



A Comparative Study on the Pattern of Tobacco Related Cancers and Habits of Tobacco Usage amongst Bengali Muslim Community of Barpeta District Assam, India

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Available online at: www.isca.in, www.isca.me
Received 5th March 2014, revised 14th April 2014, accepted 10th May 2014

Abstract

The use of tobacco in any form is a common practice amongst both the males and females of Bengali speaking Muslim community of Barpeta District of Assam. Males and females from the Bengali Muslim community use tobacco in various forms, both chewable and smoking forms. Tobacco related cancers (TRC) are preventable form of cancer by primary cancer control programmes. In this analysis, authors have tried to study the pattern of TRCs of the Bengali Muslim community of Barpeta and correlated with the tobacco habit prevalent in this community. Our study has shown that knowledge on the types of tobacco use and associated cancers of a community are necessary for conducting community based awareness programmes on cancer by imparting health education, rather than generalizing an awareness programme for different communities which may differ in its customary habits of tobacco use.

Keywords: Cancer, Bengali Muslim community, tobacco habit, tobacco related cancers.

Introduction

The use of tobacco in any form is a common practice amongst both the males and females of Bengali speaking Muslim community of Barpeta District of Assam. Barpeta is a highly populous District of Assam with a population of 16, 93,190 according to the 2011 census¹. The Bengali Muslim community constitutes a significant population of the District. The majority of the people from this community are engaged in farming. Males and females from the Bengali Muslim community use tobacco in various forms, both chewable and smoking forms. According to the International Agency for Research on Cancer (IARC) there is sufficient evidence to show the cancer sites that are related to the use of tobacco are lips, tongue, mouth, pharynx, larynx, esophagus, lungs, stomach, colo-rectal cancers, kidneys, urinary bladder, uterine cervix in females, and myeloid leukemia in adults². These are also called as tobacco related cancers (TRC). Tobacco related cancers are preventable to some extent by primary cancer control programmes. In this analysis, authors have tried to study the pattern of TRCs of the Bengali Muslim community of Barpeta and correlated with the tobacco habit prevalent in this community. This study will shed light on the burden of TRCs in a particular community and types of community based awareness needed for the prevention of TRC's.

Methodology

The data on different cancers in males and females of Bengali Muslim community of Barpeta District was obtained from the data base of Hospital Cancer Registry of a regional cancer center in Eastern India for the period of 2010 to 2012. All the

cases of cancer in Bengali Muslim community of Barpeta District were analyzed for gender and different sites of tobacco related cancers. The information on tobacco related cancers (TRC) was stored in a standard core proforma of the National Cancer Registry Programme (NCRP) of the Indian Council of Medical Research and subsequently entered on to cancer registry data management software (HBCRDM 1.0). The data was then exported from the HBCRDM 1.0 on to a excel spread sheet program. The information on various sites of TRC's was identified by the international statistical classification, tenth revision (ICD-10) coding³. A field study across different areas of the District was undertaken by trained social workers to identify the pattern of use of various tobacco products including the habit of betel nut chewing in that community. A total 100 males and 60 females of the Bengali Muslim community of Betbari mouza under Barpeta District were randomly selected and interviewed for the types of tobacco habits. The habits of tobacco use were clustered in three forms; only chewable form, only smoking form, and chewable + smoking form. The chewable form constituted the use of betel nut, zardas, gutkhas, and khaini. Smoking form constituted the use of bidis and cigarettes.

Statistical analysis used: Descriptive statistics was used and the results are presented as percentages.

Results and Discussion

Results: Out of total 583 (N) cases of cancers amongst the Bengali speaking Muslim community members, 59.5% or 347 (n) were TRC's. There were 406 (N=583) males and

177(N=583) females (male to female ration of 2.2). In males, TRC's accounted for 65% (264/406) of all cancers and in females it was 46.8% (83/177) of all cancers (table 1).

The TRC distribution in males of Bengali speaking Muslim community: The leading sites of TRCs in descending order are; pharynx in 20.8%, lungs in 18.9%, esophagus 14.0 %, larynx 10.2%, tongue 9.8%, stomach 9.4%, mouth 7.1%, colo-rectal 2.6%, urinary bladder 2.2%, lip 1.5% , acute myeloid leukemia in adults were seen in 1.1% of patients, in kidneys in 1.1%, and in the para nasal sinuses in 0.75% of all TRC's (table 1).

3.6%, pharynx in 2.4%, the RP of TRC's in kidneys, larynx, para nasal sinuses, and pancreas were seen in 1.2% of all patients with TRC (table 1).

Tobacco usage in the Bengali speaking Muslim community: Out of total 160 persons interviewed for habit of tobacco use, 79% (79/100) males and 65% (39/60) females were using tobacco in the various forms we had clustered in our methodology. In male users, 6% (4/79) were using only the chewable form and 94% (74/79) were using both chewable and smoking forms, where as 97.4% (38/39) females were consuming chewable form and only 2.6% (1/39) were using both chewable and smoking form (table 2).

Table-1
It shows the distribution of Tobacco related Cancers amongst males and female in relative proportion

ICD 10	Site	Male	Female	*RP (%)	
				Male	Female
C00	Lip	4	7	1.5	8.4
C01-C02	Tongue	26	8	9.8	9.6
C03-C06	Mouth	19	22	7.2	26.5
C10,C12-C14	Pharynx	55	2	20.8	2.4
C15	Oesophagus	37	9	14.0	10.8
C16	Stomach	25	8	9.5	9.6
C18-C20	Colo rectal	7	3	2.7	3.6
C25	Pancreas	0	1	0.0	1.2
C30-C31	Para Nasal Sinus	2	1	0.8	1.2
C32	Larynx	27	1	10.2	1.2
C33-C34	Lung	50	4	18.9	4.8
C53	Uterine cervix	0	16	0.0	19.3
C64-C66	kidney	3	1	1.1	1.2
C67	Urinary Bladder	6	0	2.3	0.0
C92	Acute Myeloid Leukemia in Adults	3	0	1.1	0.0
	Total Tobacco Related Cases	264	83	65.0	46.9
	All Sites	406	177		

*RP= Relative proportion.

The TRC distribution in females of Bengali speaking Muslim community: The leading sites of TRCs in descending order are; mouth in 26.5%, uterine cervix in 19.2%, esophagus 10.8%, stomach and tongue cancers were seen in 9.6% of patients with TRC's, in lips and lungs in 8.4%, colo-rectal in

Table2
The Table shows the pattern of use of Tobacco amongst males and Females of Bengali speaking muslim community

Gender	Only Chewable	Chewable + Smoking
Male	4	75
Female	38	01

The habit of chewable tobacco amongst the male respondents of tobacco users: In the males of the community, 100 % (79/79) were chewing betel nut, 29% (23/79) were using zarda, 53.1% (42/79) were chewing khaini, 24.0% (19/79) were chewing gutkhas, and 5.0% (4/79) were using combination of betel nut and zarda, 16.45% (13/79) were using combination of betel nut and khaini, 1.2% (1/79) were using combination of betel nut and zarda, and 13.9% (11/79) were having the habit of all the form of chewable habits of tobacco (table 3).

The habit of chewable tobacco amongst the female respondents of tobacco users: In the females of the community, 100 % (39/39) were chewing betel nut, 100% (39/39) were chewing zarda, 12.8% (5/39) were using khaini, betel nut and zarda combination were used by 84.6 % (33/39) respondents, and combination of betel nut and zarda were used by 12.8% (5/39) of all the respondents (table 3).

The habit of smoking amongst the male respondents of tobacco users: In the male respondents with the habit of smoking, 49.3% (39/79) were bidi smokers, 13.9% (11/79) were only cigarette smokers, and 31.6% (25/79) were both bidi and cigarette smokers (table 4).

Table-3
The habits of chewable tobacco seen amongst the male and female respondents in the present field study

Gender	Chewable							
	Betel Nut (B)	Zarda (Z)	Khaini (K)	Gutkha (G)	B+Z	B+K	B+G	All four
Male	79	23	42	19	4	13	1	11
Female	Chewable							
	Betel Nut (B)	Zarda (Z)	Khaini (K)	Gutkha (G)	B+Z	B+Z+K	B+G	All four
Female	39	39	5	0	33	5	0	0

The habit of smoking amongst the female respondents of tobacco users: In the female respondents with the habit of smoking only 2.5% (1/39) had the habit of smoking bidi (table 4).

Table-4

Table shows the pattern of use of Bidis and Cigarettes by respondents who were in the smoking group.

Gender	Smoking Pattern		
	Only Bidi (B)	Only Cigarette (C)	B+ C
Male	39	11	25
Female	1	0	0

Discussion: In our hospital registry males are usually 1.4 times more affected than female⁴. However, in the Bengali speaking Muslim community as per the present analysis, males are more than twice (2.2 times) affected with cancers. A study in western India has shown the proportion of TRCs in males is around 33% and in females it was 12%⁵. In India, the highest relative proportion of cancers associated with the use of tobacco is seen in the East Khasi Hills population with 69.3% of males and 43.0% females are afflicted with TRC's⁶. The relative proportion of TRCs in the Bengali speaking Muslim community was 65% in males and in females it was 46.8% of all cancers. This is significant in view that the fact that both the population of east Khasi Hill in Meghalaya, and in present field study amongst the Bengali speaking Muslim community the prevalence of the habit of betel nut use is common. The proportion of TRCs in the females of our study group (46.8%) is even higher than the TRC's (43%) of the overall population of East Khasi Hills District of Meghalaya. In our retrospective analysis of the registry data of the Bengali Muslim community, the sites of TRCs in males were equivocally related (pharynx, lungs, esophagus, larynx, stomach, tongue and mouth etc.) to the habits of tobacco use in the population, ie both chewable and smoking form which was observed in 94% of the respondents but only smoking habit was neither seen males or females respondents in our field study. One significant finding of the present study is the presence of very high proportion of mouth cancers (>26%) in females of Bengali Muslim community in the view of the fact that 98% of tobacco users amongst the female respondents of tobacco users were using chewable form of tobacco. This is significant because, in female cancers of the uterine cervix, breast, gall bladder, ovary and esophagus are leading sites of cancers of our population irrespective of ethnicity or different community groups⁶. The carcinogenic (cancer causing) potential of betel nut, areca nut is well established,⁷ over and above tobacco products. This could be an area for sociological intervention for tobacco control measures as prime cancer control activity amongst the females of Bengali speaking Muslim community of Barpeta District. Vaccines for primary protection against uterine cervical cancers in females⁸ as a primary cancer control programme may not be so effective in lowering the cancer burden in females of Bengali speaking Muslim community of Barpeta, as the mouth cancer has been seen to be the leading cancer in our analysis. The high proportion of mouth cancers in females has been compounded by the habit of

chewable tobacco use. Though, the chewable habit of tobacco use in the female respondents was very high in our field study, but the use of tobacco as gutkha form was not seen in any of the female respondents with tobacco habit. In our field study, it was observed that almost 81 % of male Bengali Muslim respondents were smoking bidis either alone or with cigarette (combination).

Conclusion

It is known that tobacco control measures are to be undertaken to reduce the cancer incidence and mortality. Our study has shown that knowledge on the types of tobacco use and associated cancers of a community are necessary for conducting community based awareness programmes on cancer by imparting health education, rather than generalizing an awareness programme for different communities which may differ in its customary habits of tobacco use. Special emphasis should be laid on the specific habits of tobacco use in a community which will have a greater impact on the overall cancer control measures.

Acknowledgement

National Centre for Disease Informatics and Research under the Indian Council of Medical Research for providing grant in aid to our registry.

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