Knowledge, Attitude, And Practices Towards Fibroadenoma and Breast Examination Among Young Adults in South Kerala: A Cross-Sectional Study

Nandana Sanalkumar [1], Dr. Drishya. L [2], Prof. Dr. Shaiju S Dharan[3]
[1] *Pharm D Intern, Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, India*
[2] *Assistant Professor, Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, India*
[3] *Principal, HOD, Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, India*

Abstract- The study aims to assesss the knowledge, attitude and practice towards fibroadenoma and breast examination among young adults in South Kerala. It was a public cross-sectional study conducted, between December 2024 and May 2025. The study was conducted among 150 young female adults in the age group of 18 – 35 years. The participants were asked to fill the questionnaire regarding their knowledge, attitude and practice regarding Fibroadenoma and examination. The final data is summarized statistically using Pearson correlation method. The study evaluated participants' knowledge, attitude, and practice, offering key insights into their health awareness and behaviour. Findings showed that 34.7% of participants had good knowledge, while 65.3% had only average understanding, highlighting the need for improved educational efforts. In terms of attitude, 37.3% displayed a favourable outlook, but a larger group (62.7%) held less favourable attitudes, suggesting hesitation or lack of confidence about the topic. When it came to health-related practices, 44.0% of individuals followed good practices, reflecting positive behaviour, while the remaining 56.0% exhibited average practices, indicating a need for further motivation and support to adopt healthier routines. Overall, the results suggest a moderate level of awareness, with significant potential for improvement in knowledge, mindset, and behavioural aspects. The analysis indicates that increasing knowledge can positively influence both attitudes and practices among participants. However, the lack of a significant relationship between attitude and practice suggests that other factors may be at play in determining health behaviours. These insights highlight the importance of educational interventions aimed at enhancing knowledge to foster better health outcomes.

Keywords: fibroadenoma, fibroadenopathy, breast self-examination, breast cancer

1. INTRODUCTION

In India, breast cancer remains the most common cancer among women, and awareness about breast health, including benign conditions like fibroadenoma, remains limited (Saxena et al., 2010). While significant focus has been given to breast cancer screening, the level of knowledge, attitudes, and practices (KAP) regarding benign breast diseases is comparatively under-explored. Early education and engagement in breast self-examination (BSE) and routine clinical check-ups are vital not only for cancer detection but also for addressing benign conditions effectively (Budden, 1995; Gupta et al., 2020).

Studies conducted across various regions of India suggest a substantial gap in awareness among young women about breast examination and benign breast conditions (Banikarim et al., 2003; Parikh et al., 2012). A 2019 study in Tamil Nadu, for instance, revealed that less than 30% of college-going women had adequate knowledge of fibroadenoma, and only a fraction performed regular BSE (Ramesh et al., 2019). Factors contributing to poor awareness include social stigma, lack of structured health education, and misconceptions about breast lumps being synonymous with cancer (Shalini et al., 2011).

In Kerala, despite high female literacy and improved health indices, studies on breast health awareness among youth are still scarce. Regional socio-cultural

beliefs and health-seeking behaviors significantly influence the understanding and practice of breast examination. As such, assessing the KAP towards fibroadenoma and breast examination in the youth of South Kerala is crucial to identify knowledge gaps, promote early detection, and guide future health education strategies.

This cross-sectional study seeks to evaluate the existing knowledge, attitudes, and practices regarding fibroadenoma and breast examination among young adults in South Kerala, offering insights into their awareness levels and the need for targeted interventions.

2. MATERIAL AND METHODS

2.1 Study design

A cross-sectional survey design was employed to assess the knowledge, attitudes, and practices (KAP) among young female adults in South Kerala

2.2 Study setting & Population

The study was conducted among young female adults in South Kerala among the age group of 18-35 years, who showed willingness to participate.

2.3 Inclusion criteria

- Young female adults of age between 18-35 years old.
- Participants who are willing to participate

2.4 Exclusion Criteria

- Participants who fail to complete the questionnaire.
- Not willing to participate.

2.5 Sampling method

A sample size of 150 was taken based on the previous studies

2.6 Sample size

The convenient sampling method was used.

2.6 Data collection.

Data collection was done using a pre-validated, structured questionnaire, consisting of four sections: Socio-demographic profile, knowledge regarding fibroadenoma and breast self-examination, attitude towards breast health and early detection, practice-related questions. The questionnaire was developed based on existing literature and guidelines from the World Health Organization (WHO) and Breast Cancer Awareness frameworks, and was validated by a panel of experts in public health.

2.7 Data analysis

The collected data were entered and cleaned in Microsoft Excel. To study the interrelationship between knowledge, attitude and practice Pearson correlation coefficient was computed and statistical significance was also tested. A p value <.05 was taken for statistical significance.

2.8 Ethical consideration

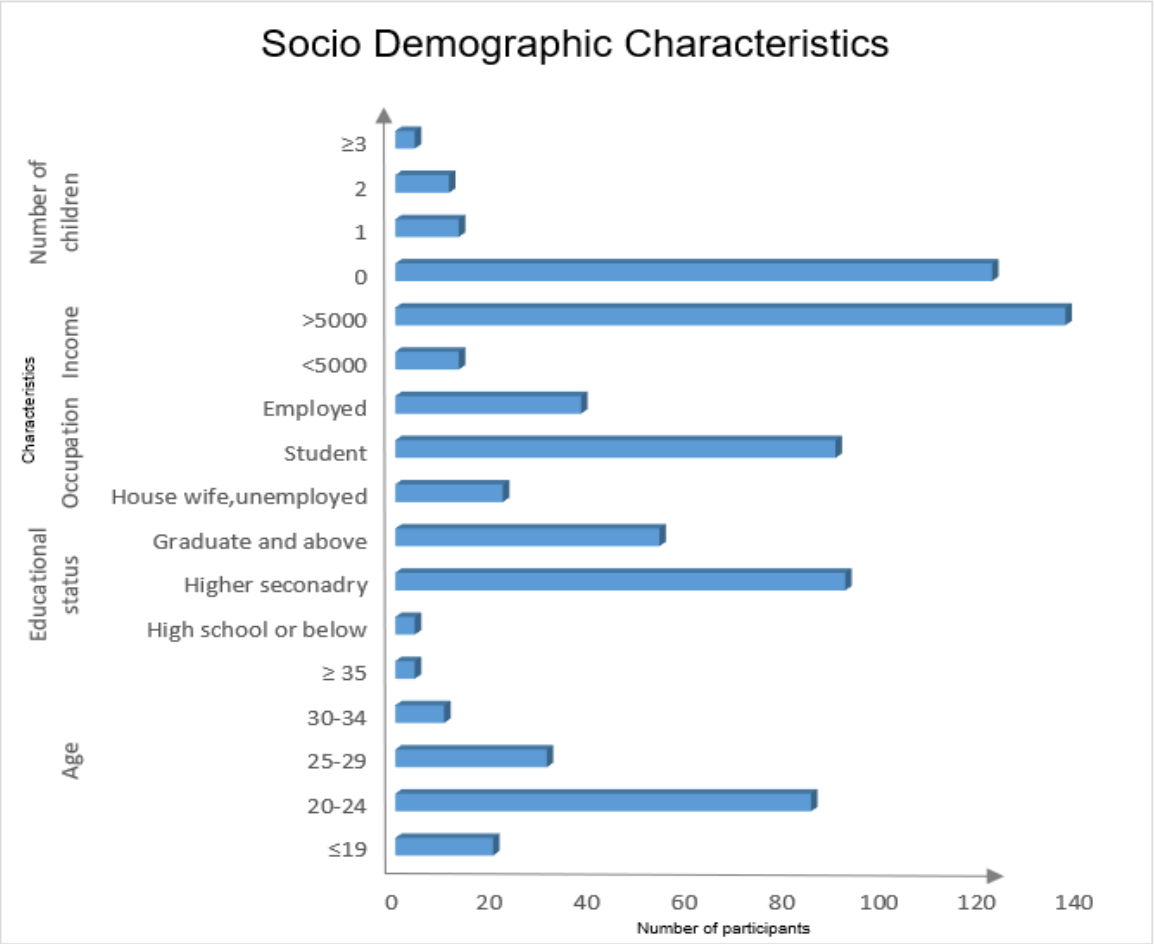
The study was conducted after protocol approval by the Institutional Research Committee of Ezhuthachan College of Pharmaceutical Sciences.

3. RESULTS AND DISCUSSION

Table 3.1: Demographic distribution

		Frequency (n)	**Percentage (%)**
Age	≤19	20	13.3
	20-24	85	56.7
	25-29	31	20.7
	30-34	10	6.7
	≥ 35	4	2.7
Educational status	High school or below	4	2.7
	Higher secondary	92	61.3
	Graduate and above	54	36.0
Occupation	House wife, unemployed	22	14.7
	Student	90	60.0

	Employed	38	25.3
Income	<5000	13	8.7
	>5000	137	91.3
Number of children	0	122	81.3
	1	13	8.7
	2	11	7.3
	≥3	4	2.7
	Total	150	100.0

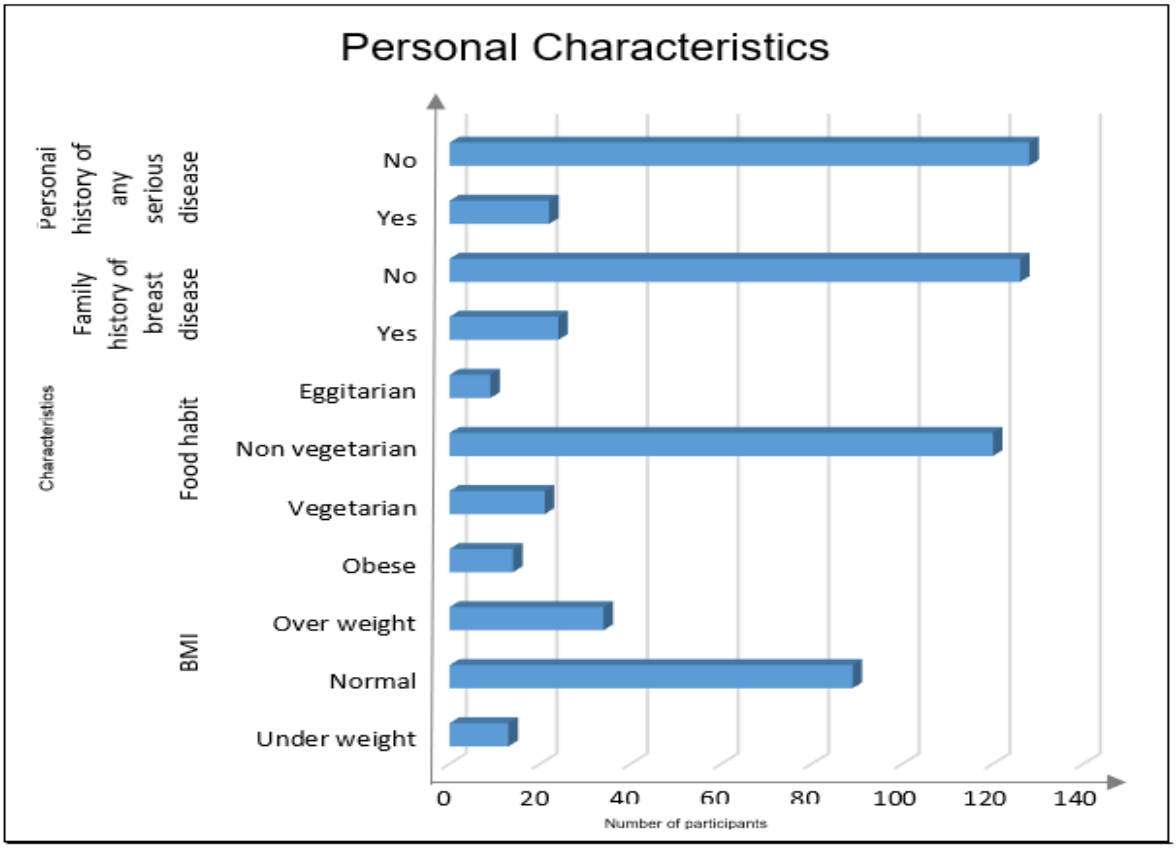


Graph 3.1: Demographic distribution

The study's findings reveal significant demographic characteristics of the participants, who total 150 individuals. The age distribution shows that a large proportion (56.7%) of participants fall within the 20-24 age range, indicating a youthful demographic, while only a small fraction (2.7%) is aged 35 and above. In terms of educational status, the majority (61.3%) have completed higher secondary education, and 36.0% are graduates or hold higher degrees, suggesting a well-educated sample. Regarding occupation, most participants are students (60.0%), with 25.3% employed and 14.7% identified as housewives or unemployed, reflecting the population's age and educational status. Income levels present a noteworthy finding, as 91.3% of participants reported earnings greater than 5000, indicating a relatively affluent group. Lastly, when considering family structure, a substantial majority (81.3%) have no children, while only a small percentage have one (8.7%), two (7.3%), or three or more children (2.7%). These findings collectively highlight a predominantly young, educated, and financially stable demographic with few familial responsibilities, which may influence their perspectives and responses in the context of this study.

Table 3.2: Distribution based on personal characters

		Frequency (n)	Percentage (%)
BMI	Under weight	13	8.7
	Normal	89	59.3
	Over weight	34	22.7
	Obese	14	9.3
Food habit	Vegetarian	21	14.0
	Non vegetarian	120	80.0
	Eggetarian	9	6.0
Family history of breast disease	Yes	24	16.0
	No	126	84.0
Personal history of any serious disease	Yes	22	14.7
	No	128	85.3
	Total	150	100.0



Graph 3.2: distribution based on personal characters

The study's findings indicate diverse health and dietary characteristics among the 150 participants. In terms of body mass index (BMI), the majority of participants are classified as having a normal weight (59.3%). However, there are notable portions identified as overweight (22.7%) and obese (9.3%), while a smaller group falls into the underweight category (8.7%). These statistics suggest that while most participants maintain a healthy weight, there is a concerning prevalence of overweight and obesity within the sample.

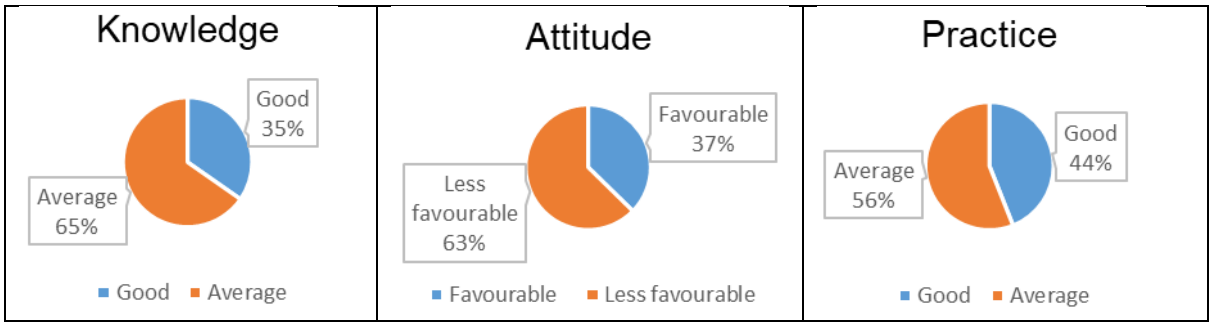
Regarding food habits, the participants predominantly identify as non-vegetarian (80.0%). In comparison, 14.0% of participants are vegetarian, and a small fraction (6.0%) follow an eggetarian diet. This dietary trend may reflect cultural preferences or availability of food options in the participants' environment.

The study also examined the medical histories of participants. Only 16.0% report a family history of breast disease, indicating that the majority (84.0%) do not have such a familial risk factor. Similarly, the findings reveal that 14.7% of participants have a personal history of any serious diseases, with a significant majority (85.3%) reporting no serious health concerns.

Overall, the findings highlight a predominantly normal BMI among participants, a majority non-vegetarian dietary preference, and a low incidence of both family and personal histories of serious diseases. These factors may have implications for health outcomes and further research in related fields.

Table 3.3: Distribution based on knowledge, attitude and practice

		Frequency (n)	Percent (%)
Knowledge	Good	52	34.7
	Average	98	65.3
Attitude	Favourable	56	37.3
	Less favourable	94	62.7
Practice	Good	66	44.0
	Average	84	56.0
	Total	150	100.0



Graph 3.3: Distribution based on knowledge, attitude and practice

The study assessed participants' knowledge, attitude, and practice, revealing important insights into their health awareness and behaviour. In terms of knowledge, 34.7% of participants demonstrated a good understanding of the relevant topics, while the majority (65.3%) had average knowledge levels. This suggests that while some individuals possess a strong grasp of the subject matter, a larger proportion may benefit from further education and information.

Attitude towards the subject matter showed that 37.3% of participants held a favourable attitude, whereas a significant majority (62.7%) had a less favourable attitude. This disparity indicates that the majority of participants may possess reservations or lack confidence regarding the topic at hand, which may influence their subsequent behaviours and decisions.

Regarding practices, 44.0% of participants exhibited good practices, indicating positive behavioural engagement with health-related activities. Conversely, 56.0% of participants demonstrated average practices, suggesting room for improvement in their health-related behaviours.

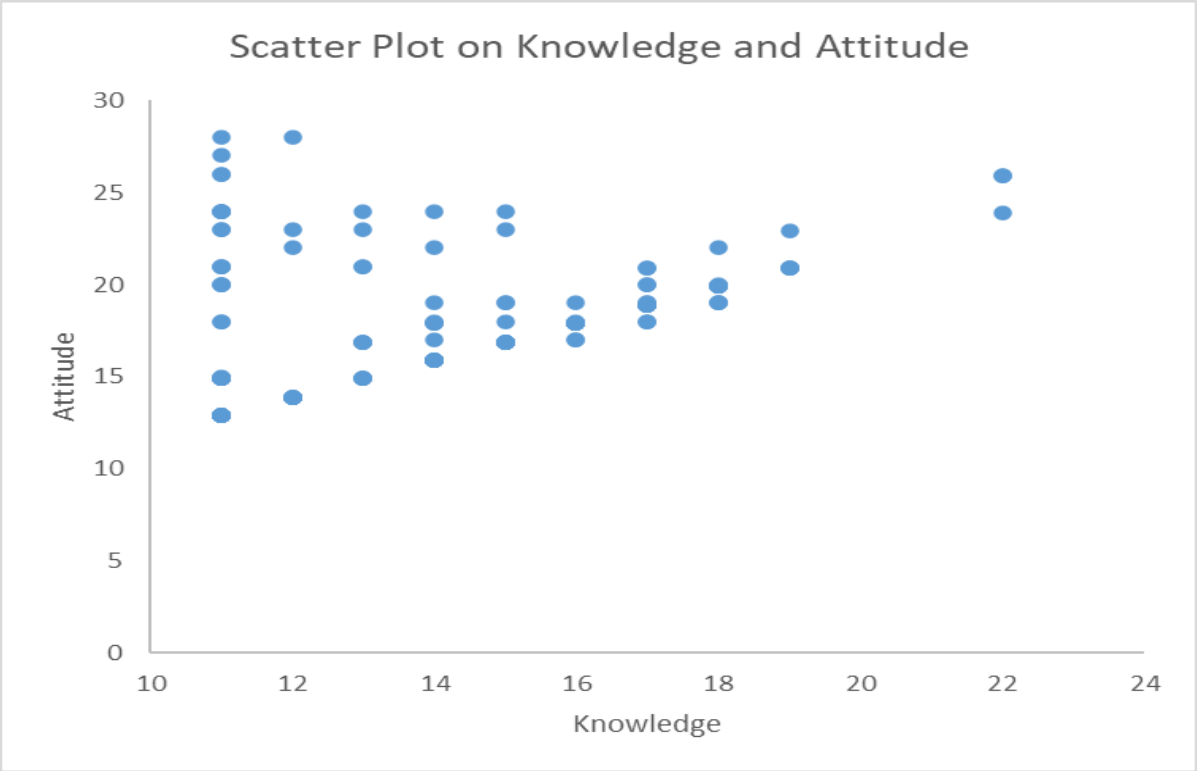
Collectively, these findings highlight a need for targeted educational interventions to enhance knowledge, shift attitudes toward more favourable views, and improve health practices among participants.

Table 3.4: Pearson correlation

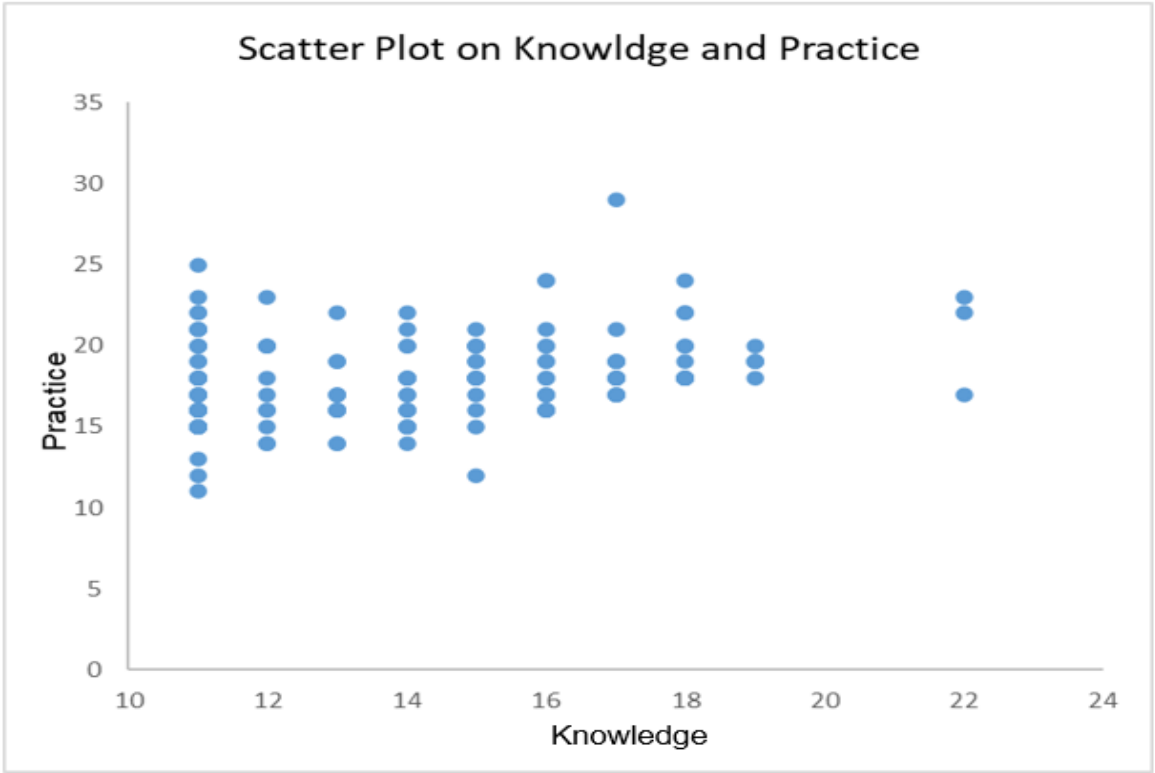
		Knowledge	Attitude	Practice
Knowledge	Pearson Correlation	1	.334**	.285**
	Sig. (2-tailed)		.000	.000
	N	150	150	150
Attitude	Pearson Correlation	.334**	1	.019
	Sig. (2-tailed)	.000		.814

	N	150	150	150
Practice	Pearson Correlation	.285**	.019	1
	Sig. (2-tailed)	.000	.814	
	N	150	150	150

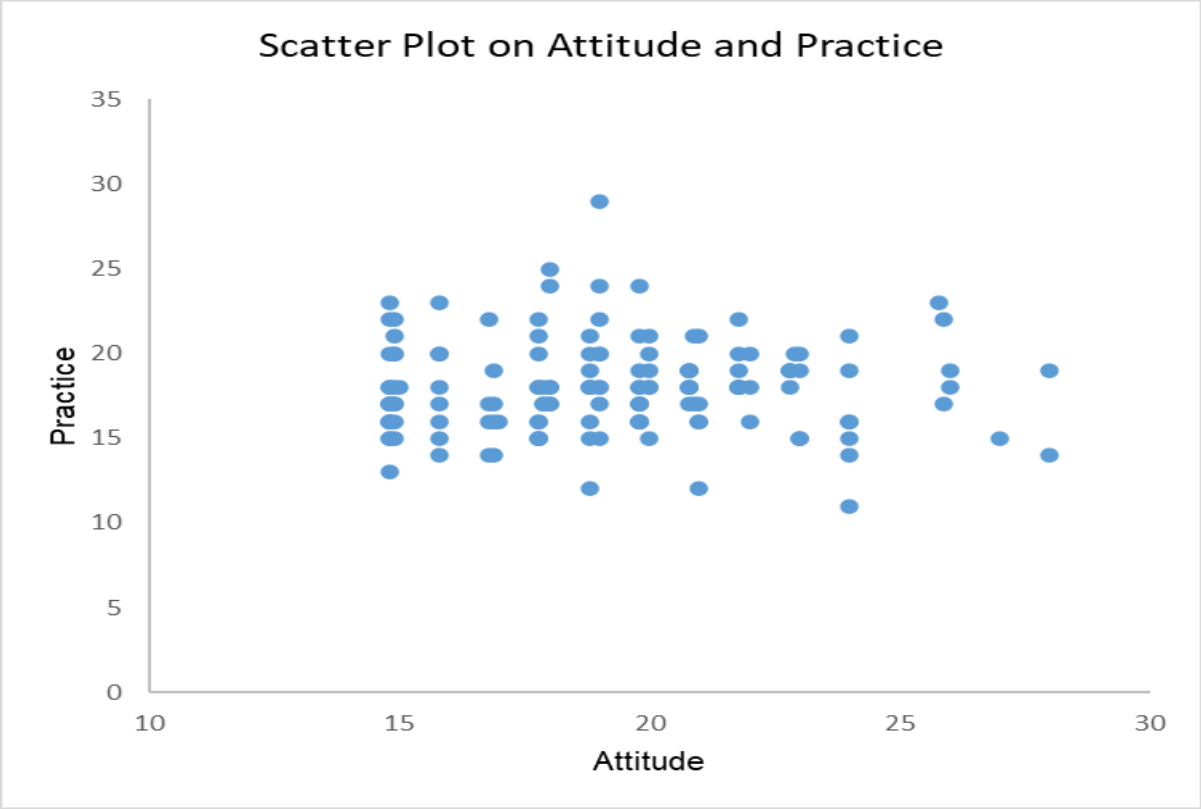
**. Correlation is significant at the 0.01 level (2-tailed).



Graph 3.4.1: Scatter Plot on Knowledge and Attitude



Graph 3.4.2: Scatter Plot on Knowledge and Practice



Graph 3.4.3: Scatter Plot on Knowledge and Practice

The correlation analysis examined the relationships between participants' knowledge, attitude, and practice, revealing significant insights.

1. Knowledge and Attitude: There is a positive correlation between knowledge and attitude (Pearson correlation = 0.334, $p < 0.01$), indicating that higher levels of knowledge are associated with more favourable attitudes. This suggests that educating participants may lead to improved attitudes towards health-related topics.

2. Knowledge and Practice: A positive correlation exists between knowledge and practice (Pearson correlation = 0.285, $p < 0.01$). This finding implies that participants with greater knowledge are more likely to engage in good health practices, reinforcing the importance of knowledge in influencing behaviour.

3. Attitude and Practice: The correlation between attitude and practice is weak and not statistically significant (Pearson correlation = 0.019, $p = 0.814$). This suggests that participants' attitudes do not significantly impact their health practices in this study.

In summary, the analysis indicates that increasing knowledge can positively influence both attitudes and practices among participants. However, the lack of a significant relationship between attitude and practice suggests that other factors may be at play in determining health behaviours. These insights highlight the importance of educational interventions aimed at enhancing knowledge to foster better health outcomes.

Overall Summary of Findings

This study investigated the demographic, health-related knowledge, attitudes, and practices of 150 participants, revealing important trends that may inform future health interventions.

The demographic analysis highlighted a predominantly young and educated population, with a significant portion of participants having normal BMI classifications. Food habits showed that the majority of participants followed a non-vegetarian dietary pattern, while most reported no personal or family history of serious diseases. These demographic characteristics suggest a relatively healthy sample, although the presence of overweight and obesity among a notable percentage of participants raises concerns for future health outcomes.

The assessment of health knowledge, attitudes, and practices revealed that while a considerable segment of the population demonstrated average knowledge and practices, a majority displayed less favourable attitudes towards health-related matters. Specifically, 65.3% of participants were categorized as having average knowledge, and 62.7% had less favourable attitudes. Though 44.0% of participants exhibited good practices, the findings emphasize the need for targeted educational initiatives to enhance knowledge and shift attitudes, as these factors are crucial for encouraging positive health behaviours.

Correlation analysis further strengthened these insights, showing significant positive relationships between knowledge and both attitude ($r = 0.334$) and practice ($r = 0.285$), highlighting that increased knowledge is associated with more favourable attitudes and better health practices. However, the weak and non-significant correlation between attitude and practice ($r = 0.019$) suggests that attitudes alone may not be sufficient to drive behaviour change, indicating the influence of additional factors that warrant further exploration.

4. CONCLUSION

The study provides valuable insights into the demographic characteristics, health-related knowledge, attitudes, and practices of the participants. The findings indicate that the majority of the population is young, educated, and predominantly non-vegetarian, with a significant portion exhibiting normal body mass index levels. However, the presence of overweight and obesity among some participants raises potential concerns for long-term health outcomes.

The analysis of knowledge, attitudes, and practices reveals a pressing need for targeted educational interventions. While a substantial number of participants showed average knowledge and less favorable attitudes, there is a clear connection between higher levels of knowledge and improved attitudes and practices. These results underscore the significance of enhancing health education to foster positive behavior changes and promote better health outcomes.

Moreover, the lack of a strong correlation between attitude and practice suggests that enhancing knowledge alone may not suffice; other social, environmental, and cultural factors may also influence health behaviors. Therefore, comprehensive and multifaceted approaches are essential for successfully shifting attitudes and practices.

Overall, this study highlights the importance of addressing health education as a key strategy in public health initiatives, particularly among young and educated populations. By equipping individuals with the knowledge and resources they need, we can potentially cultivate more favorable attitudes and practices that contribute to healthier lifestyles and improved community health outcomes. Future research should explore the specific barriers to adopting good health practices and investigate the interplay of various factors that affect health behaviors to develop more effective interventions.

5. SUGGESTIONS FROM A PUBLIC HEALTH PERSPECTIVE

Based on the findings of this study, several public health strategies and interventions can be implemented to improve health knowledge, attitudes, and practices among the target population:

1. Health Education Programs: Develop and implement comprehensive health education programs that focus on nutrition, physical activity, and disease prevention. These programs should be tailored to address common misconceptions and provide practical information that participants can easily incorporate into their daily lives.

2. Community Workshops and Seminars: Host community workshops and seminars to engage participants in interactive discussions about health-related topics. These events can facilitate knowledge sharing and create a supportive environment where individuals feel comfortable discussing their health concerns and questions.

3. Utilize Digital Platforms: Leverage digital technology and social media to disseminate health information widely. Creating accessible online resources, such as webinars, informative videos, and social media campaigns, can help reach a broader audience and engage younger demographics effectively.

4. Promote Positive Role Models: Encourage community leaders and local influencers to serve as role models for healthy behaviours. Highlighting success stories and healthy lifestyle choices can motivate others to adopt

similar practices and foster a supportive community.

5. Incorporate Behaviour Change Theories: Utilize evidence-based behaviour change theories, such as the Health Belief Model or the Theory of Planned Behaviour, to design interventions that address the underlying factors influencing health behaviours. Tailoring interventions to account for individual beliefs, attitudes, and perceived barriers can enhance their effectiveness.

6. Improve Access to Healthy Food Options: Advocate for policies that increase access to healthy food options in the community, particularly in underserved areas. Initiatives such as community gardens, farmers' markets, and nutrition labelling can empower individuals to make healthier dietary choices.

7. Enhancing Regular Health Screenings: Promote regular health screenings and check-ups to encourage early detection and management of weight-related issues and chronic diseases. Providing accessible screening programs in the community can help identify at-risk individuals and facilitate timely interventions.

8. Family and Community Engagement: Engage families and communities in health promotion activities, recognizing the influence of social networks on individual behaviours. Family-oriented programs that encourage collaborative health practices can reinforce positive changes at both individual and communal levels.

9. Monitor and Evaluate Interventions: Establish regular monitoring and evaluation mechanisms to assess the impact of public health initiatives. Gathering feedback from participants can help refine strategies and ensure that programs are meeting the needs of the community effectively.

10. Collaboration with Healthcare Providers: Foster partnerships between public health agencies and healthcare providers to create a coordinated approach to health promotion. Training healthcare professionals to deliver consistent messaging about healthy behaviours during patient interactions can reinforce educational efforts.

By implementing these strategies, public health professionals can work towards improving health knowledge, attitudes, and practices within the community. Ultimately, these initiatives can lead to enhanced public health outcomes and contribute to the overall well-being of the population.

6. COMPETING INTERESTS

Authors have declared that no competing interests exist

AUTHORS' CONTRIBUTIONS

REFERENCES

[1] Carty, m. J., pribaz, j. J., & orgill, d. P. (2018). Benign breast diseases. In plastic surgery: volume 5: breast (pp. 109-122). Elsevier.

[2] Dixon, j. M. (2010). Breast benign diseases. Surgery (oxford), 28(3), 135–140.

[3] Santen, r. J., & mansel, r. (2005). Benign breast disorders. New england journal of medicine, 353(3), 275–285.

[4] Saxena, s., rekhi, b., bansal, a., bagga, a., murthy, n. S., & chintamani. (2010). Clinico-morphological patterns of benign breast diseases in women below 35 years of age. Indian journal of surgery, 72(3), 199–202.

[5] Budden, l. (1995). Student nurses' breast self-examination knowledge, attitudes, and practices. Journal of nursing education, 34(7), 318–322.

[6] Gupta, s. K., pal, d. K., garg, r., tiwari, r., shrivastava, a. K., & sarawagi, r. (2020). Impact of a health education intervention program regarding breast self-examination among women in a semi-urban area of madhya pradesh, india. Asian pacific journal of cancer prevention, 21(3), 775–780.

[7] Banikarim, c., camp, b., & lazorick, s. (2003). Knowledge, attitudes, and practices of breast and cervical cancer screening in young women: a college-based study. Journal of pediatric and adolescent gynecology, 16(2), 87–93.

[8] Parikh, d., et al. (2012). Knowledge and awareness of breast self-examination in young women. Indian journal of surgery, 74(5), 356–360.

[9] Shalini, v., varghese, b. D., & nayak, m. (2011). Awareness and impact of education on breast self-examination among college-going girls.

Indian journal of palliative care, 17(2), 150–154.

[10] Ramesh, d., anbarasi, s., & swathi, s. (2019). Knowledge and practice of breast self-examination among young female college students in tamil nadu. International journal of community medicine and public health, 6(3), 1216–1221.

[11] Guray m, sahin aa. *Benign breast diseases: classification, diagnosis, and management*. Oncologist. 2006;11(5):435–449.

[12] Ajao OG, Solanke TF. *Benign breast diseases in an African population*. J R Coll Surg Edinb. 1981;26(5):295–300.

[13] Khadilkar UN, Mankeshwar TS. *A clinicopathological study of benign breast diseases*. Med J DY Patil Univ. 2015;8(4):490.

[14] Babu GR, Samari G, Cohen SP, et al. *Breast cancer screening among females in India: a narrative review*. J Glob Oncol. 2018;4:1–25.

[15] Sharma R. *Awareness and practice of breast self-examination among college students in India*. Indian J Palliat Care. 2017;23(1):14–20.

[16] Mathew A, George PS. *Trends in incidence and mortality rates of breast cancer in India: a report from the National Cancer Registry Programme (NCRP)*. Indian J Med Res. 2020;152(1):13–19.

[17] Ravikiran R, Vijayakumar C. *Breast health awareness and attitude among young women in Southern India: a community-based study*. J Educ Health Promot. 2019;8:204.

[18] Thomas A, Thomas S. *Awareness and practice of breast self-examination among female students in Kerala*. Int J Community Med Public Health. 2018;5(4):1449–1453.

[19] Madan AK, Tichansky DS, Levick NR, et al. *Evaluation of the incidence of fibroadenoma in women with palpable breast masses*. Am Surg. 2002;68(6):516–519.

[20] WHO. *Guide to Cancer Early Diagnosis*. World Health Organization, 2017.

[21] Gupta A, Shridhar K, Dhillon PK. *A review of breast cancer awareness among women in India*. Cancer Epidemiol. 2015;39(6):825–832.

[22] Jahan S, Al-Saigul AM, Abdelgadir MH. *Breast cancer knowledge, attitudes and practices of breast self-examination among women in Qassim region of Saudi Arabia*. Saudi Med J. 2006; 27(11):1737–1741.

[23] Dey S, Mishra A. *Experience of stigma among women with breast cancer: a qualitative study from India*. Asia Pac J Oncol Nurs. 2020;7(4):408–416.

[24] Kumar S, Tiwari A. *Socio-cultural barriers in breast health awareness among young women in South India*. Indian J Public Health. 2016;60(3):255–257.