aaron R, Maliyil J, Abraham S. Medico-social dimensions of menopause: A cross-sectional study from rural south India. Natl Med J India 2017;30(1):14-18.
24. Alekel DL, Van Loan MD, Koehler KJ, Hanson LN, Stewart JW. The soy isoflavones for reducing bone loss (SIRBL) study: A 3-year randomized controlled trial in postmenopausal women. Am J Clin Nutr 2010;91(1):218-230.
25. Al Dughaiter A, Al Mutairy H, Al Ateeq M. Menopausal symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. Int J Womens Health. 2015;7:645-653.
26. Albertazzi P. The effect of dietary soy supplementation on hot flashes. Obstet Gynecol. 2015;98(4):702-708.
27. Walton A, Al-Qutob R. Menopause-associated problems: Types and magnitude. JA 2017;13(5):613-620.
28. Atnaca A, Kleerekoper M, Bayraktar M, Kucuk O. Soy isoflavones in the management of postmenopausal osteoporosis. Menopause. 2018;15(4):748-757.
29. Al-Qutob R. Menopause-associated problems: Types and magnitude. JA. 2015;33(5):613-620.
30. Arjmandi BH, Smith BJ. Soy isoflavones' osteoprotective role in postmenopausal women: Mechanism of action. J Nutr Biochem. 2017;13(3):130-137.
31. Bair YA, Gold EB, Zhang G, Rasor N, Utts J, Upchurch D, *et al.* Use of complementary and alternative medicine during the menopause transition: Longitudinal results from the Study of Women's Health Across the Nation. Menopause. 2015;15:32-43.
32. Basaria S, Wisniewski A, Dupree K. Effect of high-dose isoflavones on cognition, quality of life, androgens, and lipoprotein in postmenopausal women. J Endocrinol. 2019;32(2):150-151.
33. Beresford K, Andrews WC, Weisman CS, Holleran MK, Cross HB, Johnson C, *et al.* Guidelines for counseling women on the management of menopause. Washington, DC: Jacobs Institute of Women's Health Expert Panel on Menopause Counseling; c2018 Feb.
34. Borchers Bolaños R, Del Castillo A, Francia J. Soy isoflavones versus placebo in the treatment of climacteric vasomotor symptoms: Systematic review and meta-analysis. Menopause. 2017;17(3):660-666.
35. Buist Gameiro CM, Romão F, Castelo-Branco C. Menopause and aging changes in the immune system: A review. Maturitas. 2016;67(4):316-320.
36. Cag Cruz F. Quality of life of rural menopausal women

in response to a customized exercise programme. J Adv Nurs. 2015, 54(1).

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