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Conference Paper

Knowledge about Risk Factors for Cancer among Adults in Nepal

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Abstract

Cancer accounts for 8% mortality in Nepal and is an emerging public health concern. It is believed that increasing the basic knowledge about cancer is vital to decreasing the burden of cancer diagnosis and treatment. The purpose of this study was to identify cancer awareness among Nepali adults. A descriptive, cross-sectional study was conducted in five wards of Lalitpur Sub-metropolitan city. A random sample of 300 Nepali adults aged 20–60 years participated in this study. Most participants (45.3%) were aged 20–40 years and 50.7% (N=152) were male. About 84.3% (N= 252) participants were literate and 30.7% (N =92) had a university level education. A total of 27.3% (N =82) had a family history of non-communicable diseases. The male participants smoked and consumed alcohol more than did the females ($p < 0.05$). Television (78.3%) was reported as the most common information source, and 85% of participants had heard most information about lung cancer. Smoking was considered a major risk factor by 92% of participants. Although 69.3% believed cancer was preventable if diagnosed early, and only 11% (N = 33) had undergone screening for cancer. Only 19.6% of literate and middle-aged females had undergone cervical cancer screening. A total of 95% of participants showed a strong need for cancer education. Logistic regression showed that educational level was not a significant factor for knowledge about cancer (p=0.846, Odds ratio=0.944). This study showed a strong need for awareness about cancer and screening tests to ameliorate increasing cance risk.

Keywords: Risk factors, Cancer, Knowledge, Nepal.

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1. INTRODUCTION

Cancer is a significant healthcare problem and a leading cause of death worldwide, accounting for approximately 14 million new cases and 8.2 million deaths in 2012 (Cancer-WHO 2014). Most cancer-related deaths occur in cases of lung, liver, stomach,

colon and rectum, liver, breast, and esophageal cancer (1.59 million, 745,000, 723,000, 694,000, 521,000, and 400,000 respectively) (Non Communicable Diseases-WHO 2014). In Europe, cancer accounts for 20% of all deaths, and cancer leads to 1.1 million deaths per year in Southeast Asia (Cancer-WHO 2014). Most cancer- related deaths occur in low- and middle-income countries, most likely because of delayed presentation [2]. Tobacco use, alcohol use, unhealthy diets, and physical inactivity are the main worldwide risk factors for cancer.

Tobacco use (smoking or chewing) is the single most important risk factor for cancer and leads to 22% of all cancer deaths and 71% of lung cancer deaths globally (Cancer-WHO 2014). In low- and middle-income countries some endemic chronic infections are also important cancer risk factors. For example, cervical cancer, which is typically caused by the human papilloma virus (HPV), is a leading cause of cancer death among women in low-income countries (Why we cannot ignore non-communicable diseases-WHO 2014). It is estimated that more than 30% of all cancer may be prevented by mod-ifying or avoiding key risk factors, including tobacco use, obesity or being overweight, lack of physical activity, alcohol use, unhealthy diets with low fruit and vegetable intake, sexually transmitted HPV infection, urban air pollution, and indoor smoke from solid fuel use in homes (Cancer-WHO 2014). Cancer accounts for 8% of mortality in Nepal. The most common cancers in males are trachea/lung (17%), mouth/oropharynx (12.9%), and stomach cancers (9.3%). In females, cervix uteri (18.4%), trachea (14.3%), and breast cancer (11.6%) are the most common. The risk factors for cancer in Nepal are tobacco smoking (30%), physical inactivity (3.3%), obesity (2.9%) and household solid fuel use (80%) (Cancer mortality rate- Nepal 2014).

Many researchers have focused on the importance of increasing public awareness of the warning signs and symptoms of cancer. Evidence suggests that a significant portion of the increase in cancer is due to several factors including poor awareness of the signs, symptoms, and risk factors for cancer; poor availability of tests or screening programs; and limited access to standard treatment [2, 19]. A study reported that increasing a population's basic cancer knowledge is as important for controlling cancer as are diagnostic tools, screening, and new preventive approaches [18]. However, studies examining public awareness about the warning signs of cancer in relation to early detection and prevention in various countries have shown that general public knowledge is poor [8]. Therefore, the purpose of this study is to determine the general awareness of Nepalis about cancer.

2. METHODS

This descriptive, cross-sectional study was conducted in five wards of Lalitpur sub metropolitan city, Nepal. The data collection was conducted in April–May 2016. A random sample of 300 Nepali individuals aged 20–60 years completed the questionnaire. SPSS V.22.0 was used for regression and the descriptive study. A p–value of <0.05 (two tailed) was used to establish statistical significance.

3. RESULTS

Table 1 presents demographic information about the participants. Most participants (45.3%) were aged 20–40 years and 50.7% (N=152) were male. About 84.3% (N= 252) were literate and 30.7% (N =92) had a university– level education. A total of 27.3% (N =82) had a family history of non-communicable diseases. Table 2 shows that the male participants smoked more and consumed more alcohol than did the females (p < 0.05). Television (78.3%) was reported to be the most common source of information. With regards to the different types of cancer, 85% had heard most information about lung cancer. A family history of cancer was reported by 24 participants; uterine (7), lungs (4), liver (4), blood (3), breast (2), and pancreatic (1). Around 95% of participants had watched or listened to some kind of health– related program. Television was the biggest source of information about cancer. About 78.3% (N=235) had acquired cancer– related information via television. Friends (57.3%, N=172) were second most common source, followed by doctors (56%, N=168). Although 69.3% believed cancer was preventable if diagnosed early, only 11% (N = 33) had undergone screening for cancer. Cervical cancer is a major cancer among Nepali females (WHO, 2014), yet, only 19.6% literate and middle-aged females had undergone cervical cancer screening. Only 2.02% of participants had undergone mammography for breast cancer awareness and 2% of participants had received screening for lung cancers.

Figure 1 shows information concerning knowledge about the risk factors for cancer. Smoking was considered a major risk factor by 92% of participants. Other risk factors identified were excessive alcohol consumption (82.3%), excessive red meat consumption (62%), obesity (58.6%), family history of cancer (52.6%), lack of physical exercise (51.3%), radiation (31%), prolonged use of preservatives (30.6%), and insufficient fruits and vegetables consumption (23%). Table 3 shows the relationship between demographic variables and cancer knowledge. There was no significant difference in knowledge levels among age groups or sexes. Literate participants had

TABLE 1: Demographic and personal information (N=300).

Variables	Categories	Frequency	Percentage (%)
Age	20–40 years	136	45.3
	41–60 years	123	41.0
	61+	41	13.7
Gender	Male	152	50.7
	Female	148	49.3
Educational status	Illiterate	47	15.7
	Literate	252	84.3
Educational level	Up to grade 8	58	19.3
	Up to grade 12	103	34.3
	University level	92	30.7
Marital status	Single (unmarried and divorced)	60	20
	Married	240	80
Smoking status	No	248	82.7
	Yes	52	17.3
Alcohol status	No	199	66.3
	Yes	101	33.7
Family history of Chronic illness	No	218	72.7
	Yes	82	27.3
	COPD	14	4.7
	Hypertension	47	15.7
	Diabetes	31	10.3
	Cancer	57	17
Watch health related programs	Yes	285	95
	No	15	5

better knowledge than did illiterate participants, as did those with a higher educational level, those who were married, non-smokers and participants with a positive family history. Participants who had undergone cancer screening had better knowledge about risk factors than participants who had never done any screening.

There were no statistically significant correlations between age groups, gender, and score for the cancer awareness. Therefore, it was not possible to perform multiple regressions using these variables. Educational status (p=0.000), educational level (p=0.000), marital status (p=0.028), cancer screening (p=0.009), family history (p=0.019), healthy diet (p=0.000), and smoking habit (p=0.013) showed a relationship to cancer knowledge score. Therefore, a standard multiple regression was conducted to identify the best predictor of cancer knowledge. The results are presented in Table
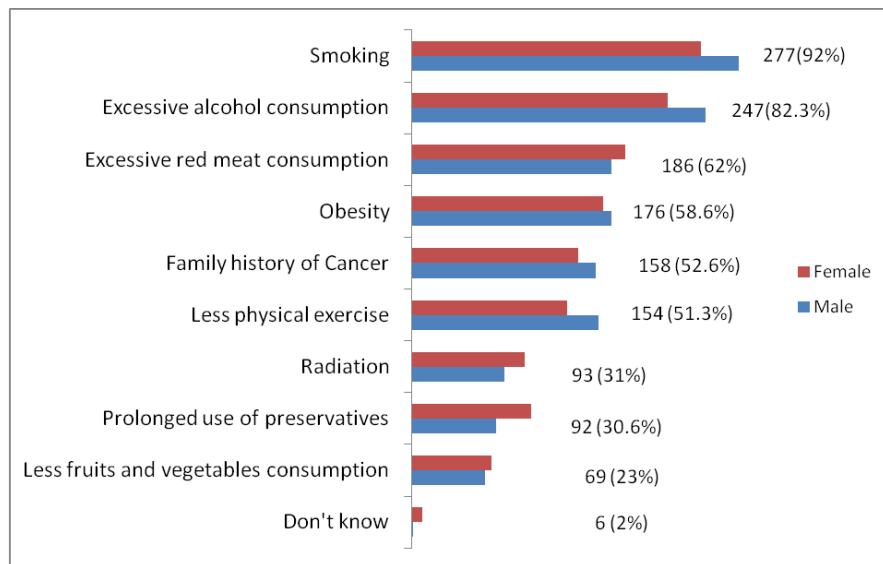
Figure 1: Knowledge regarding risk factors for Cancer.

4. Of all these variables, educational level was the strongest predictor for cancer knowledge (p=0.252). Marital status was another predictor for cancer knowledge (p=0.184). The negative correlation with smoking habit and cancer knowledge showed that participants with no smoking habit had better knowledge than did smokers (p=-0.122).

TABLE 2: Health related information about the participants (N=300).

Health habit	Category	Smoking			Alcohol			Exercise		
		Yes	No	p value	Yes	No	p value	Yes	No	p value
Sex	Male (152)	41	111	0.000	69	83	0.000	88	64	0.580
	Female (148)	11	137		32	116		81	67	
Age	20–40 (136)	21	115	0.221	33	103	0.003	74	62	0.412
	40–60 (123)	20	103		48	75		68	55	
	60+ (41)	11	30		20	21		27	14	
Education level	Illiterate (47)	12	35	0.315	19	28	0.048	23	24	0.080
	Up to grade 8 (58)	11	47		27	31		30	28	
	Up to grade 12 (103)	17	86		32	71		54	49	
	University level (92)	12	80		24	68		62	30	

TABLE 3: Relationship between demographic variables and cancer knowledge score (n=300).

Demographic variables	Category (n)	Cancer Knowledge Score	p
Age	20–40yrs (136)	4.6±2.0	0.113
	40–60yrs (123)	5.1±2.1	
	60+ (41)	4.6±2.1	
Sex	Male (152)	4.9±2.0	0.853
	Female (148)	4.8±2.1	
Educational Status	Illiterate (47)	3.6±2.1	0.000
	Literate (252)	5.1±2.0	
Educational level	Up to grade 8 (58)	4.7±1.7	0.000
	Up to grade 12 (103)	5.1±1.9	
	University level (92)	5.3±2.1	
Marital status	Single (60)	4.3±1.8	0.028
	Married (240)	5.0±2.1	
Smoking history	No (248)	5.0±2.0	0.013
	Yes (52)	4.2±2.1	
Alcohol history	No (199)	4.9±2.0	0.643
	Yes (101)	4.8±2.0	
Family history of chronic illness	No (218)	4.6±2.0	0.019
	Yes (82)	5.3±2.0	
Cancer screening	No (267)	4.7±2.1	0.009
	Yes (33)	5.7±1.8	
Watched health program	No (15)	3.9±2.2	0.081
	Yes (285)	4.9±2.0	

TABLE 4: Multiple regression for cancer awareness as predictor of personal health.

Variables	Constant	Unstandardized coefficient	Standardized coefficient	t	Sig.
Educational status	2.690	0.110	0.019	0.190	0.850
Educational level		0.388	0.252	2.398	0.017
Marital status		0.947	0.184	3.305	0.001
Smoking history		-0.663	-0.122	-2.272	0.024
Family history		0.728	0.157	2.970	0.003
Exercise		0.216	0.087	1.613	0.108
Healthy diet		-0.667	-0.180	-3.313	0.001
Cancer screening		0.595	0.090	1.683	0.093

4. DISCUSSION

This study was conducted to determine the general awareness of cancer among adults in Nepal. In the study, males smoked more than females did (p=0.000), a finding similar to that of another study conducted in Nepal to assess the risk factors for lung cancer in residents of Pokhara Valley [7]. The study of smoking prevalence and predictors in western Nepal showed that males were more than three times likely to smoke than were females [6]. Another study conducted among college students of Kathmandu Valley, revealed that males were more likely to be smokers than females due to feelings of maturity, independence and solidarity [4]. Similarly, more males than females were alcoholic in Nepal (p=0.000). This finding is similar to a study conducted in India, where prevalence of alcohol was more in male (Ganesh et al. 2013). However our study showed that participants with a higher educational level consumed more alcohol than did participants with a low educational level (p=0.048). This finding contrasts with a study conducted in India where a lower education was significantly associated with alcohol consumption [15].

About 82.3% of participants believed alcohol to be a risk factor for cancer. This finding is similar to that from a study conducted in Saudi Arabia, where 80.4% participants believed alcohol to be a risk factor [18]. Alcohol was also believed to be a cancer risk factor by 71.3%, 68%, and 58.8% of the respondents in studies in Malaysia, Pakistan, and India, respectively [3, 5]. However, this finding was inconsistent with those of studies conducted in Japan, where only 22% of the participants identified alcohol as a risk factor [14]. In a study done in Australia, despite consistent evidence linking alcohol consumption to cancer causation, only 58% saw alcohol as a risk factor. In particular, recognition of beer and red wine as risk factors for cancer was low [16]. This belief was also prevalent in our study. Participants in our study believed red wine decreased the cancer risk and denied red wine in particular as a risk factor for cancer. Hence we identified the protective effect of red wine as a myth.

In our study, lung cancer was the most commonly known cancer (85%), followed by oral cancer (80%) and uterine cancer (77.7%). About 70.3% did not know about prostate cancer. Only 26.3% had heard about liver cancer. This may be because of a lack of exposure to knowledge regarding cancer other than oral and lung cancer. Government and other organizations are conducting various programs to make people aware of the leading cancers in the country, which might have shadowed information about other cancers.

In our study only 23% were aware that low consumption of fruits and vegetables could be a risk factor for cancer. This finding is not consistent with another study done in Nepal, where 82.5% were aware of the role of green vegetables. Green and yellow vegetables are good source of beta- carotene, which is supposed to protect against lung cancer, although the role of beta- carotene is still controversial [7].

Only 19.59% of literate and middle- aged female had undergone cervical cancer screening in this study. A study conducted in Nepal found that shyness and ignorance of the concept of screening were the most important factors among females for refusal of cervical cancer screening (Sherpa et al. 2015). Consequently, even though free cancer screening programs are being conducted, they do not have good success rate. Cervical cancer is an important issue in Nepal; hence, proper strategies should be developed to increase participation by women in screening programs. A significant association was found between education and knowledge. Literate participants had greater knowledge about cancer than did the illiterate participants. In addition, the higher the educational level, the better the knowledge. It is well known that education is very important for good health. This finding is supported by other studies, indicating that education is an important marker in healthy behavior [1, 2, 8].

People in Nepal are adopting a "westernized lifestyle" that has increased sedentary behavior and the attraction of oilier and greasier smoked food, rather than fresh vegetables. In our study, respondents showed a low awareness of reduced fruit and vegetable consumption. The western diet pattern– which includes red and processed meat and refined grains – and sedentary lifestyles were associated with cancer risk. This finding is supported by an Omani study in which respondents showed a low awareness about eating less fruit and vegetables, and where obesity and the eating of red or processed meat were associated with cancer risk [2]. With this reduced awareness, there is a high risk of Nepali people suffering from cancer.

It was also found that those who were non- smokers had better knowledge about cancer risks than did the current smokers. It might be that knowledge about risk factors prevented non- smokers from smoking.

Although this study provides important information about general awareness of cancer, it does have limitations. Since it was conducted in only five wards of Lalitpur sub- metropolitan city, it cannot be generalized to other people living in our cities. Moreover, this was a descriptive, cross– sectional study; a longitudinal study design could explore further the knowledge gap in participants about cancer.

5. CONCLUSION

From this study, it can be inferred that there is a strong need for awareness about cancer. Proper strategies should be developed to increase women's participation in cancer screening tests to ameliorate the increasing cancer risk. Cancer is an important lifestyle-related disease, and Nepal needs to place greater focus on raising awareness of its risk factors, signs and symptoms, and prevention. In addition, there is a need to provide equitable access to health services for cancer screening, early detection, treatment, and palliative care. Very few studies have been conducted to assess the general awareness of cancer. Therefore, more research should be conducted on this topic. This study shows that there is a high demand for improved cancer awareness among Nepali people.

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