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A Descriptive Study to Assess the Effectiveness of Instructional Modules on Knowledge Regarding Challenges Faced by Rural Community People on Cancer Preventive Measures Among People Living in the Selected Community Area, Palakkad District

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Abstract

This study employed a quantitative approach with a descriptive study design to assess the knowledge and challenges faced by rural communities regarding cancer preventive measures. A total of sixty participants were selected using purposive sampling, which is non-probability based. Data were gathered through a semi-structured questionnaire to capture demographic information, alongside a structured questionnaire specifically designed to evaluate knowledge on cancer prevention challenges within the rural population. The collected data were analyzed using both descriptive and inferential statistics. The findings highlighted significant insights into the knowledge levels regarding cancer prevention among the respondents. In the pre-test assessment, 33.33% of participants exhibited poor knowledge, while 66.6% demonstrated average knowledge regarding cancer prevention measures. Following an educational intervention, the post-test results indicated a notable improvement, with 75% of respondents showing average knowledge and 25% achieving good knowledge in cancer prevention strategies. Additionally, the correlation analysis revealed a positive relationship in knowledge levels concerning cancer prevention between male and female participants, suggesting that gender may play a role in knowledge acquisition about cancer preventive measures. This study underscores the necessity of targeted educational programs to enhance awareness and understanding of cancer prevention in rural communities, ultimately aiming to improve health outcomes. The results suggest that educational interventions can significantly elevate knowledge levels, thereby empowering individuals in rural areas to adopt effective cancer prevention strategies. Further research is recommended to explore the long-term impact of educational initiatives on health behaviors in these communities.

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INTRODUCTION

Take care of your body, it's the only place you have to live

—Jim Rohn

Cancer encompasses a broad spectrum of diseases that can impact various body regions, also known as malignant tumors or neoplasms. An essential characteristic of cancer is the accelerated production of abnormal cells, surpassing their normal limits, which can subsequently infiltrate

nearby tissues and disseminate to other organs—a phenomenon termed metastasis. The spread of cancer cells to distant locations is the main reason for mortality in cancer cases. Cancer is a significant cause of death worldwide, accounting for nearly 10 million fatalities in 2020, which represents about one-sixth of all deaths recorded that year. The most common types of cancer include breast, lung, colorectal, and prostate cancers. Approximately one-third of deaths related to cancer are attributed to risk factors such as tobacco use, obesity, alcohol consumption, low fruit and vegetable intake, and lack of physical activity. In low- and lower-middle-income countries, infections like human papillomavirus (HPV) and hepatitis are responsible for around 30% of cancer cases. Timely detection and effective treatment can lead to successful outcomes for many cancer patients. Cancer prevention involves proactive steps to lower the occurrence of cancer and mortality rates. It relies on individuals adopting healthier lifestyles, undergoing preventive screenings, and on societal or governmental policies related to cancer prevention. Advocates view globalized cancer prevention as crucial, as it can benefit vast populations by encouraging proactive health habits, reducing the long-term impact of cancer, and being perceived as cost-effective and accessible across different socioeconomic groups [1-6].

The primary cause of most cancer instances is the accumulation of environmental pollutants, some of which are hereditary, with many controllable through lifestyle choices. It's estimated that over 75% of cancer-related deaths could be avoided by steering clear of risk factors such as tobacco use, obesity, poor diet, physical inactivity, alcohol consumption, sexually transmitted infections, and exposure to air pollution. However, not all environmental triggers are within human control, such as natural background radiation, while certain cancers stem from inherited genetic conditions. Advancements in gene editing technology hold promise for future preventive measures. Moreover, enhancing the specificity and reducing invasiveness of future screening methods by considering individual biological characteristics, termed population-based personalized cancer screening, could further enhance preventive efforts [7-11].

Background of the Problem

India has a notably high incidence of oral cancer globally, largely attributed to the widespread practice of betel nut chewing mixed with tobacco. This study aims to evaluate the level of awareness regarding oral cancer prevention among late adolescents before and after structured educational interventions, assess the effectiveness of these interventions, and explore any associations between post-test knowledge and demographic variables. The results indicate that the average post-test knowledge score (17.43%) significantly exceeds the pre-test score (9.6%), demonstrating a notable increase in awareness among late adolescents after the structured teaching program. The findings suggest that structured teaching programs are very effective in enhancing late adolescents' knowledge about preventive measures for oral cancer [12].

Currently, the primary cancers—lung, breast, prostate, colon and rectum, and ovarian cancers—account for nearly 61% of the cancer burden in the United States. Excluding lung cancer, the overall cancer mortality rate has decreased by more than 14% since 1950 (Table 1).

Table 1. Data of Estimated cases and deaths by cancers

Site	Estimated new cases	Estimated death
Lung	169,900	157,400
Breast	183,400	46,240
Prostate	244,000	40,400
Colon &rectum	138,200	55,300
Ovary	26,600	14,500
All sites	1,252,000	547,000

Aizawl district registered the highest age-adjusted incidence rate among males at 269.4, while Papum Pare district recorded the highest rate among females at 219.8. The projected number of cancer patients

in India for 2020 is estimated at 1,392,179, with breast, lung, mouth, cervix uteri, and tongue identified as the top five common sites. Cancer incidence rates exhibited an upward trend across all cancer sites for both genders, with Kamrup urban experiencing a notable increase (annual percent change, 3.8%; P <.05). The majority of cancer diagnoses occurred at locally advanced stages for breast, cervix uteri, head and neck, and stomach cancers, while lung cancer predominantly presented with distant metastasis in both males (44.0%) and females (47.6%).

Research indicates that rural areas in India encounter challenges in accessing healthcare services and providers, exacerbating the obstacles to cervical cancer prevention among rural women due to limited awareness of HPV, cervical cancer, and screening. Nevertheless, previous studies demonstrate that community-driven awareness initiatives can enhance women's understanding and attitudes toward cervical cancer screening, with women's groups playing a significant role in encouraging participation. Additionally, community-based educational campaigns have been shown to boost screening rates. These findings underscore a general deficiency in knowledge about cancer prevention measures among the populace. So we conducted the research study to enhance the knowledge regarding cancer preventive measures on rural community people [13-17].

METHODOLOGY

Objectives

1. To assess the pretest level of knowledge regarding challenges faced by rural community people on cancer preventive measures among people living in community areas.
2. To assess the posttest level of knowledge regarding challenges faced by rural community people on cancer preventive measures among people living in community areas.
3. To correlate the knowledge regarding prevention of cancer among age groups of males and females.

Research Approach

In this study, a quantitative research approach has been employed, which serves as the overarching strategy for conducting the research.

Research Design

The study utilizes a descriptive research design, which serves as the comprehensive framework for addressing the research question and ensuring the integrity of the study is upheld.

Variables

Variables refer to the characteristics or features of individuals, objects, or situations that can change or vary.

- *Dependent variable:* Knowledge
- *Independent variable:* Instructional module
- *Demographic variables:* Age, gender, educational background, occupation, marital status, dietary habits, and family history of cancer.

Research Setting

The study was carried out in the rural community of Vaniyamkulam Village, located in the Palakkad district. This location was chosen due to the availability of sufficient samples meeting the inclusion and exclusion criteria essential for our research.

Population

The population refers to the entire group of individuals who meet the predefined criteria for the study and from whom the research findings will be derived.

Target population: The target population is adults living in rural areas of Palakkad district.

Accessible population: The accessible population include in this study is adults in the rural community in Vaniyamkulam Village, Palakkad district.

Sample size

The sample size of the present study consists of 60 individuals.

Sampling Technique

Sampling technique used in this study was non probability purposive sampling technique.

Sampling Criteria

Inclusion Criteria

- individuals whose age group above 30 years
- who are able to read and write Malayalam or English
- who are available during the time of study

Exclusion Criteria

- who were not interested to participate in this study

Method and Tool for Data Collection

Data collection for the study included

Tool 1: Semi structured questionnaire for assessing the demographic variables

The demographic variables used in this study are Age, Gender, Educational status, Occupation, Marital status, Dietary pattern, Family history of cancer.

Tool 2: Structured questionnaire for assessing knowledge

Questionnaire is used for assess the effectiveness of instructional module on challenges faced by people in rural community areas on cancer preventive measures. It consists of 20 multiple choices with 3 alternative responses. The level of knowledge is evaluated based on the cumulative score achieved (Table 2).

Tool 3: Checklist for collecting data for awareness of preventive aspects of cancer

Checklist consists of 15 dichotomous questions.

Data Collection Method

After obtaining the permission from institutional ethical committee review board, Vaniyamkulam panchayat and Principal of P.K. DAS College of Nursing, Vaniyamkulam, Palakkad. The study conducted from 60 individuals from rural community by non probability purposive sampling technique. The researcher introduced themselves and explained the study's objectives, ensuring participants understood and were willing to take part. Participants were assured that their identities and the information they shared would remain confidential, and written consent was obtained from each individual. The study involved the distribution of a demographic questionnaire, a knowledge questionnaire, and a checklist. After the administration of knowledge questionnaire was given instructional module on challenges faced by rural community people on cancer preventive measures among people.

Table 2. Scoring scale

Range	Grade
15-20	Good
10-14	Average
Less than 9	Poor

Table 3. Frequency and percentage distribution according to demographic variables

S.N.	Demographic variables	Frequency	Percentage (%)
1	***Age***		
	• 30-40	19	31.67%
	• 41-50	11	18.33%
	• 51-60	15	25%
	• Above 60	15	25%
2	***Sex***		
	• Male	17	28.3%
	• Female	43	71.7%
3	***Education***		
	• Illiterate	1	16%
	• Upper primary	12	20%
	• High school	29	48.3%
	• Higher secondary and above	18	30%
4	***Job***		
	• Govt job	5	8.33%
	• Private job	11	18.33%
	• Self empolyee	13	21.66%
	• Home maker	31	51.60%
5	***Diet***		
	• Vegitarian	8	13.33%
	• Non -vegitarian	50	83.33%
	• Vegan	2	3%
6	***History of Cancer***		
	• Yes	16	26.67%
	• No	44	73.33%
7	***Marriage***		
	• Single	4	6.66%
	• Married	56	93.33%
	• Divorced	0	0%
	• Seprated	0	0%

Inference

Table 3 reveals that demographic variable regarding age 19(31.67%) were 30 to 40 years old,11(18.33%) were 41 to 50 years old,15(25%) were 51-60 years old, 15(25%) were above 60. Demographic variable regarding sex 17(28.3%)were male,43(71.7%) were female. Demographic variable regarding education 1(16%) were illitrates,12(20%) were upper primary,29(48.3%) were high school,18(30%) were HSS and above. Demographic variable regarding job 5(8.33%) were govt. employees,11(18.33%) were private,13(21.66%) were self employee,31(51.60%) were home maker .demographic variable regarding diet 8(13.33%) were vegetarian,50(83.33%) were non vegetarian,2(3%) were mixed percentage of people regarding history of cancer 16(26.67%) were yes and 44(73.33%) were no history of cancer. and demographic variable regarding marriage 4(6.66%) were married,56(93.33%) were single (Figure 1).

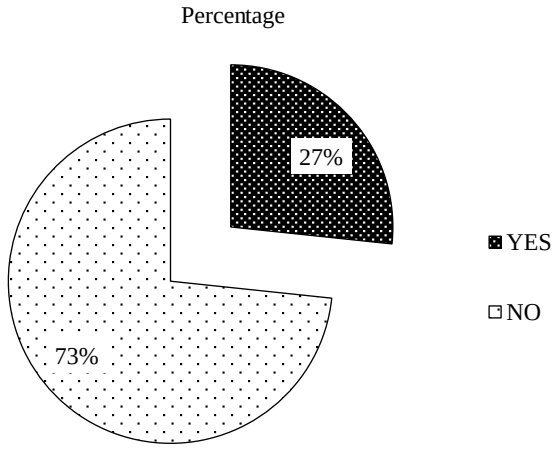

Figure 1. Diagram showing percentage distribution of age group of males and females according to history of cancer.

Inference

Table 4 reveals that the pre test knowledge level is 33.33% of respondents had poor knowledge and 66.6% of respondents had average knowledge regarding prevention of cancer post test knowledge level is 75% of respondents had average knowledge regrading prevention of cancer,25% of them had good knowledge regarding prevention of cancer (Figure 2).

Table 4. Frequency, percentage distribution of sample according to the knowledge regarding prevention of cancer amoung males and females.

S.N.	Level of knowledge	Pre test		Post test	
		Frequency	***Percentage (%)***	***Frequency***	***Percentage (%)***
1	Poor	20	33.33%	0	0%
2	Average	40	66.67%	15	25%
3	Good	0	0%	45	75%

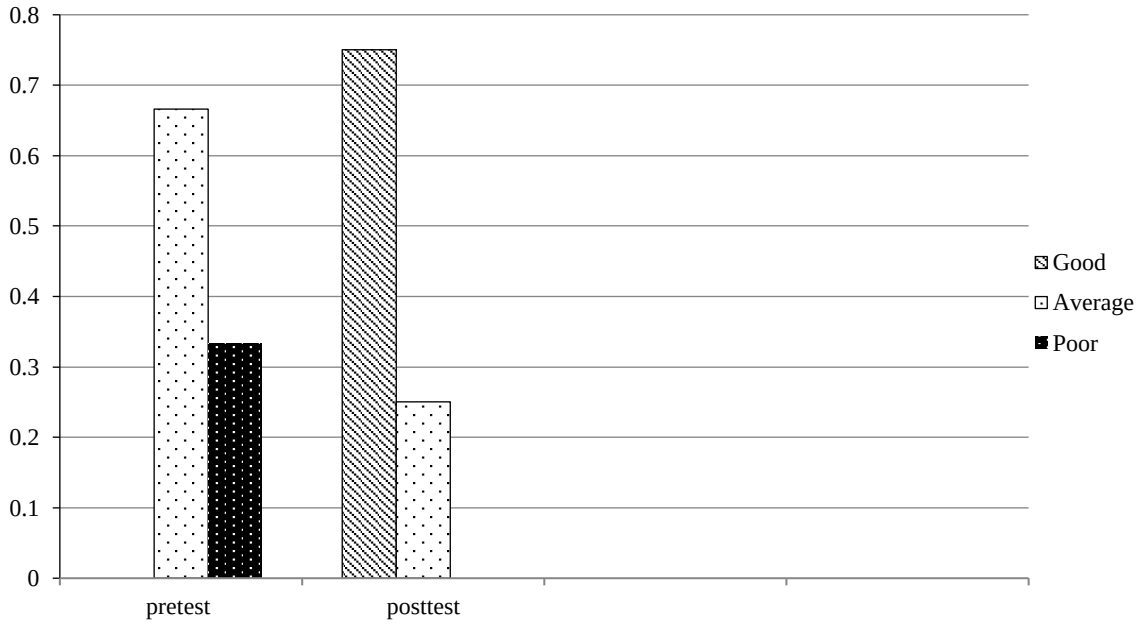

Figure 2. Diagram showing the percentage distribution of age group of males and females.

Table 5. Compare the knowledge regrading prevention of cancer among age groups of males and

females.

Demographic variables	Correlation Of Coefficient
Age	0.854
Sex	0.297
Education	3.0967
Job	1.335
Diet	0.051
History of cancer	0.738
Marrital status	0.0046

Inference

Table 5 Reveals that as a general finding, the calculated correlation coefficient is more than+0.5 and hence there is positive correlation between knowledge regarding prevention of cancer among the males and females.

RESULTS AND DISCUSSION

The results reveals that the pretest knowledge level is 33.33% of respondents had poor knowledge and 66.6% of respondents had average knowledge regarding prevention of cancer post test knowledge level is 75% of respondents had average knowledge regarding prevention of cancer, 25% of them had good knowledge regarding prevention of cancer and there is positive correlation between knowledge regarding prevention of cancer among the males and females. The study results showed that the community people's knowledge was enhanced by instructional module regarding preventive measures of cancer.

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