

Cogency of Structured Teaching Program on Lung Cancer Proficiency

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Abstract: Lung cancer is the leading killer disease among men and women. It has been the most common cancer in the World for several decades, and in 2008, there was an estimated 1.61 million cases representing 12.7% of all new cases. The present study was aimed to assess the cogency regarding lung cancer among the smokers in a selected rural area, Tirunelveli District. A quantitative approach with experimental research design was used for this study. The study was conducted at a selected rural area in Tirunelveli District with 20 samples in the study and control groups using simple random sampling technique. Structured teaching programme on lung cancer was provided for the participants in the study group with flash cards. A structured interview schedule was used to assess the cogency regarding lung cancer and was graded as adequate and inadequate cogency. The findings of the study states that during pretest 85% of the smokers in the study group and 90% of the smokers in the control group had inadequate cogency. In posttest 95% of smokers in the study group and 30% of the smokers in the control group had adequate cogency. Structured teaching programme on lung cancer among smokers was found to be an efficient method to motivate to quit smoking and which in - turn reduces the incidence of lung cancer in the society.

Keywords: lung cancer, cogency, smokers, structured teaching programme

1. Introduction

Health is a state of complete physical, mental, social and spiritual well being and not merely an absence of disease or infirmity. Health is a common theme in most cultures. Among definitions still used probably the oldest is that health is "absence of disease". In some cultures health and harmony are considered equivalent, harmony being defined as "being at peace with self, the community, god and cosmos". Any disturbances in the harmony of health may lead to disease may affect the physical, psychological and social functioning of an individual. Physical problems may be acute and chronic. Cancer is one of the physical problems encountered by people in today's society.

Cancer develops following genetic damage to DNA. These changes affect the normal functioning of the cell including cell proliferation, programmed cell death (apoptosis) and DNA repair. As more damage accumulates the risk of cancer increases (Brown, 2013). According to World Health Organization (2014), if cancer grows in the airway means it obstructs airflow, causing breathing difficulties. The obstruction can lead to accumulation of secretion behind the blockage and predispose to pneumonia. In 2012 there were 1.82 million new cases globally and 1.56 million deaths due to lung cancer representing 19.4% of all death Page 2 of 3 from cancer. According to World Cancer Report 2014, the highest rates are in North America, Europe and East Asia with over a third of new cases in 2012 in China. Rates in Africa and South Asia are much lower.

Cancer occurs at any site (or) tissue of the body and may involve any type of cells. Cancer afflicts all communities world wide, approximately 12.7 million people are diagnosed with cancer and more than 7.6 million died of the disease during 2008, of these 56 percent of new cases and 63 percent of deaths occurred in developing countries (World fact sheet, 2010). Lung cancer is one of the leading cause of cancer death among men and women. It has been the most common cancer in the world for several decades, and by 2008, there were an estimated 1.61 million cases representing 12.7% of all new cases (Globocan, 2008). For

the age of 20 years or more smoking is a prime risk factor. Other risk factors include exposure to certain industrial substances such as arsenic, specific organic chemicals, radon, asbestos and particularly in those who smoke. Asbestos workers who smoke are estimated to have a 6 to 10 times greater incidence of lung cancer than the general population. Some evidence also suggests a genetic predisposition to lung cancer. There are marked variations in a person's propensity to develop lung cancer. To date no genetic abnormality has conclusively been identified for lung cancer. It is known that the carcinogens in cigarette smoke directly damage DNA. A theory states that every individual have different genetic carcinogen - metabolizing pathways. The pathogenesis of primary lung cancer is not well understood. Lung cancer is thought to arise from bronchial epithelial cells (bronchogenic). These cells grow slowly and it takes 8 to 10 years for a tumor to reach 1cm in size which is the smallest lesion detectable on an X - ray. Lung cancers occur primarily in the segmental bronchi or beyond and have a preference for the upper lobes of the lungs. Pathologic changes in the bronchial system show nonspecific inflammatory changes with hyper secretion of mucus, desquamation of cells, and metaplasia of normal respiratory epithelium to stratified squamous cells. The common metastatic sites of cancer are liver, brain, bones, scalene, lymph nodes and adrenal glands. The clinical features of lung cancer are usually not specific and appear late in the disease process. It depends upon the type of primary lung cancer, its location and metastatic spread. Persistent pneumonitis that is a result of obstructed bronchi may be one of the earliest manifestations, causing fever, chills, and cough. One of the most common symptoms and often the one reported first is a persistent cough that may be productive of sputum. The common symptoms such as hemoptysis, chest pain, dyspnea and auscultatory wheeze may be present if there is bronchial obstruction, whereas late manifestation include non - specific systemic systems such as anorexia, fatigue, weight loss and nausea & vomiting. Other symptoms like hoarseness of voice, dysphagia, pericardial effusion, cardiac tamponade and dysrhythmias may also be present. Chest X - ray may initially taken to identify a lung mass or infiltrate. The findings of lung

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cancer can be confirmed through positron emission tomography (PET), sputum cytology, biopsy, mediastinoscopy, video assisted thoracoscopy, CT Scan, MRI and thoracentesis. Surgical intervention, radiation, and chemotherapy forms the mode of treatment for lung cancer. Although treatment may improve prognosis and prolong survival, its largely palliative because it generally does not start until an advanced disease stage. Chemotherapy may be used in the treatment of nonresectable tumors or as adjuvant therapy in non-small cell lung cancer (NSCLC). A variety of chemotherapy drugs and multidrug regimens including combination chemotherapy, have been used. These drugs include etoposide, carboplatin, cisplatin, paclitaxel, vinorelbine, cyclophosphamide, ifosfamide, docetaxel, gemcitabine, topotecan. The best way to halt the epidemic of lung cancer is for people to stop smoking. Important nursing activities to assist in the progress toward this goal include promoting smoking cessation programs and actively supporting education and policy changes related to smoking. A combination of behavior techniques and nicotine replacement products is the most effective strategy to help smokers quit. Motivation of health care professionals on smoking cessation can be a powerful force. Hence the research was focused to assess the Cogency of structured teaching program on lung cancer proficiency among smokers at a selected rural area.

Research approach: Evaluative approach with True experimental research design was taken as it is appropriate to accomplish the objectives. The study was conducted among smokers in Kurippankulam village of Tirunelveli district. Most of the people belonged to Hindu religion and the major occupation was agriculture and beedi rolling.

Population: Population comprised of male residing in Kurippankulam village in Tirunelveli district.

Sample: The sample for present study comprise of male in the age group of 20 to 60 years and smoking beedi, cigarette or pipe in Kurippankulam village. A total of 40 males were selected for the study and 20 in the study group and 20 in the control group using simple random sampling technique, lottery method.

Informed consent

Explained the complete detail of the study to the participants and obtained informed consent. Confidentiality was maintained throughout the study.

Data collection Tool

Section A: Demographic variables which includes name, age, religion, occupation, education, type of family, monthly income, marital status

Section B: Variables related to smoking includes number of cigarette per day, place of smoking, any family history of smoking, duration, family involvement in tobacco work, form of tobacco smoked and factor influencing smoking.

Section C: consists of the structured cogency questionnaire on lung cancer that was developed by the investigators. It consisted of 16 multiple choice questions related to lung cancer.

Teaching Program

The structured flash card assisted teaching program was prepared by the investigator. Flash cards were prepared based on definition, causes, types, signs and symptoms, treatment, complications and preventive aspects of lung cancer. The contents in the flash cards were put in a story form with coloured illustration which was described by the investigator. The teaching program lasted for 30 minutes.

Data collection procedure

Phase 1: The samples were selected using random sampling, lottery method for each group. Proper explanation was given about the teaching program to both groups and an oral informed consent was obtained. Demographic variables, smoking history and pretest on cogency about lung cancer were obtained with the help of structured interview schedule for both groups.

Phase 2: The 20 participants in study group were split into five subgroups of each consisting of five men. Privacy and noise free environment was selected and then they were made to sit comfortably on benches. Then flash card teaching program on lung cancer was given using flash cards to smokers. Each session of teaching program lasted for 30 minutes. At the end of the teaching the investigator clarified the doubts. Teaching program for control group was provided after the posttest.

Phase 3: Posttest was conducted.

2. Findings of the Study

Table 1: Frequency and percentage distribution of background variables among smokers in the study and control group, (N=40)

Background variables	Study Group (n=20)		Control Group (n=20)	
	Frequency	Percentage	Frequency	Percentage
1. Religion				
a) Hindu	18	90	17	85
b) Christian	2	10	3	15
2. Occupation				
a) unemployed	1	5	2	10
b) skilled	15	75	10	50
c) unskilled	4	20	8	40
3. Education				
a) No formal education	9	45	7	35
b) Primary education	9	45	10	50

c) Secondary education	2	10	2	10
d) Collegiate	0	0	1	5
4. Type of family				
a) Nuclear family	12	60	10	50
b) Joint family	8	40	10	50
5. Monthly income (Rs)				
a) Below 3000	8	40	15	75
b) 3001 - 6000	8	40	4	20
c) 6001 - 9000	3	15	1	5
d) Above 9000	1	5	0	0
6. Marital status				
a) Married	18	90	16	80
b) Unmarried	1	5	2	10
c) Widower	1	5	2	10
7. Number of cigarettes smoked per day				
a) 0 - 10	6	30	7	30
b) 11 - 20	10	50	10	35
c) 21 - 30	3	5	2	10
d) 31 & above	1	5	1	5
8. Place of smoking				
a) Indoor	6	30	4	20
b) Outdoor	14	70	16	80
9. Any family history of smoking				
a) Yes	15	75	16	80
b) No	5	25	4	20
10. Duration (years)				
a) <3	1	5	2	10
b) 3	2	10	0	0
c) 5	2	10	0	0
d) >5	15	75	18	90
11. Family involvement of tobacco work				
a) Yes	4	20	4	20
b) No	16	80	16	80

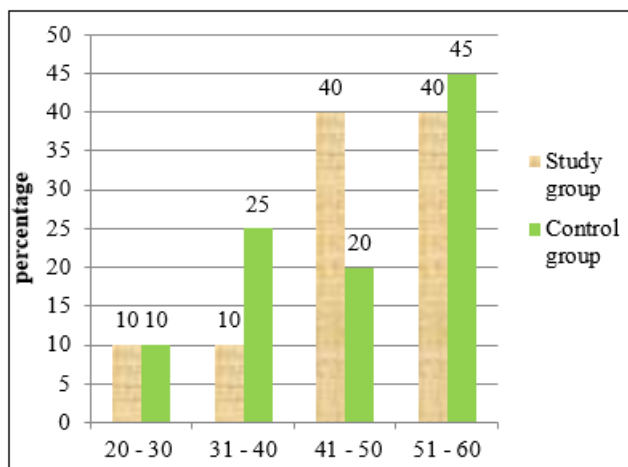


Figure 1: Percentage distribution of the age of smokers in years

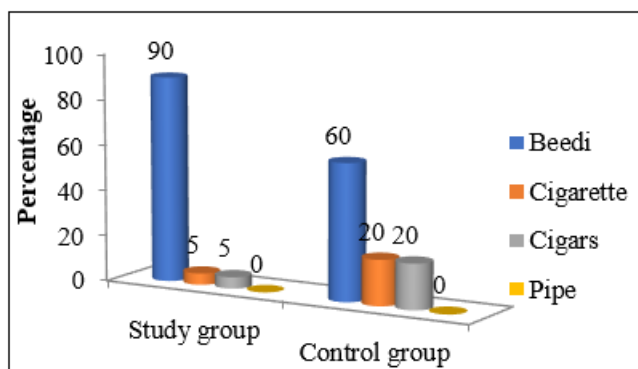


Figure 2: Percentage distribution of the form of tobacco smoked

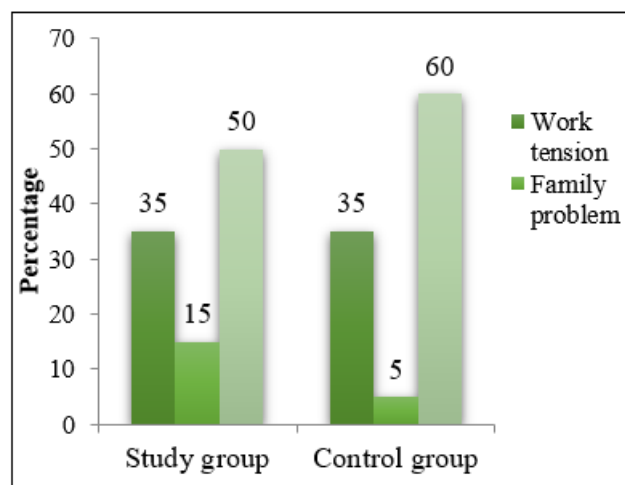


Figure 3: Percentage distribution of factor influencing smoking

Table 1 show that in the study group 40% (8) of the smokers were in the age group up of 41 - 50 years and 51 - 60yrs. In the control group 45% (9) of the smokers were in the age group of 51 - 60yrs and 25% (4) of the smokers were in the age group of 31 - 40yrs. Considering the religion 90% (18) of the smokers belong to Hindu religion in study group and 85% (17) of the smokers belong to Hindu religion in control

group. Regarding the occupation, majority of the smokers were skilled worker in the study group 75% and 50% were in the control group.

Regarding the educational qualification of the smokers, 45% (9) were not educated formally and 40% (9) were educated upto primary education, in study group. 50% (10) were educated upto primary education in control group. In relation to the type of the family 60% (12) of the smokers in study group and 50% (10) in control group were from the nuclear family. 40% (8) of the smokers have the per capita monthly income below Rs3000 and Rs3000 - 6000 in study

group. In the control group 75% (15) of the smokers have below Rs3000 monthly income.

In relation to the number of cigarettes smoked per day, 50% (10) and 35% (7) of the smokers in study group and control group respectively smoked more than 11 cigarettes and majority of them smoked outdoor. Majority of the smokers, 75% (15) in the study group and 90% (18) in the control group have the habit of smoking for more than five years. Most of the smokers, 50% (10) in the study group and 60% (12) in the control group smoke due to peer group pressure.

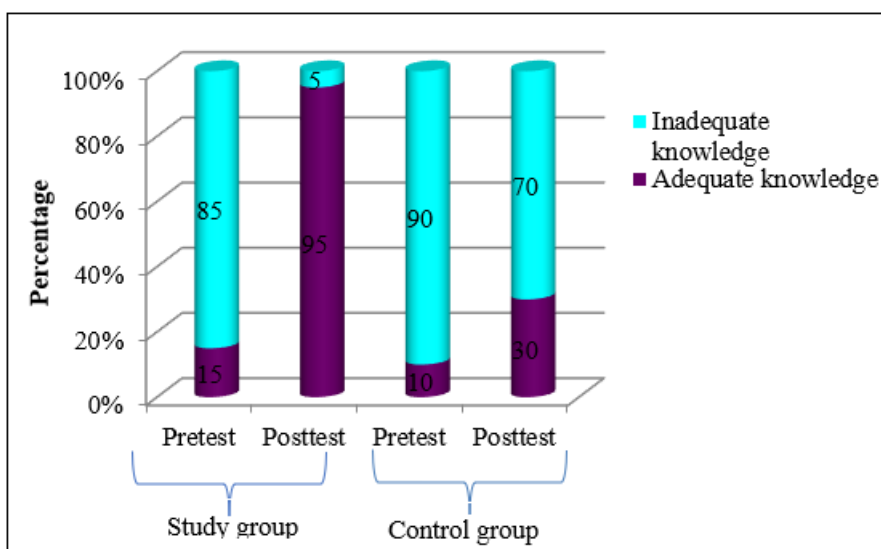


Figure 4: Percentage distribution of the level of knowledge

Figure 4 shows that during the pretest 85% (17) of the smokers in the study group and 90% (18) of the smokers in the control group had inadequate cogency. During the

posttest 95% (19) of the smokers in the study group and 30% (6) of the smokers in the control group had adequate cogency in both groups.

Table 2: Mean difference, Standard Deviation, Paired t value and p value of the level of cogency among the smokers in the study and control groups. (N=40)

Group	Pretest		Posttest		Mean difference	Paired "t" & p value
	Mean	Standard deviation	Mean	Standard deviation		
Study group (n=20)	3.9	2.19	6.85	5.78	6.85	10.346*** 0.0001
Control group (n=20)	4.1	3.41	5.25	2.55	1.15	1.650 0.115

***p<.001 level of significant

Table 2 shows that in the study group, there was a highly significant difference in the mean score of cogency between the pretest and posttest.

Table 3: Mean, Standard Deviation, independent t value and p value of cogency among the smokers in the study and control groups during pretest and posttest (N=40)

Level of cogency	Study Group (n=20)		Control Group (n=20)		Independent 't' value and p value
	Mean	Standard deviation	Mean	Standard deviation	
Pretest	3.9	2.19	4.1	3.41	0.141 0.888
Posttest	6.85	5.78	5.25	2.55	6.055*** 0.0001

***p<.001 level of significance

Table 2 depicts that there was highly significant difference in the mean score of cogency between the study and the control group during posttest.

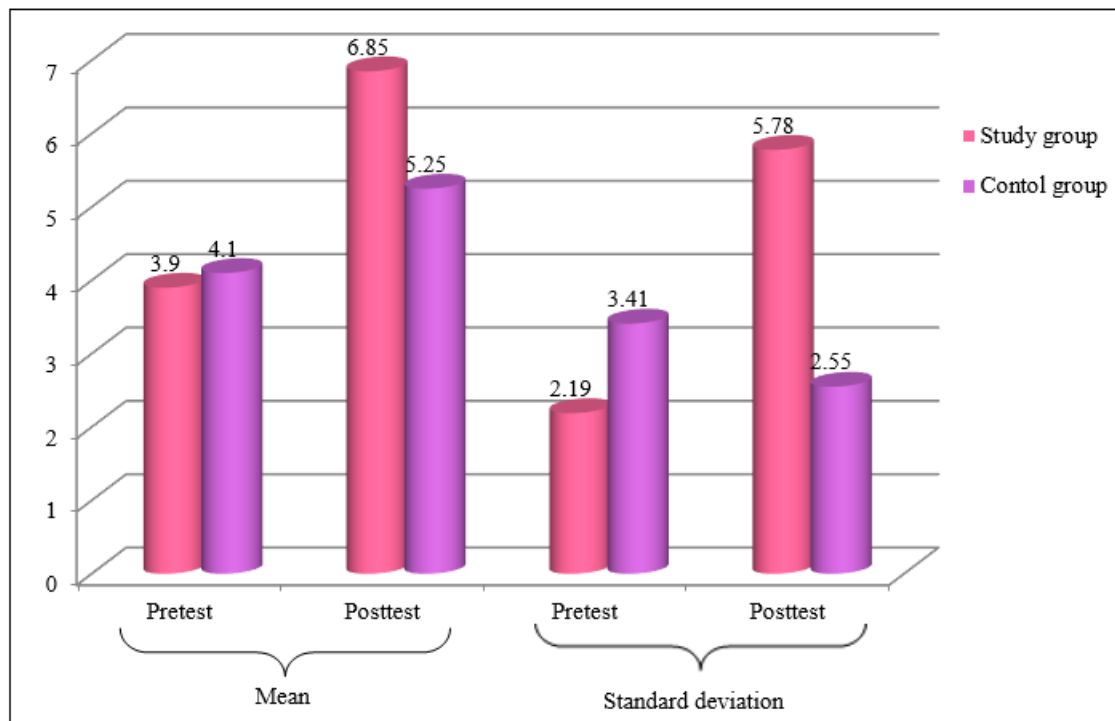


Figure 5: Distribution of mean and standard deviation during pretest and posttest in the study and control groups.

3. Summary and Conclusion of the Study

The analyzes of level of cogency regarding lung cancer among smokers revealed that during the pretest 85% (17) of the smokers in the study group and 90% (18) of the smokers in the control group had inadequate cogency. During the posttest 95% (19) of the smokers in the study group and 30% (6) of the smokers in the control group had adequate cogency in both groups.

The result was supported by the study conducted in Karachi, to determine the proportion people consuming tobacco in various forms, level of cogency and practice regarding various harmful effects of tobacco and passive smoking. Cross sectional study was conducted Ghulam Mohammad Jokhio Goth, a small semi urban community, through a semi structured pretest questionnaire from to August 2005. The study concluded that high proportion of people including men and woman consume tobacco. Most of them were unaware about hazards of smoking. The second objective was to evaluate the effectiveness of structured teaching programme on cogency regarding lung cancer. In the present study, there was a highly significant difference in the mean score of cogency between the pretest and posttest cogency scores in the study group only (Table 3) at $p < 0.0001$ level. There was highly significant difference in the mean scores of cogency between the study and the control group during posttest at $p < 0.0001$ level which evaluates the effectiveness of structured teaching programme on cogency regarding lung cancer.

The present results were similar to the results of Brijesh Kumar, Ratna Prakash, Kamli Prakash and Muthuvenkatachallam (2013). The aim of the study was to assess the effectiveness of an awareness program about the harmful effects of tobacco and alcohol on cogency and self reported practice of adolescent students, so as to initiate a preventive action against the menace of tobacco and alcohol

addiction. The study concluded that the awareness program resulted in significant improvement of cogency about harmful effects of tobacco and alcohol use.

Hence the corresponding hypothesis “there will be significant increase in level of cogency regarding lung cancer among smokers who receive structured teaching programme than those who do not” was accepted. In the present study there was no significant association between the background variables and the level of cogency in the study and the control groups during pretest and posttest.

This study was to assess cogency on lung cancer among men in a selected village at Tirunelveli district. The result of experimental group revealed that majority of the smokers had inadequate cogency on lung cancer during pretest. The structured teaching programme on lung cancer enhanced the cogency on lung cancer among the participants than those who did not. The findings of the study are consistent with the literature and have support from the studies conducted in India and in the world. Based on the method of sample selection and support from many studies conducted throughout the world, the findings may be generalized to the smokers. Hence the present study concludes that structured teaching program is one of the best methods to increase cogency on prevention of lung cancer in the society.

Nurses working in the community setting should be instrumental in imparting cogency on lung cancer to the general public. Health information is crucial to healthy behaviour and results in change in the cogency and practice leading to healthy lifestyle. The nurse should assess the cogency of men regarding the complications of smoking. The nurse should explain the hazards of smoking. Community Health Nurses are often viewed as link between the community and the health care system. Being in this pivotal position they could make difference by providing

suggestion to other health personnel on primordial prevention.

More researches to establish effectiveness of structured teaching programme for early detection of lung cancer and control the lung cancer. The nurse researchers have to realize the real need for research to be conducted on creating brainstorming to prevent lung cancer. Clinical trials have to be done on mass population of which will be an eye opener for all. By conducting researches we can stress out the effectiveness of various innovative teaching methods in different settings.

4. Recommendation

Based on the findings of this study the following suggestions are carried out.

- Replication of this study can be conducted with large samples.
- The same study can be conducted as comparative study between the urban and rural men.
- A similar study can be conducted with a comparison of other innovative and traditional teaching methods.
- A study can be conducted to assess the motivation on quitting smoking.

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