

THE INTERNATIONAL JOURNAL OF SCIENCE & TECHNOLEDGE

Cancer Prevalence in Terai Region of Nepal

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Abstract:

Background

Nepal being one of the low and middle-income countries where disease pattern shifted from communicable to non-communicable diseases such as cancer and heart diseases since past. The main aim of the study was to explore the prevalence of cancer in Terai region of Nepal. The study was conducted in BP Koirala Memorial Cancer Hospital, Bharatpur Chitwan. The study was non-experimental, descriptive, exploratory and cross sectional and applied quantitative research design. The data was collected from the records of 800 cancer diagnosed patients of the hospital. The record was collected and analyzed from 160 randomly selected cancer cases from year 2009 to 2013 AD. The research area was divided into Terai and Hill by Chure mountain range. North to the range was Hill and south Terai. Conclusion: Findings suggested that oral cancer cases were high in Terai region. Other cancers prevailing in the region were lung, gastric, colon, liver/gall bladder, breast, cervix etc. which signifies further research on the risk factors of oral cancer and other cancers in this region.

Keywords: Cancer, Nepal, Prevalence, Risk, Terai region

1. Introduction

Cancer is a generic term for a large group of diseases that can affect any part of the body. Around one third of deaths from cancer are due to the 5-leading behavioral and dietary risks: high body mass index, low fruit and vegetable intake, lack of physical activity, tobacco use, and alcohol use. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasizing. Metastases are a major cause of death from cancer (Fact sheet, 2017). Cancer is a major cause of morbidity and mortality, with approximately 14 million new cases and 8 million cancer-related deaths in 2012, affecting populations worldwide (World Cancer Report, 2014). There will be estimated around 26million new cancer cases and 17 million cancer deaths per year by 2030 (Thun, DeLancey, Center, Jemal, & Ward, 2009). World Cancer Report showed South East Asia Region has high cancer-related morbidity. An estimated 1.7 million new cases of cancer occur each year in the Region. The study shows that among males, lung cancers are most common followed by oral cancer, while among females, breast and cervix uteri cancers have the highest incidence (World Health Organization, South East Asia Region, 2011). According to the World Health Statistics 2012, cancer accounts for the second largest proportion of non-communicable disease deaths (21%) (Khan, et al., 2013). It is estimated that the annual number of deaths due to cancer will increase from 7.6 million in 2008 to 13 million in 2030. More than two thirds of all cancer deaths occur in low and middle-income countries with higher prevalence of lung, breast, colorectal, stomach and liver cancers. Lung Oral, gastric, breast, cervix etc. are some of the major cancer problem worldwide, Asia, Nepal. According to earlier studies, there are currently approximately 8,000-10,000 new cancer patients per year in Nepal. Females are more affected by cancer than males. Cancer of the lung, uterine cervix, head and neck, breast and gastric are the most common types of cancer in Nepal (Mishra, Raj, Neupane, Bhandari, Khanal, & Kallestrupi, 2015). Cancer burden is huge in Nepal due to various factors such as economical, geographical and educational etc. which signifies the need of various researches to minimize the burden of cancer.

2. Objective

The objective of the study was to explore prevailing major types of cancer in Terai region of Nepal.

The main aim of the study was to explore the prevailing cancer types in Terai region of Nepal. There is need of finding the cancer pattern in different region of Nepal. In the study by V S Binu et al. also mentioned this fact that there was 'no reliable information about the incidence or pattern of cancer in Nepal'(Binu, et al., 2007).The use of tobacco in different forms such as smoking or chewing found to be associated with different cancers which were evident from several studies. In the studies, the association of tobacco and other factors such as Head and neck squamous cell carcinoma (HNSCC) include squamous cell carcinomas of the oral cavity, pharynx, and larynx. In the study BAEZ admitted that HNSCC are influenced by environmental and lifestyle-related factors, such as tobacco use, ethanol consumption, papilloma virus infection, dietary factors and exposure to toxic substances (BÁEZ, 2008).

Similar results were observed in Nepalese context in the study of Subedi and Sharma that smoking as the major risk factor in developing lung cancer (Subedi & Sharma, 2013). The people Nepal mostly have habit of smoking which might have linkage of developing cancer. Although the history of cancer is very old, still progress is observed slow in the field of cancer prevention and care. Despite of several cancer prevention and care efforts in the country, the trend of cancer is not coming down. It warrants that there is need to explore and implement effective comprehensive cancer care mechanism.

3. Materials and Methods

The data was collected in the BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal. The study research design was quantitative, descriptive and cross sectional. The data of 800 cancer patients' records were analyzed using purposively prepared checklist to gather relevant information from hospital records. The sample of 160 patients' record each year was selected by simple random sampling from year 2009 to 2013 AD. For the study purpose the country was divided into two regions namely Hill and Terai, divide by north to the Chure mountain range which runs east to west of Nepal. North to the Chure range was Hill and south was Terai. The study data presented as frequency table and cross tables.

4. Results and Discussions

4.1. Cancer Patient's Distribution from Year 2009 to 2013 AD

From hospital record analysis from year 2009 to 2013 AD the patient's distribution found as table below:

Region	% within Region	Year of Observation					Total
		2009	2010	2011	2012	2013	
Terai		20.6%	18.2%	24.8%	18.2%	18.2%	100.0%

Table 1: distribution of Cancer cases from year 2009 to 2013 AD

Source: Field Survey, 2015

The hospital data analysis from above table showed that the cancer patients from Terai region were 20.6%, 18.2%, 24.8%, 18.2% and 18.2% from year 2009 to 2013. The table showed that there was almost similar percentage of cancer patients during the five years period in Terai region. The record showed cancer patient's number was high in year 2011 by almost 25% compared to other years.

4.2. Major Cancer types in Terai Region of Nepal

The cancer distribution in Terai region is shown in the table below,

Region	Major Category								Total (%)
	Oral (%)	Lung (%)	Colon / Colorectal (%)	Stomach (%)	Breast (%)	Liver / Pancreas / Gall Bladder (%)	Cervix / Uterus (%)	Other (%)	
Terai	32.1	25.5	4.0	8.3	2.1	6.0	1.8	20.3	100.0

Table 2: Major cancers in Terai region, Nepal

Source: Field Survey, 2015

The above table showed there were 32.1% oral cancer, 25.5% lung cancer, 4% colon and colorectal cancer, 8.3% Stomach cancer, 2.1% breast cancer, 6% liver/Pancreas/gall bladder cancer, 1.8% cervix and Uterus cancer and 20.3% other cancers (skin, eye, bone and connective tissue etc.). In the research of Pradhananga et al. mentioned that "overall most common site in males was the lung, followed by the oral cavity and stomach, while the first three in females were cervix uteri, breast and lung" (Pradhananga, Baral, & Shrestha, 2009). Piya and Acharya mentioned from the hospital registry based research that the most common cancer in males is lung cancer, followed by oral cavity and stomach while the most common cancer in females are cancer of the cervix uteri, breasts, and lungs in the country (Piya & Acharya, 2012). From the above table the findings showed there were more oral and oral cavity cancer followed lungs and other cancers. The findings suggested that oral cancer found mere in Terai region.

5. Conclusion

Oral cancer found to be prevailing in Terai region followed by lung, gastric, liver gall bladder, colon, cervical, breast and other types of cancers. It showed the need of further exploration and research on specific cancer and related risks in this region. Furthermore, there is need to investigate the relevant activities to minimize the cancers in this region.

5.1. Ethical Approval

Ethical approval was acquired from Nepal Health Research Council, Ram Shah Path, Kathmandu, Nepal.

6. Acknowledgement

I would like to thank Dr. Bhakta Man Shrestha, Dr. Tej Bahadur Karki, NHRC Team and BPKMCH, Chitwan, Nepal for providing permission for data collection.

7. References

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