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Jitendra Kumar
M.Sc. Nursing, Department of Medical & Surgical Nursing, RD Memorial College of Nursing, Bhopal, Madhya Pradesh, India

N Vijaya Narayanan
Professor, Barkatullah University, RD Memorial College of Nursing, Bhopal, Madhya Pradesh, India

Corresponding Author:
Jitendra Kumar
M.Sc. Nursing, Department of Medical & Surgical Nursing, RD Memorial College of Nursing, Bhopal, Madhya Pradesh, India

A study to evaluate the effectiveness of structured teaching programme on knowledge regarding risk factors and prevention of lung cancer among smoker's (Adult) in selected rural community area in Jhalawar District (Rajasthan)

Jitendra Kumar and N Vijaya Narayanan

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Abstract
A study was conducted with the intention of assessing the knowledge of smoker's (adult) regarding causes, risk factors and prevention of lung Cancer related to smoking from a selected rural area in Rajasthan, Rajasthan. A review of related research, non-research literature and the expert's opinion helped the investigator to develop tools for knowledge assessment regarding causes, risk factors and prevention of lung Cancer related to smoking. The literature reviewed further enabled the investigator to develop conceptual framework, methodology of the study and plan for the data analysis. A sample of 60 smoker's (adult) was selected by simple random sampling method. For generating necessary data, the prevention of lung cancer knowledge inventory was developed which consisted of 36 multiple choice questions. The reliability of questionnaire was established by the test-retest method and was found to be 0.812. Maximum number of subjects was in the age group of >35 years (33%). 60% were males and 40% were female. 33% of the samples were in class matriculation and intermediate. While, 17% were primary and pre- matriculation students. Majority of the smoker's (adult) (97%) were Hindu by religion. Most of them (58%) belong to the family income of more than 15,000 per month and minimum smoker's (adult) (05%) belong to the family income of less than 5000 per month. Most of the smoker's (adult) (50%) belong to joint family and minimum smoker's (adult) (2%) belong to the separated family. About 30% of sample belong to the post graduate parents. While, just 12% smoker's (adult) belong to the parents educated up to 10th standard. Most of the smoker's (adult) i.e. 32 smoker's (adult) (53%) had some smoking member in the family. The association of smoker's age was discovered statistically significant [$X^2_3 = 8.72$ $p<0.05$] with knowledge levels about risk factors and prevention of lung cancer baseline stage.

Keywords: Structured teaching program, knowledge, risk factors and prevention of lung cancer

Introduction
The World Health organization considers tobacco the single most important cause of preventable deaths worldwide. But there is a widespread apathy about doing something to curtail its spread. In South-East Asia region, tobacco kills over 800,000 people every year. Moreover, this region is one of the main areas for tobacco cultivation and marketing of tobacco products.
"Tobacco kills one human being every ten seconds, it is neither fashionable nor smart. It is in fact, most unhealthy, harmful and not worth making habit" (Resource: WHO 2003).
According to WHO estimate, tobacco deaths will rise to 10 million per year. Keeping this scenario in mind, WHO involved its treaty making powers under article 19 of its constitution to negotiate the Framework Convention of Tobacco Control (FCTC) and possible related protocols in 1999.
Worldwide, between 80,000 and 100,000 kids start smoking *every day*. Approximately one quarter of children alive in the Western Pacific Region will die from smoking. The World Health Organization (WHO) has compiled worldwide smoking statistics for the year 2002. The smoking facts and stats presented are sobering. 28 May 2002.

Need for study

Tobacco-related lung cancer s fact sheet

- Lung Cancer is the leading cause of lung Cancer death in the United States for both men and women. (Source: Lung Cancer Facts & Figures 2011).
- Lung Cancer is the most preventable form of lung Cancer death in our society. (Source: Lung Cancer Facts and Figures 2011).
- Lung Cancer estimates for 2011 (Source: Lung Cancer Facts & Figures 2011).

Category	New cases of lung cancer	Deaths from lung cancer
Male	115,060	85,600
female	106,070	71,340

- Besides lung Cancer, tobacco use also causes increased risk for Lung Cancer s of the mouth, lips, nasal cavity (nose) and sinuses, larynx (voice box), pharynx (throat), esophagus (swallowing tube), stomach, pancreas, kidney, bladder, uterine cervix, and acute myeloid leukemia. (Source: Lung Cancer Facts & Figures 2011).
- In the United States, tobacco use is responsible for nearly 1 in 5 deaths; this equaled about 443,000 early deaths each year from 2000 to 2004. (Source: Lung Cancer Facts & Figures 2011).
- Tobacco use accounts for at least 30% of all lung Cancer deaths and 87% of lung Cancer deaths. (Source: Lung Cancer Facts & Figures 2011).
- Smokeless tobacco products are a major source of Lung Cancer -causing nitrosamines and a known cause of human Lung Cancer. They increase the risk of developing lung cancer of the mouth and throat, esophagus (swallowing tube), and pancreas. (Source: Lung Cancer Prevention & Early Detection Facts and Figures 2010).
- Smokeless tobacco products are less lethal, but are not a safer alternative to smoking. Using smokeless tobacco can lead to nicotine addiction and dependence. Use of tobacco in any form harms health. (Source: Lung Cancer Prevention & Early Detection Facts and Figures
- 2010).
- Between 2000 and 2004, smoking caused more than $193 billion in annual health-related costs in the United States, including smoking-attributable medical costs and productivity losses. (Source: Lung Cancer Facts and Figures 2011).

The primary health care approach emphasizes the need for each individual to take a responsibility for his or her own health, and the health of the family members within the frame work of active community participation. It is revealed that health education has a tremendous influence on the knowledge and participation of the people or the community. The investigator felt interested to assess the knowledge among smoker's (adult) about smoking habits and how it causes Lung Cancer. Knowledge about the disease and its prevention can make them to stop smoking or indulging in the habit of smoking. The investigator could not locate any study conducted in Rajasthan State on Lung Cancer related to smoking especially among smoker's (adult). So, the investigator decided to conduct research on the above mentioned topic.

Prevention is better than cure. It is better to educate smoker's (adult) regarding causes, risk factors and prevention and causes of lung Cancer related to smoking in order to prevent the disease. This demands the need for study in this field. The informational booklets as an educative material were found effective in increasing the knowledge as studied by Neet (1995) and Vandana (1994) [10, 11].

Objective of the study

- Assess the knowledge of smoker's (adult) about the causes, risk factors and prevention of Lung Cancer related to smoking.
- To evaluate the effectiveness of STP on knowledge of smoker's (adult) about the causes, risk factors and prevention of lung cancer related to smoking.
- To find the association between pretest knowledge of smoker's (adult) regarding causes of lung Cancer and its relation with the selected demographic variables.

Assumption

1. Lung cancer is the most common cancer among people aged between 35 to 50.
2. Knowledge of the people will have a strong influence on the adoption of healthy practices.

Methodology

The research design adopted for this study was pre-experimental one group pre-test and post-test design A sample of 60 smoker's (adult) was selected by simple random sampling method. The steps involved in development of tool were preparation of blue print, construction of item, testing, validity, reliability including pilot study and preparation of the final copy of the instrument. For generating necessary data, the prevention of lung cancer knowledge inventory was developed which consisted of 30 multiple choice questions. The reliability of questionnaire was established by the test-retest method and was found to be 0.812. The data collected were then analysed using descriptive or inferential statistics and interpreted in terms of objectives of the study.

Analysis and Interpretation

Section-I

Table 1: Frequency and percentage distribution of samples according to their demographic variables, N=60

S. No.	Sample Characteristics	Frequency	Percentage
1.	**Age**		
	18-20 years	05	08
	21-25 years	16	27
	26-30 years	19	32
	>35 years	20	33
2.	**Gender** Male Female	 36 24	 60 40
3.	**Religion**		
	Hindu	58	97
	Muslim	02	03
	Christian	-	-

	Any Others	-	-
4.	**Educational Status**		
	Primary	10	17
	Pre-Metriculation	10	17
	Metriculation	20	33
	Intermediate	20	33
5.	**Family income**		
	Upto 5000/-	03 22	05
	5000-10000/-	10 111111	17
	10000-15000/-	12	20
	More than 15000/-	35	58
6.	**Type of family** Joint Nuclear Extended Separated	 30 18 11 01	 50 30 18 02
7.	**Educational qualification of parents** upto 10th 10+2 Graduate Post Graduate Post Graduate	 07 16 15 22	 12 27 25 30
8.	**Anybody in the family smoke?** Yes No Sometimes	 32 24 04	 53 40 07

Section II

Table 2: Frequency and percentage distribution of pre-test scores of studied subjects

Category and test Score	Frequency (N=60)	Frequency Percentage (%)
Inadequate (01-10)	50	83.3
Moderate (11-20)	10	16.7
Adequate (21-30)	0	0.0
Total	60	100.0

The present Table 2.1.1 concerned with the existing knowledge regarding risk factors and prevention of lung cancer among was shown by pre-test score and it is observed that most of the smoker's (adult) 50 (83.3%) were inadequate (01-10) knowledge and some smoker's (adult) have 10 (16.7%) moderate categories.

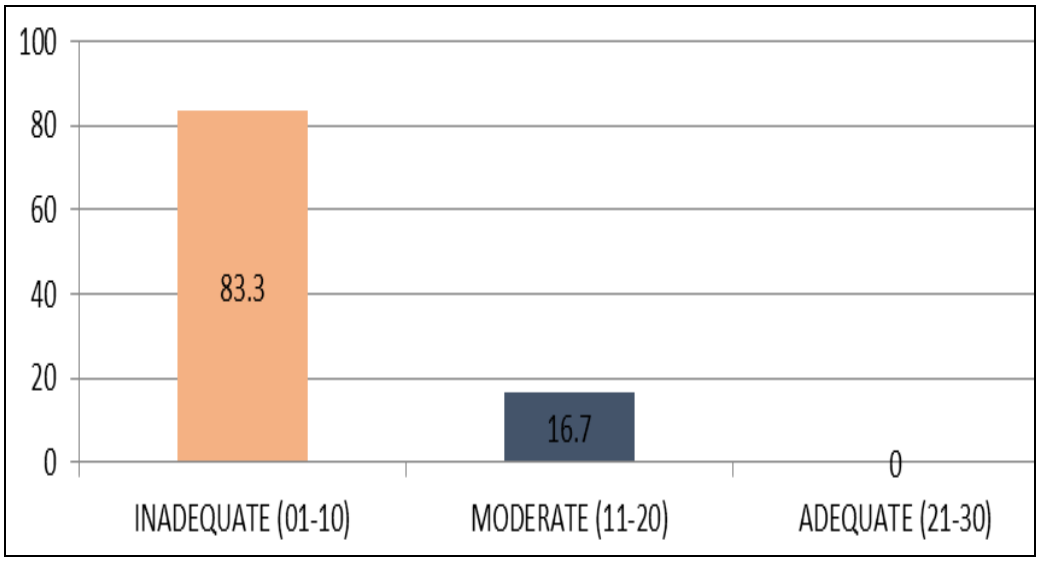

Fig 1: Frequency and percentage distribution of Pre-test scores of studied subjects

Table 3: Mean ($\bar{X}$) and standard deviation (s) of knowledge scores

Knowledge pre-test	Mean ($\bar{X}$)	STD Dev (S)
Pre-test score	10.13	2.94

The information regarding mean, percentage of mean and standard deviation of test scores in shown in Table 2.1.2 knowledge in mean pre-test score was 10.13±2.94 while in knowledge regarding risk factors and prevention of lung cancer among smoker's (adult) in selected rural community area of Jhalawar.

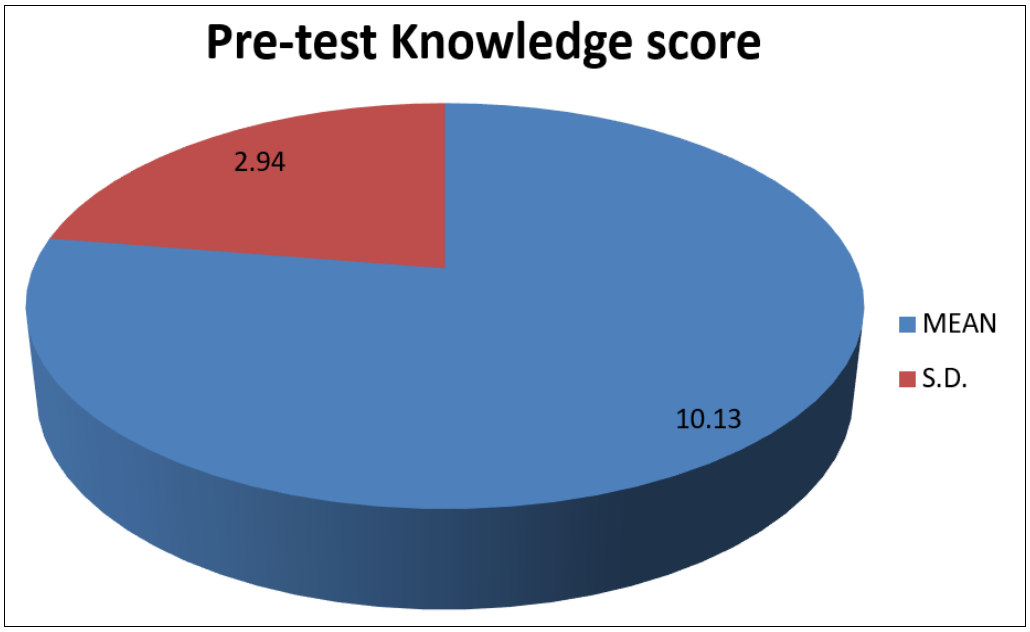

Fig 2: Mean ($\bar{X}$) and standard deviation (s) of knowledge scores

Table 4: Frequency and percentage distribution of post test scores of studied subjects

Category and post-test score	Frequency (N=60)	Frequency Percentage (%)
Inadequate (01-10)	0	0.0
Moderate (11-20)	14	23.3
Adequate (21-30)	46	76.7
Total	60	100%

The present Table 2.2.1 concerned with the existing knowledge regarding risk factors and prevention of lung cancer among smoker's (adult) was shown by post test score and it is observed that most of the smoker's (adult) 46 (76.7%) were adequate (21-30) knowledge and other smoker's (adult) have 14 (23.3%) category which are moderate (11-20) posttest knowledge score in the present study.

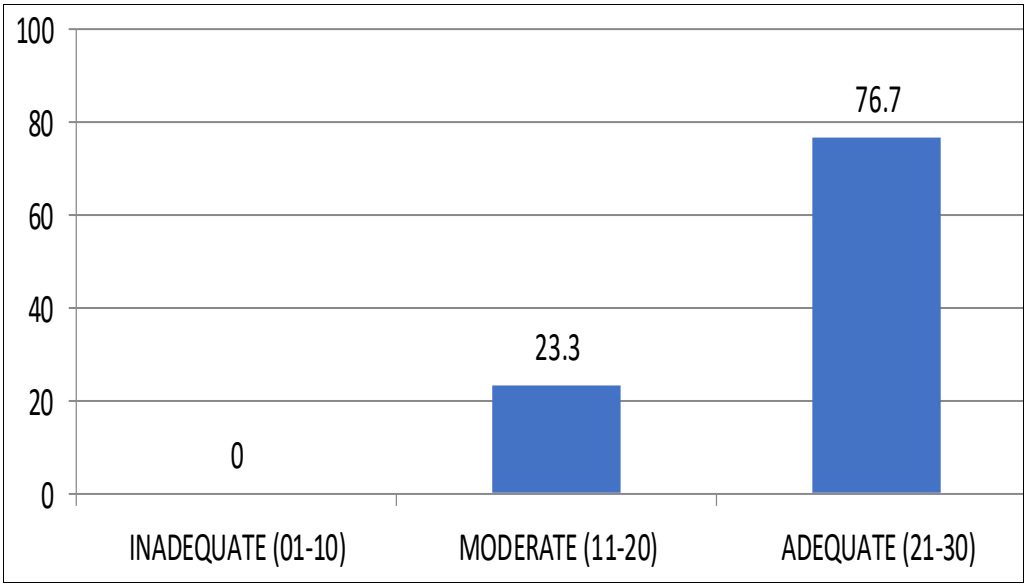

Fig 3: Frequency and percentage distribution of post-test scores of studied subjects

Table 5: Mean ($\bar{X}$) and standard deviation (s) of knowledge scores

Knowledge Test	Mean ($\bar{X}$)	STD Dev (S)
Post-test score	20.80	2.96

The information regarding mean, percentage of mean and standard deviation of post test scores in shown in Table 2.2.2 knowledge in mean post test score was 20.80±2.96 while in knowledge regarding risk factors and prevention of lung cancer among smoker's (adult) in selected rural community area of Jhalawar.

Hence, it is confirmed from the Tables of section-II that there is a significant difference in mean of test scores which partially fulfill the first second objective of the present study.

Table 6: Effectiveness of awareness package by calculating Mean, SD, Mean Difference and t-value of pre-test and post-test knowledge

Knowledge score of smoker's (adult)	Mean ($\bar{X}$)	SD (s)	Std. Error of Mean	DF	T-Value	Significance
Pre-test	10.13	2.94	0.08	59	-21.18	p<0.05
Post-test	20.80	2.96				

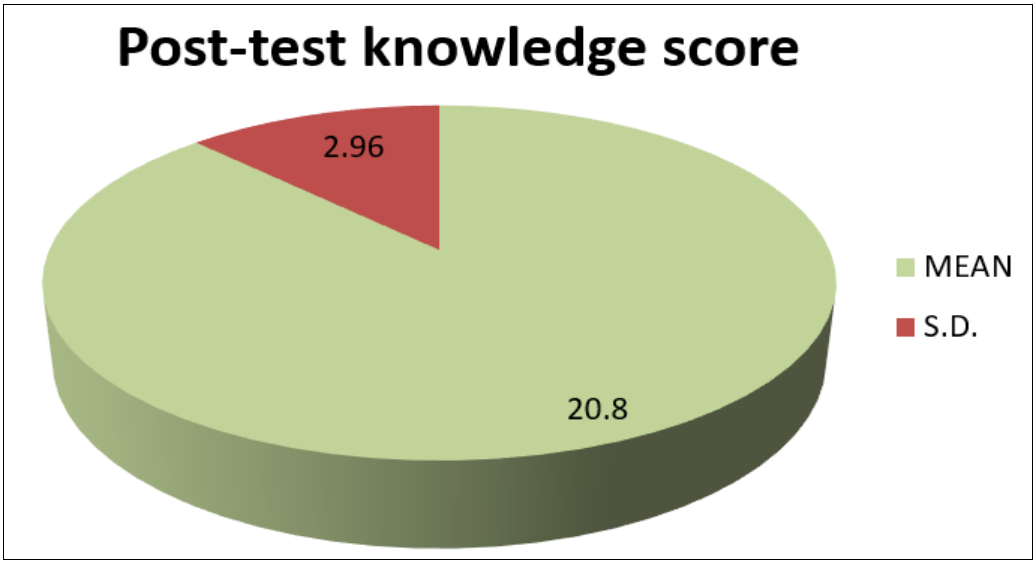

Fig 4: Mean ($\bar{X}$) and standard deviation (s) of knowledge scores

When the mean and SD of pre-test and post-test were compared and t-test was applied. It can be clearly seen that the t-value was -21.18 and p value was 0.05 which clearly show that structured teaching program was very effective in increasing the knowledge of smoker's (adult).

Section-III The association of knowledge of smoker's regarding risk factors and prevention of lung cancer before administration with selected demographic variables pretest

1. The association of smoker's age was discovered statistically significant [X^2_3 = *8.72* p<0.05] with knowledge levels about risk factors and prevention of lung cancer baseline stage.
2. The association of smoker's gender was statistically insignificant [X^2_1 = *0.50* and p>0.05] with knowledge levels of mothers about risk factors and prevention of lung cancer at baseline stage.
3. The association of smoker's religion with knowledge levels related to risk factors and prevention of lung cancer was statistically insignificant [X^2_1 = *0.41 and* p>0.05].
4. The association of smoker's education wasn't statistically significant discovered [X^2_3 = *7.44 and* p>0.05] with knowledge level regarding risk factors and prevention of lung cancer at before administrational stage.
5. The association of smoker's family monthly income wasn't statistically significant [X^2_3 = *1.20;* p>0.05] with knowledge level risk factors and prevention of lung cancer at baseline stage.
6. The association of smoker's types of family was statistically not significant [X^2_3 = *3.02;* p>0.05] with levels of knowledge about risk factors and prevention of lung cancer.
7. The associations of smoker's education of parents with knowledge levels regarding risk factors and prevention of lung cancer at baseline stage couldn't verify as significant statistically [X^2_3= *1.45;* p>0.05].
8. The association of smoker's anybody in family smoke with knowledge levels about risk factors and prevention of lung cancer was constant [X^2_2= *2.40;* p>0.05].

Results

In the pre-test he information regarding mean, percentage of mean and standard deviation of test scores in shown in Table 2.1.2 knowledge in mean pre-test score was 10.13±2.94. In the post-test mean and standard deviation of post test scores in shown in Table 2.2.2 knowledge in mean post-test score was 20.80±2.96 while in knowledge regarding risk factors and prevention of lung cancer among smoker's (adult) in selected rural community area of Jhalawar.

Conclusion

The overall findings showed that the smoker's (adult) in general had adequate knowledge regarding immunization. Thus, conclude the investigator has achieved the objectives for assessing knowledge regarding risk factors and prevention of lung cancer.

Limitations

- The study was conducted to only one group of 60 smoker's (adult).
- The study was conducted in selected rural area of Jhalawar.

Conflict of Interest

Not available

Financial Support

Not available

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