ORIGINAL RESEARCH PAPER

THE IMPACT OF AN AWARENESS PROGRAMME FOR LUNG CANCER IN FIRST YEAR MEDICAL STUDENTS.

Anatomy

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ABSTRACT

Lung cancer remains a serious reason behind morbidity and mortality worldwide, accounting for deaths in addition to other causes. Lung cancer-related deaths jumped from 14 million in 2012 to 22 million over the next decade. Among all cancers, lung cancer has the highest occurrence rate in the world. This study aims to understand and assess the extent of awareness of lung cancer and to evaluate the impact of lung cancer awareness programme in first year medical students.

Awareness of Lung Cancer in Medical Students

Health education is one important activity that is commonly undertaken to promote health. It is the dissemination of knowledge that allows people to make well-informed health decisions. McKenzie and others (2009) define health education as a career that educates people about their health. Health education programmes include health campaign awareness, mass media, seminars, workshops, school health education programme among other programmes. Lung cancer remains a serious reason behind morbidity and mortality worldwide, accounting for deaths in addition to other causes. Lung cancer-related deaths jumped from 14 million in 2012 to 22 million over the next decade. Among all cancers, lung cancer has the highest occurrence rate in the world (Sung, 2021). Healthy dietary practices and applicable changes in lifestyle will help to reduce lung cancer related mortality and morbidity from a good proportion of population (Jemal A & et al, 2011). In developing countries such as India and neighbouring countries of the Asia region, the 5-year survival for lung cancer is approximately only 9% (Ou SH & et al, 2009). Of particular concern for the future is the recent rise of cigarette consumption in the Asian countries, where 65% of men initiate smoking by their mid-20s, presaging an epidemic of lung cancer in the next few decades (Brown KF & et al, 2018).

Even though the incidences of lung cancer are increasing nowadays, awareness about symptoms, early diagnosis and screening test as well as attitude towards non-consumption of tobacco is very poor. The importance of cancer awareness has also been emphasized as a means of ensuring behaviour that facilitates early detection and the absence of cancer awareness has been seen as a detriment to this.

This observational study was conducted to assess the extent of awareness and to evaluate the impact of awareness programmes (health education) for lung cancer in first year medical students.

METHOD

Participants

Participants were the first-year undergraduate medical students (n=180), including both males (n=106) and females (n=74). The participants were informed about the study and participated voluntarily.

Materials

Peer reviewed pre-test and post-test questionnaires were provided to the participants. The questionnaire consisted of 7 questions designed to assess the awareness of lung cancer among the students.

Procedure

Under Pink chain campaign, awareness programme (health education) was conducted during November month of 2019. Questionnaires were provided to the participants before and after the intervention.

Methodology

The study was carried out by means of questionnaire and educational intervention. A cancer awareness workshop was conducted in the medical institution under pink chain consisting of 180 students of first year MBBS. The educational session was of 60 minutes in length and carried out after clearance from the Institutional Ethics Committee. Main focus was given to normal lungs, lung cancer warning signs, risk factors and effect of smoking tobacco on occurrence of lung cancer. In order to facilitate adherence and completion, the intervention content was incorporated into the college timing curriculum.

The researcher supervised the session and procedures. The pedagogical resources were short videos, presentations and open discussions. Questions related to the study were explained to all participants, after which the questionnaire was given to the participants who voluntarily opted to participate.

The same questionnaire was provided to the participants before the educational intervention session and immediately after it, and assessment was done. The participants were given over thirty minutes to answer yes / no type questions. Questions were designed to estimate the general awareness, knowledge about warning signs, risk factors, screening test for lung cancer, diagnostic test for lung cancer and exposure to second hand smoking. Data was collected and frequency and percentage were calculated.

RESULTS

The total participants were 180 medical students of first year (n=180). The mean age of the study population was 20 years (range 18-22 years). Only 35 of the students out of 180, knew the first signs of lung cancer in pre-test. The average knowledge rate was (66.67%) for screening test of lung cancer in medical students after post-test.

Table 1.
Result of Pre-test and Post-test

Question Number	Question	Pre-test		Post-test	
		Frequency	Percent	Frequency	Percent
1	New persistent cough is the first sigh of lung cancer.	35	19.4 %	117	65 %
2	Cigarette smoking is one of the risk factors for lung cancer.	32	17.78 %	135	75 %
3	Lung cancer is the most common cancer found in Indian males after oral cancer.	46	25.56 %	105	58.3 %
4	CT scan the better diagnostic procedure for lung tissue.	31	19.7 %	131	72.78 %
5	Immunotherapy is the newest type of treatment for metastatic non-small cell carcinoma.	38	21.1 %	138	76.67 %
6	In above 40 years age group, lung cancer is the most common.	27	15 %	140	77.78 %
7	30 packets a year smoking history is one of the risk factors used for screening of lung cancer.	25	13.89 %	143	79.4 %

Note. *Frequency and percent are of the participants who answered correctly

After the awareness programme, the knowledge of students increased as compare to pre-test. There was a significant increase in the level of knowledge regarding lung cancer post-test. Only 19.4% of the participants had knowledge of the first signs of lung cancer pre-test, which is not compatible with the expected academic level of the students (shown in Table 1). In post-test, around 65% participants knew the first sign of lung cancer.

Approximately 82.22% didn't know the risk factors for lung cancer before the education awareness programme. The score increased post-test and the positive response was noted to be 75%.

Only 25.56% of the students believed that lung cancer is the most common cancer after oral cancer in India, whereas 58.3% of the students admitted post-test that lung cancer is the second most found cancer in India. According to 72.78% of the students in post-test, CT scan is the better diagnostic procedure for lung tissue. Before the educational intervention, only 21.1% of the students knew that immunotherapy is the newest type of treatment for metastatic non-small cell carcinoma while post the intervention, 76.67% of the students answered correctly. In pre-test, only 13.89% of the students knew that 30 packets-a-year smoking history patients should

be screened for lung cancer, whereas post-test showed that 79.4% of the students know about the screening. Before the intervention, only 15% of the students realized that above 40-year age group people are most commonly diseased from lung cancer. The percentage rose in post-test to 77.78%. The current educational intervention (awareness programme) improved the post-test score in the students who were evaluated. The results of the pre-test and post-test analysis measurements showed a significant improvement in the knowledge of the medical students (Figure 1)
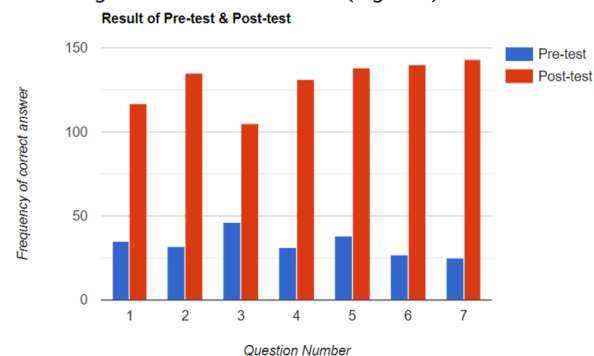

Figure 1. **Frequency of correct answer in pre-test and post-test**

CONCLUSION
It is important to raise awareness about the disease through educational intervention in order to improve health and save lives. The inclusion of awareness programme in the curriculum is of importance.

DISCUSSION
According to the findings of the study, there was an improvement in awareness and attitude from the pre-test to the post-test. This also demonstrated that educating students was very effective. It is essential to provide information/education on cancer risk factors in order to improve cancer prevention awareness (Karima ER & et al, 2014). The findings have demonstrated that an educational intervention, based on the national guidelines for educational communication in the awareness of warning signs, risk factors and screening test for lung cancer, improved the awareness of students on lung cancer. Similar results were published in a randomised study conducted in UK and German schools, in which the authors evaluated the efficacy of an instructional intervention provided by a teacher (Kyle RG & et al, Heuckmann B & et al, 2013).

Lung cancer is a disease that can be prevented largely by education. Faith and behaviour play a significant role in prevention of and early diagnosis of the disease as well as access to medical services, recovery, palliative care, and long-term survival. The high incidence of lung cancer in India may have influenced the results of a survey on lung cancer risk factors and symptoms (Ravichandran K & et al, 2011). The current educational intervention increased understanding of lung cancer prevention through healthier lifestyles among "medical scholars". The results of this study are consistent with those of a Memphis-area single-group pre-test/post-test programme assessment (Ayers K & et al, 2016). According to a study conducted in Malaysia, people with a high level of awareness about lung cancer perceive screening as an effort to avoid lung cancer by detecting it early (Thabit H & et al, 2017). Around 91% of the respondents were aware of the dangers of smoking as a significant risk factor for lung cancer, but their knowledge did not correspond with their efforts to quit smoking (Kan CS & et al, 2016). Medical students had greater knowledge about lung cancer in post-test as compare to pre-test. Similar findings were also noted by Abolfotouh et al. (1998). Lung cancer awareness significantly affects the knowledge of symptoms and risk factors of lung cancer in

medical students. Regarding the factors associated with knowledge about lung cancer, marital status, type of faculty, and type of semester significantly influence the knowledge of the university students. Medicine students had greater knowledge about lung cancer than did those in other specialties because of the emphasis of their curricula on health information, Medicine students had greater knowledge about lung cancer than did those in other specialties because of the emphasis of their curricula on health information (Abolfotouh et al., 1998).

It is important to raise awareness about the disease through awareness programmes in order to improve health and save lives. Similarly, health education (awareness programme) plays an important role in lung cancer prevention. Therefore, students should be regularly sensitised by incorporating awareness programmes of severe diseases in the curriculum.

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