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OPINION OF RURAL YOUTH OF VARANASI, INDIA REGARDING FACTORS THAT CAN INCREASE A PERSON'S CHANCE OF DEVELOPING CANCER

Community Medicine

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ABSTRACT

BACKGROUND: Cancer is the second leading cause of death globally and about 1 in 6 deaths are due to cancer. Objective: The study was designed to study the opinion of the rural youth of Varanasi, India on some factors that can increase a person's chance of developing cancer.
MATERIALS AND METHODS: A cross sectional community based survey was conducted in the state of Uttar Pradesh. Total one hundred eighty two youth in the age group of 15- 24 years was selected by simple random sampling. Predesigned and pretested Performa was used for the study.
RESULT: One hundred and twenty eight (70.3%) subjects were of the opinion that smoking any cigarette at all can increase a person's chance of developing cancer. Other reasons stated for increasing a person's chance of developing cancer were drinking >1 unit of alcohol a day (50.0%), having a close relative with cancer (34.6%), being overweight (34.1%), being over 70 years old (30.8%). 68.4% male, 54.8% female subjects stated that person's in 60's and 70's years of life are most likely to develop cancer next year.
CONCLUSION: The overall opinion of the subject regarding factors that can increase a person's chance of developing cancer was not up to the mark. There were consideration differences between the opinion of male and female youth of Varanasi.

KEYWORDS

Cancer, Tobacco, Human papilloma virus (HPV), Hepatitis B, Hepatitis C.

INTRODUCTION

Cancer is the public health problem worldwide. It affects all people from young to old; rich to poor; men, women and children. There are several types of cancers; the most common types affecting men are lung, stomach, liver, colon, rectum, oesophagus and prostate cancer, while those commonly affecting women include breast, lung, stomach, colon, rectum and cervical cancer (WHO, 2003). Cancer is one of the leading causes of death in developed countries and the second leading cause of death in developing countries (Jemal et al., 2011). Global cancer statistics show that developing countries have rising cancer-related deaths, especially among breast and cervical cancer cases. This is attributed to the lack of cancer awareness among the population and delayed cancer screening and detection (Okobia et al., 2006; Bhurgri et al., 2008).

All forms of tobacco, either smoking or smokeless, are harmful. India is the second largest producer of tobacco and most of the tobacco produced is consumed within the country only, with approximately 274.9 million tobacco users (WHO, 2011). As per the report by Global Adult Tobacco Survey (GATS, 2010), more than one-third (35%) of adults in India use tobacco in some form or the other; 163.7 million are users of only smokeless tobacco, 68.9 million only smoker', and 43.3% million users of both smoking and smokeless tobacco. According to the report of Indian Council of Medical Research, in India nearly 50% of cancers in male and 25% in female and more than 80% of all oral cancers are directly attributable to tobacco use (National Tobacco Control Cell, 2012).

As per World Health Organization (WHO) report 2011, globally 5% of all deaths from communicable diseases and 14% of all deaths from non-communicable disease among adults aged 30 years. Nearly 8-9 lakh people die every year in India due to diseases related to tobacco use. Nearly 30% of cancers in India are related to tobacco use where as 71% of all lung cancer deaths are attributed to tobacco use (Ministry of Health & Family Welfare, 2004).

Epidemiological studies around the world have provided sufficient evidence that smoking of tobacco as cigarette and *bidis* causes cancer of the respiratory tract and the upper digestive tract. Mouth (oral cavity), lip and tongue, oropharynx, hypo pharynx, pharynx, esophagus, larynx, lung and urinary bladder are the sites where half of all tobacco related cancer (TRCs) occurs. In women less than one fifth of cancers occur at these sites. The lower proportion of tobacco related cancer among women is mostly explained by the fact that, tobacco use, especially smoking is more common among men then among women (Gupta et al., 2014).

The awareness of the dangers of cancer, its screening and early detection can reduce the risk of cancer mortality (CDC, 2004). According to the National Cancer Society (2012), 80% of cancer cases can be treated if detected early. However, in developing countries cancer cases are mainly detected at later or advanced stages, that is stages III or IV. Detection at advanced stages can complicate patient's treatment, recovery and survival (Okobia et al., 2006). Late detection of the disease may be due to limited knowledge and awareness of the dangers of the disease. Apart from that, poverty, location factor and access to healthcare facilities also contribute to delayed screening; detection and treatment of cancer (Samant et al; 2009). Information about the awareness regarding tobacco related cancers in Rural Indian Youth population are scanty. There is an urgent need for a re-invigorated and tailored approach which calls for an undertaking study of rural youth regarding factors enhancing chance of cancer. With this background present study was undertaken in Rural Youth (15-24years) of one Community development Block of Varanasi District, India to reveal the opinion of rural youth regarding factors that can increase a person's chance of developing cancer.

MATERIAL & METHOD

This study was conducted in Kashi vidya peeth community Development (CD) Block of Varanasi district adopting community based cross sectional study design. One hundred eighty two subjects were identified for this field survey. 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, Badagaon Pratham, 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.

Inclusion Criteria: Only permanent residents consenting for the study were included in the study.

Exclusion Criteria: Subjects with obvious mental retardation and lack of understanding were excluded from the study.

Ethical Approval: Ethical approval was obtained by the ethical committee of Banaras Hindu University and consent was obtained by

using bilingual consent form.

Tools and technique: Family level information were obtained by interviewing study subjects/ head of the family or any responsible family member using predesigned and pretested proforma. Opinion of subjects regarding factors that can increases a person's chance of developing cancer was obtained by interviewing them with the help of interview schedule.

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.

RESULTS:

Opinion of subjects regarding some of the factors that can increase a person's chance of developing cancer (n=182) is given in table 1. One hundred and twenty eight (70.3%) subjects were of the opinion that smoking any cigarette at all can increase a person's chance of developing cancer. Other reasons stated for increasing a person's chance of developing cancer were drinking >1 unit of alcohol a day (50.0%), having a close relative with cancer (34.6%), being overweight (34%), being over 70 years old (30.7%), eating red or processed meat once a day or more (25.8%), eating less than 5 portions of fruits and vegetables a day (23.6%) and exposure to another person's cigarette smoke (20.3%). In the opinion of 9.3%, 2.2% and 9.3% subject's infection with human papilloma virus, hepatitis-B and hepatitis -B can increase a person's chance of developing cancer.

Table-1: Opinion of subjects regarding some of the factors that can increase a person's chance of developing cancer (n=182).

Particulars	Strongly Disagree	Not Sure	Strongly Agree
	No.(%)	No.(%)	No.(%)
Smoking any cigarette at all	35(19.2%)	19(10.4%)	128(70.3%)
Exposure to another persons' cigarette smoke	35 (19.2%)	110 (60.4%)	37 (20.3%)
Drinking >1 unit of alcohol a day	38 (20.8%)	53 (29.1%)	91 (50.0%)
Eating <5 portions of fruits & vegetable a day	79(43.4%)	60 (33.0%)	43 (23.6%)
Eating red or processed meat once a day or more	61 (33.5%)	74 (40.6%)	47 (25.8%)
Being over weight	53 (29.1%)	67 (36.8%)	62 (34%)
Being over 70 yrs old	54(29.6)	72 (39.6%)	56 (30.7%)
Having a close relative with cancer	66 (36.2%)	53(29.1%)	63(34.6%)
Infection with human papilloma virus (HPV)	72 (39.5%)	93(51.1%)	17(9.3%)
Hepatitis –B	68 (37.3%)	110 (60.4%)	4(2.2%)
Hepatitis-C	62 (34%)	103 (56.6%)	17 (9.3%)

Opinion of male subjects regarding some of the thing that can increase a person's chance of developing cancer (n=98) is given in table 2. As much as 67.3%, 50.0%, 39.7% and 33.6% male subjects agreed that smoking any cigarette at all, more than 1 unit of alcohol a day, being overweight having a close relative with cancer, respectively, can increase a person's chance of developing cancer. In the opinion of 19.3% male subjects, exposure to another person's cigarette smoke can increase a person's chance of developing cancer. Very few male subjects (11.2%, 3.1% and 8.2%) agreed that infection with human papilloma virus, hepatitis- B and hepatitis-C respectively can increase a person's chance of developing cancer.

Table-2: Opinion of male subjects regarding some of the factors that can increase a person's chance of developing cancer (n=98)

Particulars	Strongly Disagree	Not Sure	Strongly Agree
	No. (%)	No.(%)	No.(%)
Smoking any cigarette at all	20 (20.4%)	12 (12.2%)	66 (67.3%)
Exposure to another persons' cigarette smoke	18 (18.3%)	61 (62.2%)	19 (19.3%)
Drinking >1 unit of alcohol a day	21 (21.4%)	28 (28.6%)	49 (50%)
Eating <5 portions of fruits & vegetable a day	46 (46.9%)	30 (30.6%)	22 (22.4%)
Eating red or processed meat once a day or more	35 (35.7%)	39 (39.8%)	24 (24.4%)
Being over weight	29 (29.5%)	30 (30.6%)	39 (39.7%)
Having a close relative with cancer	35 (35.7%)	30 (30.6%)	33 (33.6)
Infection with human papilloma virus (HPV)	41 (41.8%)	46 (46.9%)	11 (11.2%)
Hepatitis –B	39 (39.7%)	56 (57.1%)	3 (3.1%)
Hepatitis-C	35 (35.7%)	55 (56.1%)	8 (8.2%)

Opinion of female subjects regarding some of the thing that can increase a person's chance of developing cancer (n=84) is given in table 3: Half of the female population strongly agreed on two factors that are smoking any cigarette at all and drinking more than a unit of alcohol a day increases a person's chance of developing cancer. However more than 50% of the female population were not sure or strongly disagreed about the other factors like exposure to another person's cigarette smoke can increase in person's chance of developing cancer, eating red or processed meat once a day or more, being overweight, being over 70yrs old, having a close relative with cancer, infection with human papilloma virus, hepatitis- B and hepatitis-C, respectively cancer enhance person's chance of developing cancer.

Table-3: Opinion of female subjects regarding some of the factors that can increase a person's chance of developing cancer (n=84).

Particulars	Strongly Disagree	Not Sure	Strongly Agree
	No. (%)	No. (%)	No. (%)
Smoking any cigarette at all	15 (17.8%)	7 (8.3%)	62 (73.8%)
Exposure to another person's cigarette smoke	17 (20.2%)	49 (58.3%)	18 (21.4%)
Drinking >1 unit of alcohol a day	17 (20.2%)	25 (29.8%)	42 (50%)
Eating <5 portions of fruits & vegetable a day	33 (39.2%)	30 (35.7%)	21 (25%)
Eating red or processed meat once a day or more	26 (30.9%)	35 (41.7%)	23 (27.3%)
Being over weight	24 (28.5%)	37 (44.0%)	23 (27.3%)
Being over 70 years old	26 (30.9%)	31 (36.9%)	27 (32.1%)
Having a close relative with cancer	31 (36.9%)	23 (27.4%)	30 (35.7%)
Infection with human papilloma virus (HPV)	30 (35.7%)	47 (55.9%)	7 (8.3%)
Hepatitis –B	29 (34.5%)	54 (64.2%)	1 (1.2%)
Hepatitis-C	27 (32.1%)	48 (57.1%)	9 (10.7%)

Distribution of subjects according to their response about the person most likely to develop cancer next year is given in table 4. As much as 68.4% male, 54.8% female subjects stated that person's in 60's and 70's years of life are most likely to develop cancer next year. In all 62.1% subjects belong to this category. According to 9.2% male and 10.7% female cancer is not related to age, overall this value was 9.9%. There existed no significant difference in the response of male and female subjects about the persons most likely to develop cancer next year.

Table-4: Distribution of subjects according to their response about the person most likely to develop cancer next year.

Persons age group (yrs.')	Male		Female		Total	
	No.	%	No.	%	No.	%
20's	1	1.0	3	3.6	4	2.2
30's	4	4.1	7	8.3	11	6.1
40's	8	8.2	10	11.9	18	9.9
50's	7	7.1	3	3.6	10	5.5
60's	10	10.2	7	8.3	17	9.3
70's	57	58.2	39	46.4	96	52.7

Cancer is unrelated to age	9	9.2	9	10.7	18	9.9
Don't know	2	2.0	6	7.2	8	4.4
Total	**98**	**100.0**	**84**	**100.0**	**182**	**100.0**
	$\chi 2$= 8.51 ; df= 7 ; p>0.05					

Lung and oral cancer due to consumption of tobacco in any form were stated by 35.2% and 36.8% subjects, respectively. As much as 37.8% male and 32.1% female subjects stated that tobacco consumption in any form causes lung cancer, corresponding value for oral cancer was 31.6% and 42.9%. Responses regarding tobacco consumption in any form causes cancer were similar (p>0.01) in male and female subjects except oral and esophageal cancers (p<0.01).

Table-5: Opinion of subjects regarding tobacco consumption in any form causes cancer is given in Table 5.

Type of cancer	Male (n=98)		Female (n=84)		Total (n=182)		Z score	P value
	No.	%	No.	%	No.	%		
Lung	37	37.8%	27	32.1%	64	35.2%	0.36	0.35
Oral	31	31.6%	36	42.9%	67	36.8%	5.021	<0.01
Esophagus	0	0.0%	2	2.2%	2	1.1%	4	<0.01
Kidney	1	1.1%	0	0.0%	1	0.5%	0.35	0.36

DISCUSSION:

Cancer is emerging as major public health problems in India. Tobacco smoking causes cancer of the lung and other organs and is the most intensively investigated environmental cause of cancer. Of the several causes investigated for cancer, the use of tobacco has shown strong and consistent association with cancer at several sites of the body (Gupta et al., 2014). In low and middle income countries alcohol drinking is estimated to be involved in the etiology of 3% of all cancers (that is, 4% in men, 2% in women). In women, approximately half of the neoplasms attributed to alcohol drinking are breast cancers. Heavy consumption of alcohol results in an estimated 5 percent of cancer deaths (Lopez et al., 2006). Almost 20% of cancers are associated with chronic infections, the most significant ones being hepatitis viruses (HBV, HCV), papilloma viruses (HPV) and Helicobacter pylori. In developed countries these are responsible for an estimated 8 percent of all cancers; compared with 26 percent in developing countries (Parkin, 2005). A study was done by Danaei and colleagues to estimate the worldwide and regional mortality from site-specific cancers attributable to specific risk factors, individually and jointly. The finding of the study stated that main risk factors for cervix uteri cancer, lung cancer, and oesophagus cancer included sexual transmission of HPV leading to persistent infection with oncogenic viruses, smoking, alcohol use, and low fruit and vegetable intake. Nine percent of cancer deaths in lower and middle income countries are attributable to diet, body weight, and activity levels. These factors are interrelated and seem to act in complex ways to either promote or reduce the risk of cancer (Lopez et al., 2006).There are convincing evidences stating that an adequate intake of fruits and vegetables (for some cancers, mainly vegetables) lowers the risk of the following cancers: colon and rectum, lung, stomach, esophagus, and mouth and pharynx (Gelband., 2007). In our present study we assessed the awareness of study subjects about type of cancer in terms of site and found that the result was not satisfactory. Less than 40% subject believed that smoking or tobacco use could cause any form of cancer. In the study we found that opinions of subjects regarding factors that could increase a person's chance of developing cancer were not up to the mark. Although more than half of the population strongly agreed on two factors that is smoking cigarette and drinking >1 unit of alcohol a day increase a person's chance of developing cancer. Similarly Ray and Mandal, 2004 reported that 44.67% of the general population was aware that smoking and tobacco chewing are major risk factors of cancer. Awareness for remaining factors was not up to the mark. Less than 35% of the population were aware of the fact that having a close relative with cancer, being overweight, being over 70 years old, eating red or processed meat once a day or more, eating less than 5 portions of fruits and vegetables a day and exposure to another person's cigarette smoke are some of the factors that can increase a person's chance of developing cancer. Awareness of risk factors like infection with human papilloma virus, hepatitis-B and hepatitis -C can increase a person's chance of developing cancer was really low. When compared between male and female the ratio among male population was high. In our study association between age and cancer and most common cancers in men and women were not known to majority of subjects. More than half of the population stated that person's in 60's and 70's years of life are most likely to develop cancer next year. This concept needs reversal. In conformity with the findings of this study, poor knowledge about cancer has been observed in a study conducted in six states of India (Raj et al., 2012). Present study support the fact that in developing country like India there is lack of awareness among people about the various risk factors and preventive aspects of common cancers (Bhurgi et al., 2008 Kumar et al., 2011). Babu and Thomas, 2015 in his study stated that education on risk factors, early warning signals and their management are lacking.

In conclusion analysis of study reveals that knowledge of youth regarding factors that can increase a person's chance of developing cancer is very low among the rural community and there exist poor knowledge of sign and symptoms of cancer. However, those who live in urban areas possess higher education level and are still better when compare to rural population. Therefore prevention and control measures should be intensified especially in raising awareness about importance of living healthy lifestyles, especially among the rural population. Information related to healthcare, cancer screening, treatment, healthy food and healthy lifestyle choices should be emphasized at all levels of the society.

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