



YOUTH AND CANCER: A SURVEY OF KNOWLEDGE ABOUT CANCER AND ITS RISK FACTORS IN RURAL YOUTH OF VARANASI, INDIA

Community Medicine

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ABSTRACT

BACKGROUND: Cancer is among the leading causes of death in developed countries and second leading cause of death in developing countries. Awareness and knowledge of the manifestations of cancer and its risk factors can reduce the cancer-related deaths.

OBJECTIVE: To assess the knowledge of common types of cancer, its manifestations and risk factors in rural youth of Varanasi.

MATERIALS AND METHODS: A cross sectional community based survey was conducted in the state of Uttar Pradesh, India. One hundred eighty two youth in the age group of 15- 24 years was selected by multistage sampling. Information regarding socio demographic characteristics, knowledge and risk factors of cancer were obtained by interviewing study subjects on predesigned and pretested Performa.

RESULT: 58.1% male and 59.8% female subjects were not aware about most common tobacco related cancer in women. Corresponding value for tobacco related cancer in men were 73.5 and in women 75%. Unexplained lump, unexplained pain, unexplained bleeding, persistent cough or hoarseness and persistent change in bowel and bladder habit were considered as manifestations of cancer by 14.8%, 37.4%, 32.4%, 26.4% and 25.8% subjects respectively. *Khaini*, *Gutakha* and Cigarette / *Bidi* smoking were considered as risk factor of oral cancer by 64.8%, 29.1%, 19.8% and 2.7% subjects respectively. Majority subjects stated that first visit to the hospital for cancer should be Medical College.

CONCLUSION: The overall awareness about common type cancers and its manifestation and risk factors was not satisfactory and there was considerable difference between the knowledge level of male and female youth of Varanasi, India.

KEYWORDS

Cancer, Erythroplakia, Lencoplakia, Occupational hazards, Tobacco

INTRODUCTION

Cancer is among the leading diseases worldwide. In developed countries cancer is one of the leading causes of death and is ranked second leading cause of death in developing countries. In India and other developing countries, patients with cancer generally have a poorer prognosis due to relatively low cancer awareness, late diagnosis, and the lack of or inequitable access to affordable curative services compared with patients in developed countries. Cancer burden in India has more than doubled over last 26 years. According to National statistics the estimated number of people living with the disease is around 2.25 million. Every year over 11, 57,294 new cancer patients are registered and Cancer-related deaths is 7, 84, 821. As per National Cancer Registry Programme of the Indian Council of Medical Research, breast cancer, cervical cancer, oral cancer, and lung cancer are the most common cancer which together constitutes 41 per cent of cancer burden. Oral Cancer is among the top three cancers in India, number one among all cancers in men and number three among female cancers whereas Breast cancer is currently the most common cancer among Indian women, both in terms of incidence as well as mortality.

The second largest consumer of tobacco in the world, second only to Chile is India. According to WHO, (2011) risk factors for six of the eight leading cause of death in the world is tobacco use. As per WHO Global Report 2012, tobacco attribute for 5% of all deaths from communicable diseases and 14% of all deaths from non-communicable disease among adults aged 30 years. Similarly it attribute to 71% of all lung cancer deaths. Smoking of tobacco in form of cigarette and *bidis* causes cancer of the respiratory tract and the upper digestive tract (WHO, 2004). Most affected sites of tobacco related cancer are mouth i.e., oral cavity, lip, tongue; oropharynx, hypo pharynx, pharynx, esophagus, larynx, lung and urinary bladder. The occurrence of tobacco related cancer at these sites is less than one fifth. The fact that there is lower proportion of tobacco related cancer among women can be justified as tobacco use, especially smoking is more common among men than among women (Gupta et al., 2014). India still has a predominantly agrarian economy, though it is among the rapidly industrializing countries in the world. Even though urbanization is on the rise, 75% of the population lives in rural areas. It is well recognized that the health problems in rural areas, such as cancer, are quite likely to be different from those in urban areas.

Therefore it is important to address cancer patterns in rural India. Currently limited work has been done in India especially in rural part on public knowledge and attitude towards cancer (Okobia et al., 2006; Bhurgi et al., 2008). However, data on cancer incidence for urban areas are available from several areas, such as Ahmadabad, Bangalore, Bhopal, Bombay, Calcutta, Delhi, Madras, Nagpur, Poona (Pune) and Trivandrum, and from Karunagappally, a semi-urban area in South India. The prevalence in the nation could be decreased by changing the behavior and improving the knowledge. Education is the most significant factor that influenced individual's misconceptions on cancer. The aim of this study was to assess the knowledge of rural youth of Varanasi, India about cancer and its risk factors.

MATERIAL & METHOD

The study was conducted in Kashi vidya peeth community Development (CD) Block of Varanasi district, India.

Study Design: Community based cross sectional study design was adopted for this study.

Study Sample: One hundred eighty two subjects were included in this study. Multistage sampling was done for selection of the study participants. Following steps were involved in the selection of study subjects. One Community Development Block (Kashi Vidya peeth block) was selected from 8 Community Developments Blocks of Varanasi District by simple random sampling. In the selected Community Developments Block 4 villages (Bacchaw, Hariharpur, BadagaonPratham, and Tikari) were selected by stratified sampling method. Stratification was done on the basis of distance from the block headquarters. Proportionate numbers of study subjects were selected by simple random sampling methods from the universe of youths aged 15- 24 years. Only permanent residents consenting for the study were included in the study. Subjects with obvious mental retardation and lack of understanding were excluded from the study.

Tools and technique: Family level information was obtained by interviewing study subjects/ head of the family or any other responsible family member and findings were recorded on the predesigned and pretested proforma. Knowledge of subjects regarding cancer and its risk factors was obtained by interviewing them with the help of interview schedule.

Ethical Clearance: Ethical clearance was obtained by Institutional Ethical Committee of Banaras Hindu University and Consent was obtained by using bilingual consent form.

Analysis of data: Data thus generated were analyzed by using Statistical Packages for Social Sciences (SPSS) version 20. Appropriate tables were generated and chi-square test was applied for statistical association and inference.

RESULT:

Knowledge of study subject about most common tobacco related cancer in men and women is given in table 1.

As much as 58.1% male and 59.8% female subjects were not aware about most common tobacco related cancer in women, corresponding value for tobacco related cancer in men were 73.5 and in women 75.0%. Fifty six (30.8%) and 19 (10.4%) female subject stated cancer of oral cavity and lung as most common tobacco related cancers ; corresponding value for most common tobacco related cancer in man were 12% and 3.7%, respectively. Awareness about programme for cancer was low.

Table-1: Knowledge of study subject about most common tobacco related cancer in men and women.

| Particulars | | Awareness level | | | | | |
|---|-------------|-----------------------------------|------|---------------|------|---------------|------|
| | | Male (n=98) | | Female (n=84) | | Total (n=182) | |
| | | No. | % | No. | % | No. | % |
| Most common tobacco related cancer in women | Oral cavity | 33 | 33.7 | 23 | 27.4 | 56 | 30.8 |
| | Lung cancer | 8 | 8.3 | 11 | 13.1 | 19 | 10.4 |
| | Don't know | 57 | 58.1 | 50 | 59.5 | 107 | 58.8 |
| Most common tobacco related cancer in man | Oral cavity | 15 | 15.3 | 7 | 8.3 | 22 | 12.1 |
| | Lung cancer | 11 | 11.2 | 14 | 16.7 | 25 | 13.7 |
| | Don't know | 72 | 73.5 | 63 | 75.0 | 135 | 74.2 |
| | | $\chi^2 = 4.45; df = 5; p > 0.05$ | | | | | |

Unexplained lump, unexplained pain, unexplained bleeding, persistent cough or hoarseness and persistent change in bowel and bladder habit were considered as manifestations of cancer by 14.8%, 37.4%, 32.4%, 26.4% and 25.8% subjects respectively; corresponding value for male subjects were 14.3%, 38.8%, 29.6%, 2.65%, 2.3.5%, whereas these were 15.5%, 35.7%, 35.7%, 26.2%, 28.6% in female subjects, respectively (Table 2).

Table-2: Awareness of subjects about manifestations of cancer.

| Manifestation | Awareness level | | | | | |
|--|-----------------|------|---------------|------|---------------|------|
| | Male (n=98) | | Female (n=84) | | Total (n=182) | |
| | No. | % | No. | % | No. | % |
| Unexplained Lump | 14 | 14.3 | 13 | 15.5 | 27 | 14.8 |
| Unexplained Pain | 38 | 38.8 | 30 | 35.7 | 68 | 37.4 |
| Unexplained bleeding | 29 | 29.6 | 30 | 35.7 | 59 | 32.4 |
| Persistent cough or hoarseness | 26 | 26.5 | 22 | 26.2 | 48 | 26.4 |
| Persistent change in bowel or bladder habits | 23 | 23.5 | 24 | 28.6 | 47 | 25.8 |
| Restricted mouth opening | 2 | 2.0 | 1 | 1.2 | 3 | 1.6 |
| Fever | 3 | 3.1 | 2 | 2.4 | 5 | 2.7 |
| Non-healing ulcer | 1 | 1.0 | 1 | 1.2 | 2 | 1.1 |
| Lencoplakia oral cavity | 2 | 2.0 | 1 | 1.2 | 3 | 1.6 |
| Erythroplakia in oral cavity | 2 | 2.0 | 1 | 1.2 | 3 | 1.6 |

Khaini, *Gutakha* and Cigarette / *Bidi* smoking were considered as risk factor of oral cancer by 64.8%, 29.1%, 19.8% and 2.7% subjects respectively; corresponding value for male subjects were 63.3%, 25.5%, 6.1%, 18.4% and 2.0%, whereas for female subjects it was 64.8%, 29.1%, 19.8% and 2.7% (Table 3).

Table-3: Awareness of subjects about risk factors of oral cancer.

| Risk Factors | Awareness level | | | | | |
|---------------------------|-----------------|------|---------------|------|---------------|------|
| | Male (n=98) | | Female (n=84) | | Total (n=182) | |
| | No. | % | No. | % | No. | % |
| Tobacco (<i>Khaini</i>) | 62 | 63.3 | 56 | 66.7 | 118 | 64.8 |
| <i>Gutkha</i> | 25 | 25.5 | 28 | 33.3 | 53 | 29.1 |
| <i>Supari</i> | 6 | 6.1 | 5 | 5.9 | 11 | 6.0 |

| | | | | | | |
|---------------------|----|------|----|------|----|------|
| Cigarette smoking | 18 | 18.4 | 18 | 21.4 | 36 | 19.8 |
| <i>Bidi</i> smoking | 2 | 2.0 | 3 | 3.6 | 5 | 2.7 |
| Others (combined) | 48 | 50.0 | 47 | 55.9 | 95 | 52.2 |

Active smoking was considered as a risk factor of lung cancer by 67.3% male and 69.0% female respectively; over all this value was 68.2%. Passive smoking was considered as a risk factor of lung cancer by 1.1% subject respectively. Awareness regarding occupational hazards as a risk factor of lung cancer was extremely low; only 0.5% subjects considered occupation hazard as a risk factor of cancer (Table 4). Nine males and females stated that alcohol consumption lead to cancer.

Table-4: Awareness about risk factors of lung cancer.

| Risk Factors | Awareness level | | | | | |
|----------------------|-----------------|------|---------------|------|---------------|------|
| | Male (n=98) | | Female (n=84) | | Total (n=182) | |
| | No. | % | No. | % | No. | % |
| Active smoking | 66 | 67.3 | 58 | 69.0 | 124 | 68.2 |
| Passive smoking | 1 | 1.0 | 1 | 1.2 | 2 | 1.1 |
| Occupational hazards | 0 | 0.0 | 1 | 1.2 | 1 | 0.5 |
| Others | 7 | 7.1 | 5 | 6.0 | 12 | 6.6 |

Majority (97.7%) subjects stated that first visit to the hospital for cancer should be Medical College/ specialty hospital, corresponding value for male and female were 97.0% and 96.4%. No significant difference was observed in the response of male and female subjects (Table 5).

Table-5: Distribution of subjects according to their response about the first visit to a hospital for cancer.

| Hospital visit response | Male (n=98) | | Female (n=84) | | Total (n=182) | | |
|-------------------------------------|---------------|-----------------------------------|---------------|--------------|---------------|--------------|-----|
| | No. | % | No. | % | No. | % | |
| | Near Hospital | 2 | 2.0 | 3 | 3.6 | 5 | 2.7 |
| District Hospital | 1 | 1.0 | 0 | 0.0 | 1 | 0.5 | |
| Medical College/ Specialty Hospital | 95 | 97.0 | 81 | 96.4 | 176 | 97.7 | |
| Total | 98 | 100.0 | 84 | 100.0 | 182 | 100.0 | |
| | | $\chi^2 = 1.24; df = 2; p < 0.05$ | | | | | |

Awareness of facilities provided by the Government for cancer patients is described in table 6. Economic, transport and treatment related facilities were known to 3.8%, 2.7% and 4.4% subjects, respectively. Extent of awareness about facilities provided by the Government for cancer patients was extremely low (<5%) in both male and female subjects.

Table-6: Awareness of subjects about facilities provided by the Government for cancer patients.

| Hospital visit response | Male (n=98) | | Female (n=84) | | Total (n=182) | |
|-------------------------|-------------|-----|---------------|-----|---------------|-----|
| | No. | % | No. | % | No. | % |
| | Economic | 4 | 4.1 | 3 | 3.6 | 7 |
| Transport | 3 | 3.1 | 2 | 2.4 | 5 | 2.7 |
| Treatment | 6 | 6.1 | 2 | 2.4 | 8 | 4.4 |

DISCUSSION

Education is one of the major factors that helps to create awareness. Younger age groups had more information-seeking behavior, and the education level was linked to increased requests for additional information (Brokalaki et al., 2005). In present scenario awareness level is more among those who were literate than among those who did not have any formal education. This is being reflected in the variation of awareness level of male and female subjects. Moreover, men had greater awareness than women. Despite being educated, women have less exposure to the outside world compared to men, the reason being the culture, which limits their knowledge (Elangovan et al., 2016). Present study showed several aspects of youth uncertainty and ignorance with regard to the causation of different types of cancer which needs to be emphasized in future public education programmes, particularly using mass media. In our study we found that awareness of study subjects about cancer was not up to mark. Cancer warning signs using an open question were relatively poor for all symptoms except 'unexplained pain' which was mentioned by 4 out of 10 respondents. Recognition of cancer warning signs with a closed question was overall low. The lower levels of recognition for the warning signs indicate urgent need of cancer awareness-raising campaigns especially in rural areas. *Khaini* and *gutkha* have been considered as risk factors of oral cancer either in isolation or in combination by considerable

proportion of subjects. Two third subjects considered active smoking as a risk factor of lung cancer. In this study we found overall knowledge of various risk factors and manifestation of cancer was not up to the mark. The finding is similar to the result of Gopal & Duraiselvi (2014) who found that the general awareness, knowledge of signs and risk factor of oral cancer had been least among illiterates younger age group. Facilities provided by the Government were practically unknown to the rural youth. In conformity with the findings of this study, poor knowledge about cancer awareness camps has been observed in a study conducted in six states of India (Raj et al., 2012). Public awareness on the importance of cancer screening can be achieved by creating and raising awareness of cancer and general and health wellbeing according to age and environmental factors. To increase awareness and to educate the population on basic information about cancer campaigns and efforts should be initiated early. There is a need of tailored programme according to the mentalities of the rural and urban population as well as those with low and high level of education. Similarly information related to healthy diet and lifestyle choices should also be tailored according to the environment and population's education level. In our study we found that majority of population believed that first visit to the hospital for cancer should be Medical College/ specialty hospital as there is less facilities available on nearby health center. Therefor rural clinics should be a primary distribution channel of for information and knowledge about cancer as they are the nearest medical centers especially to the rural population. Our study support the fact that the circulation of cancer information through the mass and other forms of media should be intensified to increase the level of cancer awareness and the importance of cancer screening among the general public, especially those who belong to high-risk groups. Various author have suggested that awareness can be increased by providing screening facilities in strategic locations, and by setting up health campaigns to educate and provide early exposure of cancer to everybody especially in rural areas (Lahijanian et al., 2011 & Samant et al., 2014). The need for cancer screening should be emphasized as early as in primary schools so that more people from all walks of life have awareness and knowledge of cancer.

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