Original Article

Clinical Presentation of Patients with Thyroid Cancer in Tertiary Level Hospitals

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Abstract

Introduction: Thyroid malignancy is the most common endocrine malignancy seen in clinical practice. Incidence of thyroid cancer varies worldwide from 0.5 to 10 per 1,00,000 populations annually. Exact incidence of thyroid cancer in Bangladesh is not known.

Aim: To find out the clinical presentation of patient with thyroid cancer and identify the association between socio-demographic features and clinical presentation.

Methods: This cross sectional study was conducted purposively among 246 thyroid cancer patients in two tertiary hospitals of Dhaka city from 01 July 2018 to 30 June 2019. Data were collected by face to face interview using semi-structured questionnaire and checklist and were analyzed by Statistical Package of Social Science (SPSS) version 23.

Results: Study revealed that mean±SD age of the respondent was 37.9±12.20 years (range 14-70 years). Majority (74.4%) of respondents was female, married 72%, housewife 61.4%, primary education 69.0% and mean±SD monthly family income was BDT 17,681±10,602. Approximately 82.9% of patients had papillary cancer and 17.1% had follicular cancer. Various clinical presentations included, neck swelling 91.5%, swollen lymph node 41.9%, pain 36.6%, dysphonia 57.3% and dysphagia 35.4%. Study revealed the significant association of clinical presentation with gender, education and occupation of the respondents ($p<0.05$).

Conclusion: Incidence of thyroid cancer has increased worldwide specially in female patients. As thyroid cancer is a growing public health problem in Bangladesh, proper screening and early diagnostic facilities at all level should be available to measure its actual burden in the country.

Key-words: Clinical presentation, Thyroid cancer, Socio-demography, Thyroid malignancy, Tertiary Level Hospitals.

Introduction

Thyroid cancer is the common endocrine cancer accounting for 92% of all endocrine malignancies in clinical practice[1]. Due to increased use of diagnostic imaging and surveillance, incidence of thyroid cancer continues to rise worldwide especially in female patients[2]. Females are more affected than males[3]. Incidence of thyroid cancer varies worldwide from 0.5 to 10 per 1,00,000 population annually[4]. The American Cancer Society estimates about 17,000 new cases of thyroid cancer diagnosed annually in the United States of America and 1,300 deaths occur due to thyroid cancer annually[5]. It has a peak incidence in the 3rd and 4th decade of life[5]. The 5-years survival rate[6] for people with thyroid cancer is 98%. Most common thyroid malignancy is papillary carcinoma which occurs 60-70% of all thyroid cancers in adults and 70% in children[7].

Exact incidence of thyroid cancer in Bangladesh is not known. One study[8] at INM and thyroid clinic in Bangabandhu Sheikh Mujib Medical University (BSMMU) Dhaka reviewed 2,629 thyroid patients from January 1994 to June 1995 and found prevalence of thyroid carcinoma 2.58%.Thyroid cancer represents a spectrum of different histological entities with diverse clinical behaviour. Since thyroid carcinoma have a wide spectrum of clinical presentations, its various features and histological types are widely correlated among of thyroid cancer patients. Little information is available regarding the demographic presentation and clinical characteristics of thyroid cancer patients in Bangladesh. This study was conducted to determine the socio-demographic and clinical characteristics among thyroid cancer patients which will subsequently help the government and relevant organizations to take necessary steps to provide economic and infrastructural support to reduce the burden of the disease.

Materials and Methods

A cross sectional study was explored among 246 thyroid cancer patients who were diagnosed by expert oncologist with considering the histopathological report and were being followed in Institute of Nuclear Medicine and Allied Science of BSMMU and Dhaka Medical College Hospital (DMCH) from 01 July 2018 to 30 June 2019. There were 7 items for assessing the clinical attributes of thyroid cancer patients and this assessment was done by employing a Likert-type format (not at all, a little, quite a bit, very much). After pretesting, the questionnaire was finalized and used for data collection. Informed written consent was obtained before data collection. After explaining the purpose of the study, data were collected by face to face interview using a semi- structured questionnaire and checklist through reviewing medical records of the respective participants. Collected Data were analyzed with the help of SPSS 23. The data were presented in frequency tables and diagram to identify the distribution and clinical characteristics of the disease.

Results

Out of total 246 thyroid cancer patients, the mean±SD age was 37.9±12.2 years (range 14-70 years) and 50.4% patients were within 30-49 years. Majority (74.4%) of the participants was female, married 72%, house wife 61.4% and male female ratio was 1:3. Around 69% had primary education and mean±SD monthly family income was 17,681±10,602 BDT (Table-I). Approximately 82.9% of the patients had papillary carcinoma followed by follicular carcinoma 17.1% (Figure-I). Most common presentation

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of study participants was visible neck swelling 91.5%, swollen lymph node 41.9%, pain 36.6%, difficulties in swallowing 35.4%, hoarseness of voice 57.3%, cough along with swelling 19.1% and difficulties in breathing 5.3% (Table-II). This study revealed the significant association($p < 0.05$) of clinical presentation with gender, education and occupation of the respondents (Table-III).

Table-I: Distribution of thyroid cancer patients by socio-demographic character (n=246)

Attributes	Category	Frequency	Percentage
Sex	Male	63	25.6
	Female	183	74.4
Age (Years)	14-19	13	5.3
	20-29	54	22.0
	30-49	124	50.4
	50-70	55	22.3
Education	Primary	69	28.1
	Secondary	27	11.0
	SSC	38	15.4
	HSC	25	10.2
	Graduate	21	8.5
	Masters	15	6.1
	Illiterate	51	20.7
Occupation	Student	14	5.7
	Service Holder	35	14.2
	Retired	4	1.6
	Business	19	7.7
	Farming	7	2.8
	Housewife	151	61.5
	Unemployed	11	4.5
	Day labor	5	2.0
Marital Status	Married	177	72.0
	Unmarried	32	13.0
	Widow	27	11.0
	Divorce	10	4.0
Monthly Family Income (BDT)	5000-10,000	89	36.2
	10,001 - 20,000	109	44.2
	20,001 – 30,000	24	9.8
	30,001 –60,000	24	9.8

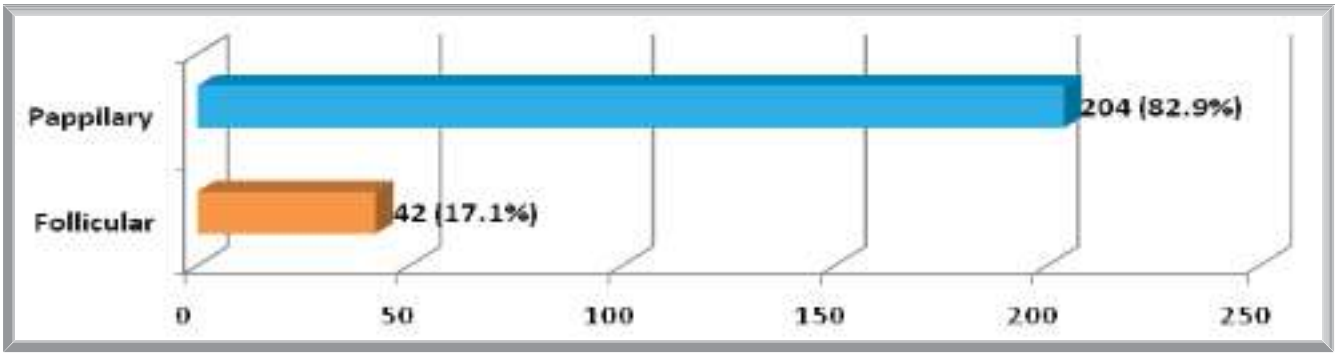

Figure-1: Distribution of patients by type of thyroid cancer (n=246)

Clinical Attributes	Not at all n (%)	A little n (%)	Quite a bit n (%)	Very much n (%)
Visible lump in neck	21(8.5)	146(59.3)	68(27.6)	11(4.5)
Swollen lymph node	143(58.1)	98(39.8)	5(2.0)	0
Pain due to lump	156(63.4)	82(33.3)	8(3.3)	0
Difficulties in swallowing	159(64.6)	77(31.3)	10(4.1)	0
Hoarseness of voice	105(42.7)	98(39.8)	43(17.5)	0
Cough along with swelling	199(80.9)	47(19.1)	0	0
Breathlessness due to lump	233(94.7)	13(5.3)	0	0

Table-II: Distribution of thyroid cancer patients by clinical attributes (n=246)

Table-III: Association of severity of thyroid cancer on the basis of clinical condition and selected socio-demographic character (n=246)

Attributes		Severity of thyroid cancer		Statistics
		Mild (n,%)	Moderate (n, %)	
Gender	Male	48(76.2)	15(23.8)	$\chi2$=6.31 df=1, p<0.05
	Female	107(58.5)	76(41.5)	
Education	Primary	49(71.0)	20(29.0)	$\chi2$=17.92 df=6 p <0 .05
	Secondary	17(63.0)	10(37.0)	
	SSC	20(52.6)	18 (47.4)	
	HSC	18(72.0)	7(28.0)	
	Graduate	17(81.0)	4(19.0)	
	Masters	12(80.0)	3(20.0)	
	Illiterate	22(43.1)	29(56.9)	
Occupation	Student	6(42.9)	8(57.1)	$\chi2$=21.51 df=6 p<0.05
	Service holder	27(77.1)	8(22.9)	
	Retired	2(50.0)	2(50.0)	
	Businessman	17(89.5)	2(10.5))	
	Farmer	3(42.9)	4(57.5)	
	House wife	86(57.0)	65(43.0)	
	Unemployed	11(100.0)	0(0.0)	

Discussion

In this study, 246 thyroid cancer patients' mean±SD age was 37.9±12.2 years with a range of 14-70 years and the highest 50.4% was in between 30-49 years which is similar to other studies[9,10]. Male was 25.6% and female 74.4% and male to female ratio was 1:3. A study conducted by Haque GS[11] revealed the similar results with the present study may be due to same geographical location. Out of all respondents, illiterate 20.7% and had low educational attainment 28%. Present data support the national statistics[12] where literacy rate was shown as 72.8%. In respect of occupation, respondents were mostly house wife 61.4%, married 72%. Tagay et al[13] showed the similar results with his study. According to the Bangladesh demographic and health service data, the usual age at marriage for male is 25.1 years while it is 18.5 year[14]. sMajority (44.3%) had monthly family income BDT 10,001-20,000 and mean monthly family income BDT 17681±10602. Household income per month was 15,945.00 BDT which was reported to CEIC- a global data base organization by Bangladesh Bureau of Statistic[15].

In this study papillary carcinoma was found in 82.9% cases and follicular carcinoma was in 17.1%. The similar result was found by Merchant[16] where papillary carcinoma was 80% and follicular carcinoma was 10%. This similarity was probably due to study design. Regarding presenting complaints, visible lump in the neck were 92% which showed the similar result by Pramod[17]. This similarity was probably due to the food habit, socio-economic and environmental condition of this sub continent. Lymph node swelling of the respondent was 41.8% which revealed the similar results in kannan[18]. Majority (63.4%) of the respondents did not complain of pain due to lump which was not similar in study by Haque[11]. Maximum (64.6%) of the respondents had complained of difficulties in swallowing due to lump that did not correlate with the study Merchant[16] probably due to dissimilarity of study design. Most of the respondents (57.3%) complained of hoarseness of voice which disagreed with Merchant[16]. Respondents 5.3% did not complain of difficulties in breathing which were similar to Chidambaram[19] and this similarity was probably due to the same characteristics in geographical location of this subcontinent. Present study unveils that severity of thyroid cancer on the basis of clinical condition had significant association with gender, education and occupation of the respondents (p<0.05). Although this study was performed with small sample size in two tertiary level hospitals but still it provides a base for the future study with large sample size involving wider area representing demographics of the country.

Conclusion

Thyroid carcinoma occurs mostly in females in 3rd and 4th decades of life. Papillary carcinoma was common histological type of thyroid carcinoma both in males and females. The most common presentation of thyroid cancer patients was mass in anterior neck, cervical lymphadenopathy, dyspnea, hoarseness of voice and dysphagia. Present study unveils that severity of thyroid cancer on the basis of clinical condition had significant association with gender, education and occupation of the respondents.

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