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Editorial

Dengue, alarming situation in Bangladesh

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**For Correspondence*

Dengue, like previous years appeared this year also in Bangladesh. With the commencement of monsoon, Dengue cases were gradually increasing. But in the month of July 2019 the incidence was unusually high and pattern of this disease was also changed. Initially it was confined to major cities specially Dhaka but later spread to almost all districts.

According to a report in the daily Prothom Alo, in 2019 till September15th the total numbers of Dengue cases was 80,567 and numbers of total death was 219, whereas in 2018 the total Dengue cases were 10,148.

From the 1st week of August 2019 everyday huge number of patients were found to be admitted in the hospital in all districts. Initially inadequate control measures and non-availability of diagnostic facilities were making the condition worse though the government was trying hard to tackle the situation as soon as possible. In September the situation turned better and the incidence of Dengue found to be gradually decreasing.

Dengue, an arboviral disease is transmitted by the Vector Aedes mosquito. In Bangladesh usually two species are found Aedes agyptei found mostly in urban areas and Aedes albopictus in rural areas.

Dengue virus are of 4 serotypes. Type 2 & 3 (Den-2, Den 3) are serious types. This year type 3 is mostly observed in Bangladesh.

Dengue as we know is of 2 forms, 1) Classical Dengue, 2) Hemorrhagic dengue which may produce Dengue shock syndrome. Classical Dengue is presented by high fever, severe pain for initial 4/5 days then subsided caused by next one week. But Hemorrhagic Dengue is important for its complication. When the fever subsides the symptoms of hemorrhage develop such as rash, gum bleeding, hematemesis, malena etc. Decreased Platelet count needs physician's attention and monitoring. This year in some patients, Dengue pattern is found to be changed such as moderate fever for 2-3 days, sudden shock and collapse. Therefore, in Dengue suspect causes early diagnosis is necessary. Usually antigen test (NS1 antigen) is found positive early (1-2 days) and antibody IgM and IgG subsequently within next 3-5 days. CBC is also done to see the cell count.

Patient management is mostly symptomatic. Bed rest under mosquito net, plenty intake of fluid orally and IV fluid is advised.

Most important is the control of outbreak beside patient management. Removal of Aedes mosquito and its breeding places is vital. According to WHO entomology specialist Dr. B.N. Nagpal the mosquito control should be started at home and awareness of the people is important. He advised to remove all possibility of artificial collection of water even small quantity in and around home.

Aedes mosquito do not move long distance and remain confined around its breeding places. Female Aedes mosquito lay eggs not directly in water but in near damp areas nears water such as at the corners of the pots, containers, tyres etc where artificial collection of clear water is found specially during rainy season. In favourable time when the eggs come in contact with water the larva is hatched and grow up in water as pupa & adult. But in dry or adverse condition the eggs may remain alive for 6-9 months. Adult mosquito cannot tolerate sunlight and prefer to stay inside house under furniture, curtains etc. Therefore, it is necessary to take anti mosquito measures in the lower portion of the rooms and corners. Before 1970 in occurrence of Dengue was low and limited to 9 countries only. But now it involves about 139 countries and 250 Billion people are at risk (Dr. B. N. Nagpal, Daily Jugantor, 06-08-19). At present the incident is highest in Philippines. The country has already declared Dengue Epidemic as till July'2019 more than 1,49,000 cases detected and 622 deaths occurred. In Bangladesh incidence is clearly higher than previous years and number of deaths are also alarming. To control Dengue, integrated and coordinated efforts of all sectors are essential. Most important thing is the proper awareness of the people and to assume own responsibility to keep their houses and surroundings clean, free from breeding places of aedes mosquito and timely treatment of the affected people as early as possible without panic.

Original Article

Pattern of Dermatological disorder and prevalence of skin disease among different age group in Rajshahi Medical College Hospital.

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Abstract

Background: *The pattern of skin diseases varies from one country to another and across different parts within the same country. Skin diseases are common among the general population and account for a high percentage of all diseases and their complications are a major burden on the health system of many nations. For considering the increase in the prevalence of specific skin diseases, prevalence data are needed.*

Objectives: *To identify the pattern of dermatological diseases and percentage of skin disease among different age group of patient in the Out-Patient Department in Rajshahi Medical College Hospital.*

Materials and Methods: *This cross-sectional type of descriptive study was carried out among patients attending the OPD of Dermatology from July 2016 to June 2017 in Rajshahi Medical College Hospital. The relevant data was collected from OPD prescriptions by taking photographs of the prescriptions and details were filled in the predesigned proforma. A total number of 384 prescriptions were collected from the OPD patients and data was analyzed by SPSS version 16.*

Results: *Among 384 prescriptions, Infants (<1) yrs 27(7%), children (1-12) yrs 98(25.5%), adolescent (13-18) yrs 60(15.6%), adults (19-65) yrs 192 (50%) and geriatrics (>65) yrs 7(1.8%) were suffered by skin disease. Among the skin disease scabies (29.2%), dermatitis (21.6%), acne vulgaris (10.2%), fungal infections (8.9%), and psoriasis (8.6%) were more common disease found in OPD of Rajshahi Medical College Hospital in Bangladesh. Infants were more prone to seborric dermatitis (4.4%), scabies (2.6%). Acne vulgaris (4.9%), fungal infections (2.1%) were in adolescent. Dermatitis (9.9%), fungal infections (5.2%) were more common in adult and geriatrics were suffered from fungal infection (1.03%), scabies (0.5%), psoriasis (0.3%).*

Conclusion: *From our study we found that adult age group (19-65) yrs and female were most affected by Dermatological disorder. The commonest dermatological disorder were Scabies, dermatitis, acne vulgaris, fungal infections and Psoriasis.*

Key Words: *Dermatology; Different age group; RMCH.*

Introduction

Skin disease are the major contributors of disease burden in society. It affects individuals of all ages, neonates to elderly. Owing to its chronic nature, it causes serious impact on quality of life and at the financial status of the sufferer and his family. It affects more than 60% of the general population. Collectively skin is the 18th leading cause of health burden worldwide and it was 4th leading cause

of non-fatal health burden in 2010 globally [1].The prevalence of skin disease in any region or country depends on various factors, such as genetics, racial constitution, social and hygienic standards, customs and occupations. Transmissible skin diseases are observed in people who are living under poor socioeconomic and unhygienic conditions [2]. There is a significant incidence of infectious disorders in rural communities because of under developed economy and social back wardness [3].Dermatology is one of the disciplines in which therapy is applied directly to the target site [4]. Dermatological conditions account for up to 2% cases in general practice worldwide [5].The ultimate goal in dermatological therapy is to use the safest and least number of drugs in order to obtain the best possible effect in the shortest period of time at reasonable cost. Prescriptions have been used since ancient times for the management of patients [6].

Materials and Methods

A prospective cross sectional type of descriptive study was conducted in the Department of Pharmacology and Therapeutics of Rajshahi Medical College and Hospital, Rajshahi, Bangladesh from July 2016 to June 2017. The research protocol was approved by Institutional Ethics Committee, Rajshahi Medical College and Hospital, Rajshahi. Verbal informed consent was taken from all patients involved in this study. Total 384 prescriptions were collected between the age of <1->65 years.

Selection criteria

Inclusion criteria:

Patients of all age group and both genders suffering from various Dermatological Disorders.

Exclusion criteria:

. Skin disease prescription of indoor patient

. Unwilling to participate in the study.

. Prescription contains more than one disease.

. Prescription without format was not accepted.

The relevant data was collected from OPD Patients by taking photographs of their prescriptions prescribed by physicians and details were duly filled in the predesigned proforma. Prescriptions were analysed for following information like pattern of skin disease and percentage of skin disease among the different age group. SPSS-16 was used for statistical analysis. Results were expressed in terms of percentage.

It reflects the instructions given by the prescriber to the patient. But improper prescribing may lead to ineffective and unsafe treatment, exacerbation or prolongation of illness, distress and harm to the patients and higher cost [7]. Now a days, practices in writing prescription have been\questionable. Around 2,000 varieties of skin disease have been identified by the dermatologists [8]. Treatment is the most important part in both curing the diseases as well as in preventing the spread of communicable diseases [9]. In our country a remarkable number of population belongs to low socioeconomic status and they did not bother about the seriousness of skin problems. It is believed that half of the population does not take proper medication, even after consulting health care specialists. This ignorance leads to more severe complications especially in skin conditions [10].

Results

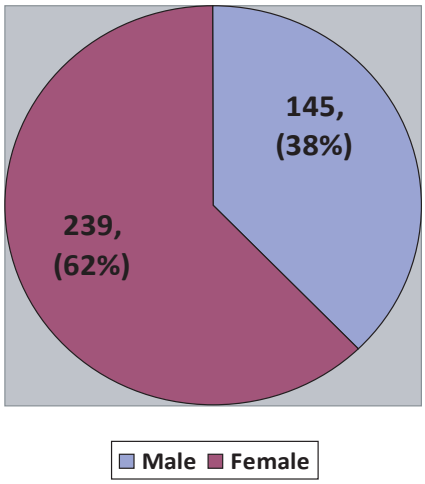

Figure-1: Sex distribution of dermatological disorders.

Table-I Age distribution of dermatological disorders .

Age groups	Frequency	Percent (%)
<1 yrs (infant)	27	7.0(%)
1-12 yrs (chi ldren)	98	25.5(%)
13-18 yrs (adolescent)	60	15.6(%)
19-65 (adult)	192	50.0(%)
>65 yrs (geriatrics)	7	1.8(%)
Total	384	100(%)

Table-II: Spectrum of dermatological disorders.

Disease profile	Age group					Total
	<1 yrs (infant)	1-12 yrs (children)	13-18 yrs (adolesent)	19-65 (adult)	>65 yrs (geriatrics)	
Scabies	10(2.6%)	47(12.2%)	12(3.1%)	41(10.7%)	2(0.5%)	112(29.2%)
Dermatitis	17(4.4%)	18(4.7%)	7(1.8%)	38(9.9%)	3(0.8%)	83(21.6%)
Acne vulgaris	0(0%)	1(0.3%)	19(4.9%)	19(4.9%)	0(0%)	39(10.2%)
Fungal Infection	0(0%)	5(1.3%)	8(2.1%)	20(5.2%)	1(1.03%)	34(8.85%)
Psoriasis	0(0%)	8(2.1%)	4(1.0%)	20(5.2%)	1(0.3%)	33(8.6%)
Urticarial	0(0%)	0(0%)	1(0.3%)	8(2.1%)	0(0%)	9(2.3%)
Lychan planus	0(0%)	1(0.3%)	1(0.3%)	6(1.6%)	0(0%)	8(2.1%)
Impetigo	0(0%)	3(0.8%)	0(0%)	5(1.3%)	0(0%)	8(2.1%)
Vitiligo	0(0%)	3(0.8%)	1(0.3%)	1(0.3)	0(0%)	5(1.3%)
Pityreasis	0(0%)	3(0.8%)	0(0%)	2(0.5%)	0(0%)	5(1.3%)
Melasma	0(0%)	0(0%)	0(0%)	5(1.3%)	0(0%)	5(1.3%)
Paronychia	0(0%)	0(0%)	0(0%)	5(1.3%)	0(0%)	5(1.3%)
Verrucae	0(0%)	2(0.5%)	0(0%)	2(0.5%)	0(0%)	4(1.0%)
Others	0(0%)	7(1.8%)	7(1.8%)	20(5.2%)	0(0%)	33(8.8%)
Total	27(7%)	98(25.5%)	60(15.6%)	192(50%)	7(1.8%)	384(100%)

Discussion

Bangladesh is a developing country with overcrowded population. The weather is also favorable for skin disease. Near about 60% peoples are affected by skin disease due to low socioeconomic status, malnutrition, industrialization, overcrowding, humid environmental condition, poor hygienic condition and lack of knowledge about health [11].

The most common dermatological disease pattern seen in patients attending the dermatology OPD of RMCH was Scabies 29.2 %, followed by Dermatitis 21.6 %, Acne vulgaris 10.2 %, fungal infection 8.8%, Psoriasis 8.6%.

Our result showed that Scabies was the most common disorder 29.2 % Yunate AH et al.[8] in Wardha district reported that Scabies 12.4 %, Sarkar SK et al [12] and Vineeta G et al.[13] found 15.16%, 6.92% and also less in study done by Devi et al.[14] where it was 8.9 %

Dermatitis such as contact dermatitis, cosmatic dermatitis, seborric dermatitis were the second largest group of disorders in our study with prevalence rate of 21.6%, Gupta S et al.[15] reported 5.9% and Vineeta. G et al. [13] found 3.7%.

Acne vulgaris was 10.2% The prevalence was high in Gupta S et al.[15] 12.3%, Yunate AH et al. [9] found 14.8% and prevalence was less in Vineeta G et al.[13] (0.3)%

Fungal infection was 8.85%. The prevalence was high in Gupta S et al. [15] 15.2%, Yunate AH et al. [9] found 13.6% and prevalence was less in Vineeta G et al. [13] 5.51%.

Psoriasis was 8.6% in our study whereas Yunate AH et al. [9] found 3.8% and Gupta S et al.[15] reported 6.7%. which was less than our study.

The case of urticaria made up 2.3% of all skin disease in this study which prevalence was high in Yunate AH et al. [9] 6.6%, Gupta S et al.[15] 4.4% and Sarkar SK et al. [12] (6.68)%.

The prevalence of melasma in our study was 1.3% where as high in Yunate AH et al. [9] 5.8%, Gupta S et al.[15] 2.2% and less in Sarkar SK. et al. [12] (0.9)%.

Vitiligo was 1.3% whereas (1.6)% seen in Gupta S et al.[15]

The prevalence of Pityreasis in this study was 1.3% which is higher in Gupta S et al. [15] 2.73%.

In the present study, seborrheic dermatitis, scabies were more common in Infant. Acne vulgaris was more common in adolescent due to excess stimulation of androgen hormone.Fungal infections like tinea infection (T.cruris, T.capitis, T.corporis, T.padis, T.facies, T.vesicular etc.), oral candidiasis, onychomcosis, dermatitis, acne vulgaris, urticaria, psoriasis, melasma were more common skin disease in adult age group (19-65yrs) due to humid environmental condition by undergarments, poor hygienic condition, genetics and more conscious about their disease. Geriatrics was suffered from scabies, psoriasis and senile pruritus. To reduce the skin disease among the infant, it required awareness and motivation about their personal hygiene like regular bath, wash their cloth regularly, keep their household clean and ensure adequate light and air in their house.

Conclusion

This study provided a feature on the layout of spectrum of common dermatological disorder and prevalence of dermatological disorder among different age group. Scabies, dermatitis, acne vulgaris and fungal infection were more common dermatological disorder attending the patient OPD in RMCH. Skin disease was more common in female than male. Among the skin disease Seborric dermatitis and Scabies were common in infant >1 yrs. Scabies, cosmetic dermatitis and acne vulgaris were more common in adult age group (19-65) years. Geriatrics (>65 yrs) were suffered from fungal infection, scabies, psoriasis and senile pruritus.

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Original Article

Correlation of Handedness with Hand Breadth in Right Hander and Left Hander Medical College Students of Bangladesh

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** For Correspondence*

Abstract

Context: *Handedness is the tendency to use either the right or the left hand more naturally than the other or it refers to the tendency of human to be more skilled with one hand over the other. There are three types of handedness; these are right handedness, left handedness and ambidexterity. Upper limb anthropometric dimensions showed differences between right hander and left hander. This finding may affect the hand tool design. These differences are very important and can be taken into consideration in designing the hand tools or equipments. Upper limb anthropometry of right hander and left hander medical college students can help in proper designing of handedness specific medical instruments or surgical apparatuses which may enhance their better performance and provide less fatigue in clinical practice.The aim of the present study is to analyze the differences between right and left upper limb anthropometric dimensions in right hander and left hander as well as to measure the correlation between handedness score and hand breadth of right hander and left hander medical college students of Bangladesh.*

Materials and Methods: *This cross-sectional, analytical type of study was performed in Department of Anatomy, Dhaka Medical College, Dhaka,from July 2016 to June 2017 on 52 right hander male and 52 right hander female, 40 left hander male and 34 left hander female Bangladeshi medical college students. Sample collection was done by convenient purposive sampling technique. History of any injury of upper limb was excluded to construct standard measurement. Handedness of each medical student was determined by the Edinburgh handedness inventory. Hand breadth was measured with the help of vernier caliper. Paired and unpaired student's 't' test and Pearson's correlation coefficient test were done for statistical analysis of the results.*

Results: *The mean hand breadth was significantly higher ($P<0.001$)in right hand of right hander male and female whereas the mean left hand breadth was significantly higher($P<0.001$) in left hander male and female Bangladeshi medical college students. Handedness score showed significant positive correlation with right hand breadth and significant negative correlation with left hand breadth.*

Conclusion:*The study findings suggest that anthropometric measurement of right and left upper limb dimensions were different in right hander and left hander medical college students.*

Key word: *Handedness, right hander, left hander, ambidexterity*

Introduction

Handedness can be defined as "the individual's preference to use one hand predominantly for unimanual tasks, and the ability to perform these task more efficiently with one hand" [1]. Usually only one hand is considered as dominant. The brain has the characteristics that it's two hemisphere are functionally asymmetric in human. During childhood, one hemisphere slowly comes to dominate the other, and it is only after the first decades that, the dominance become fixed. Handedness, in most individual is controlled by dominant hemisphere[2].

About 70 to 90 percent of population is right hander rather than left hander or any other form of handedness [1]. Handedness is a major trait of human, generating a measurable directional bilateral asymmetry in the upper extremities. In case of the handedness, different parts of the upper extremities show differences in anthropometric measurements between right and left half. Handedness is a behavioral trait of human. Unimanual actions are performed with one preferential hand. This behavior leads to a different load or stress on the muscles and bones of the extremities[3]. The hand used by the individuals in writing has been used as the most reliable index of handedness. Writing is a learned behavior on which, skill have an influential effect[4]. Handedness has been measured by questionnaires developed by several authors. These are the Edinburgh handedness inventory, Annet's questionnaire, Chapman and Chapman questionnaire etc[5]. Among them the Edinburgh handedness inventory is reliable and well validated. There are several version of Edinburgh Handedness Inventory based on 4 items, 7 items and 10 items questionnaire. The 4-items inventory measures a single handedness factor and has a brief and simple instructions and a small number of items[6]. Anthropometric studies have revealed that, in comparison to two halves of the body, the values belonging to the right half are different than those of the left. This is due to the effect of directionality and handedness, a functional property of hand[7]. The medical college students have to use medical equipments and surgical instruments for their professional purpose. The majority of the world population is right hander and left hander persons are in a minority, especially in the surgical field[8]. Due to right hander majority, most of the surgical instruments and apparatuses are designed for right hander medical personnel, the locking and unlocking actions for the needle holders have also been designed for right hander surgeons. Left hander surgeons have several disadvantages in the field of surgery, where they always need supporting personnel to assist them and they are required to adapt themselves to the given environment. The left hander surgeons must go through the surgical procedures as defined by the right hander surgeons and have to add needful modifications to practice the safe and convenient procedures. There is a general impression among medical community that left hander practitioners face difficulties while performing some basic procedures or some delicate surgical operations as all the apparatuses, medical equipments and materials have been designed for the right hander population[8]. Hand anthropometry is useful for determining various aspects of machineries, so as to design the equipments and machines for use with better efficiency and more comfort, handedness being considered as an important factor in the design of hand tool in particular. The significant difference is present between right and left hand of male and female, between left hander and right hander. These differences are very important and should be taken into consideration in designing the hand tools or equipments. So far it is known, no study concerning upper limb anthropometry in relation to handedness has been reported in our country. So the importance of studying correlation of handedness with anthropometric variables of upper limb carries immense practical application in anthropometry.

Material and Methods

This cross-sectional, analytical type of study was carried out at Department of Anatomy of Dhaka Medical College, Dhaka from July 2016 to June 2017. 52 right hander male and 52 right hander female, 40 left hander male and 34 left hander female Bangladeshi medical college students age ranging from 20-25 years were selected from different government (Dhaka medical college, Sir Salimullah medical college, Mymensingh medical college, Shaheed Taj Uddin Ahmad Medical College) and non-government (Popular Medical College, Dhaka Central International Medical College, Tairunnesa Memorial Medical College and Gazipur City Medical College) medical colleges of Bangladesh. Their ages were confirmed by the national ID cards. Prior to this, permission from the head of the respective medical colleges was taken to carry out the study procedure. Handedness of each medical college student was determined by Edinburgh handedness inventory-short form. The study was approved by the Ethical Review Committee (ERC) of Dhaka Medical College. Upper limb bones get completely ossified usually by the age 17-20 years. So the hand achieves its adult and fixed measurements by 17-20 years of age. For ensuring the adult measurements of upper limb as well as to avoid

any confounding variable of the normal ossification process, no subject less than 20 years was included in the present study. The present study was conducted on population ranging from 20-25 years of age. To avoid any error of result of measurements of the present study, height of male and female medical college student was selected ranging from 162 cm (5 feet 6 inch) to 172cm (5 feet 9 inch) and 142 cm (4 feet 9 inch) to (4 feet 9 inch) to 167 cm (5 feet 7 inch) respectively. Procedure of determination of handedness and estimation of handedness score:Handedness was determined by Edinburgh Handedness Inventory-short form. The participant of this study was asked to indicate their preferences in the use of hands in the following activities/ holding items:

Activities/holding items	Always right	Usually right	Both equally	Usually left	Always left
Writing					
Throwing					
Toothbrush					
Spoon					

For each item there is a score. Always right = 100; usually right = 50; both equally = 0; usually left = -50; Always left = -100. For each activities/holding objects participants was given score. Then the score for the above four items were added. To obtain handedness score the sum of the score was divided by four. Then the handedness of participant was determined according to the score,

Classification	Handedness score
Left - hander	- 100 to - 61
Mixed - hander	- 60 to 60
Right - hander	61 to 100

If any participant got score between -100 to -61, then he or she was considered as left-hander.
If any participant got score between -60 to 60, then he or she was considered as mixed-hander.
If any participant got score between 61 to 100, then he or she was considered as right-hander
Procedure of measurement of hand breadth: To measure the hand breadth, the subject was requested to put his or her palm extended and facing up with second to fifth digit in adducted position except the thumb, touching a flat hard surface. Hand breadth was measured by sliding caliper as a straight distance between the outside projections of the ends of second and fifth metacarpals of the hand in mm.

Figure 1: Photograph showing measurement of hand breadth

Results

Table1: Comparison between right and left hand breadth of right hander and left hander male medical students

Group	Hand breadthin mm		
	Right (Mean±SD)	Left (Mean±SD)	P value
Male			
Right hander (n=52)	81.46 ± 4.56 (73.0 - 94.0)	79.06 ± 4.90 (71.0 - 92.0)	<0.001*
Left hander (n=40)	77.78 ± 4.42 (67.0 - 87.0)	80.98 ± 3.65 (73.0- 90.0)	<0.001*

Figures in parentheses indicate range. SD = Standard Deviation Comparison between values of right and left hands of same group was done by Paired Student's 't' test. ns= not significant, *= significant

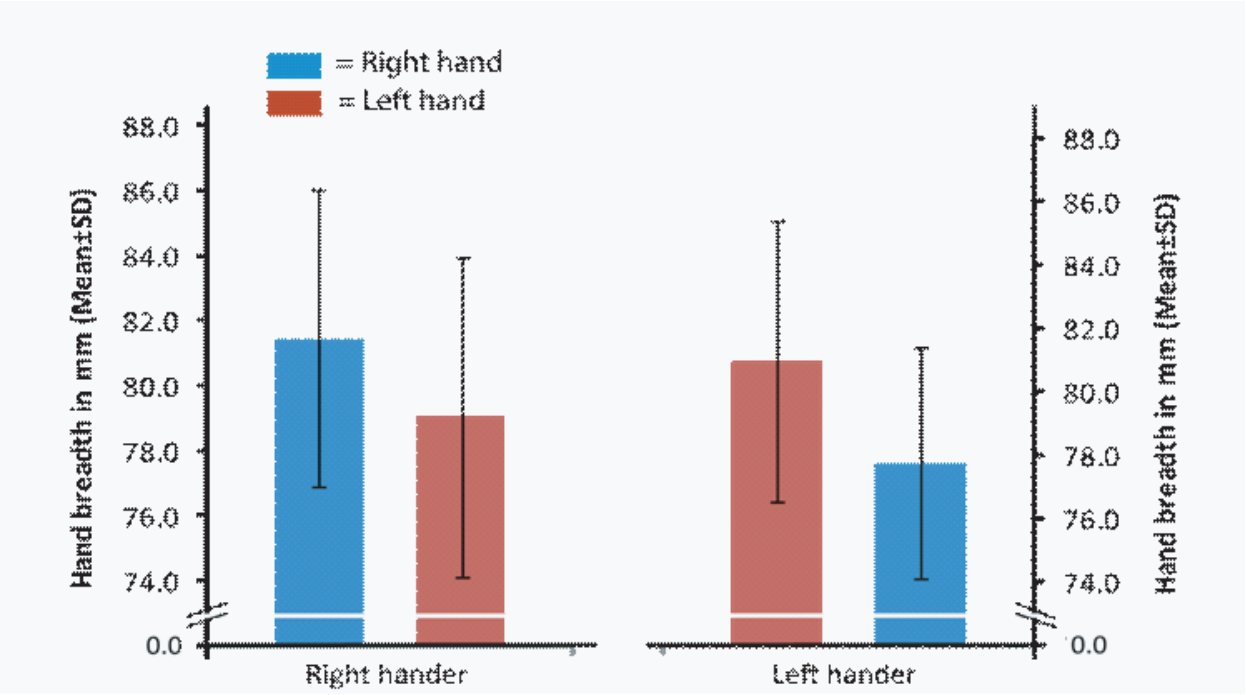

Figure 2 : Comparison between right and left hand breadth of right hander and left hander male

Table 2 : Comparison between right and left hand breadth of right hander and left hander femalemedical students

Group	Hand breadthin mm		
	Right (Mean±SD)	Left (Mean±SD)	P value
Female			
Right hander (n=52)	**74.06 ± 2.80 (65.0 - 80.0)**	**71.73 ± 2.51 (65.0 - 78.0)**	**<0.001***
Left hander (n=34)	**72.74 ± 2.72 (68.0 - 77.0)**	**74.91 ± 2.94 (68.0 - 80.0)**	**<0.001***

Figures in parentheses indicate range. SD = Standard Deviation. Comparison between values of right and left hands of same group was done by Paired Student's 't' test. ns= not significant, *= significant

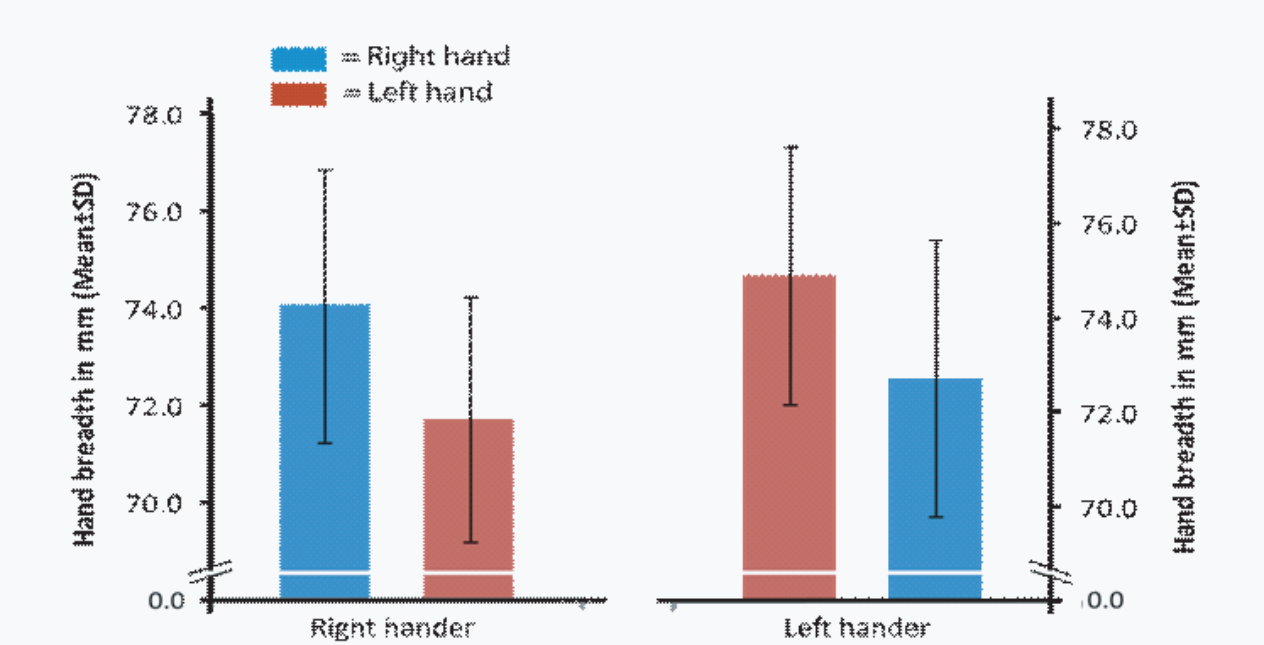

Figure 3: Comparison between right and left hand breadth of right hander and left hander female

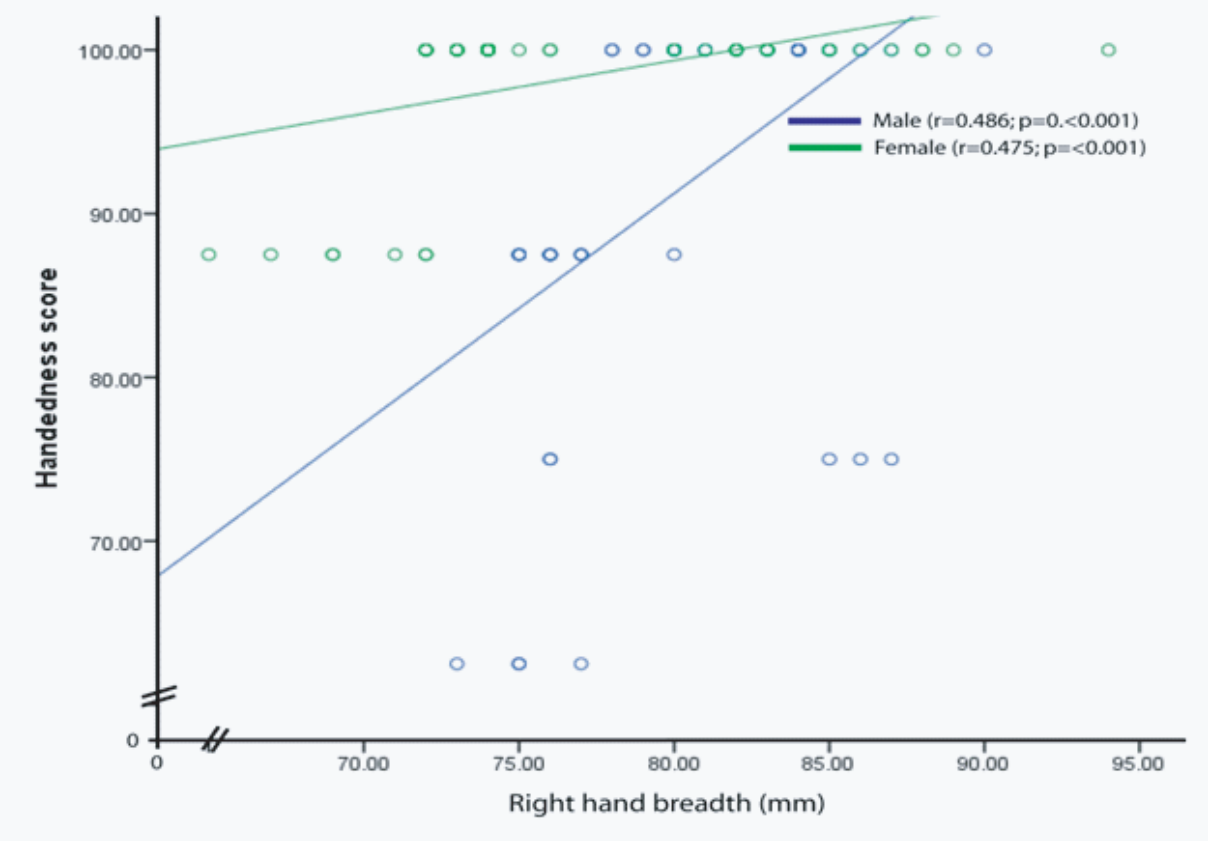

Figure 4: Correlation of handedness score with right hand breadth of right hander male and female

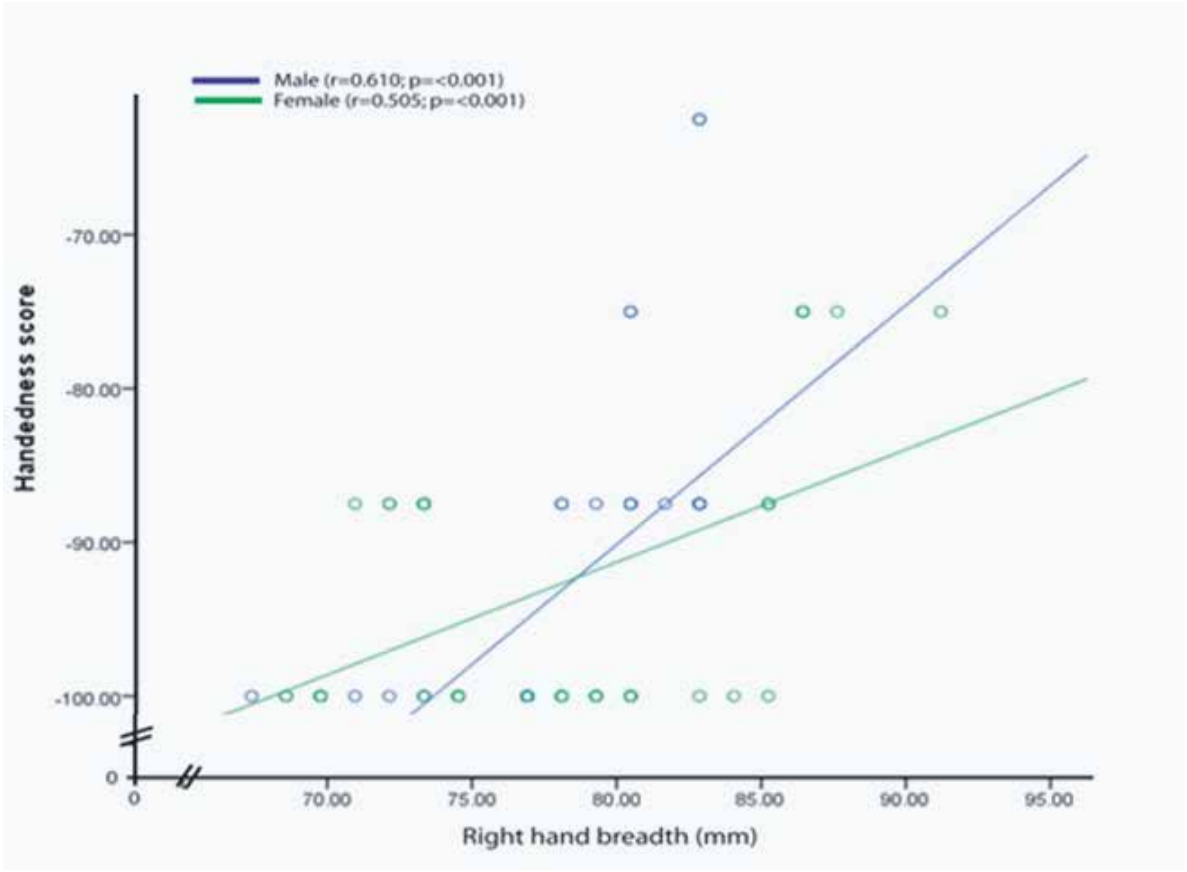

Figure 5: Correlation of handedness score with right hand breadth of left hander male and female

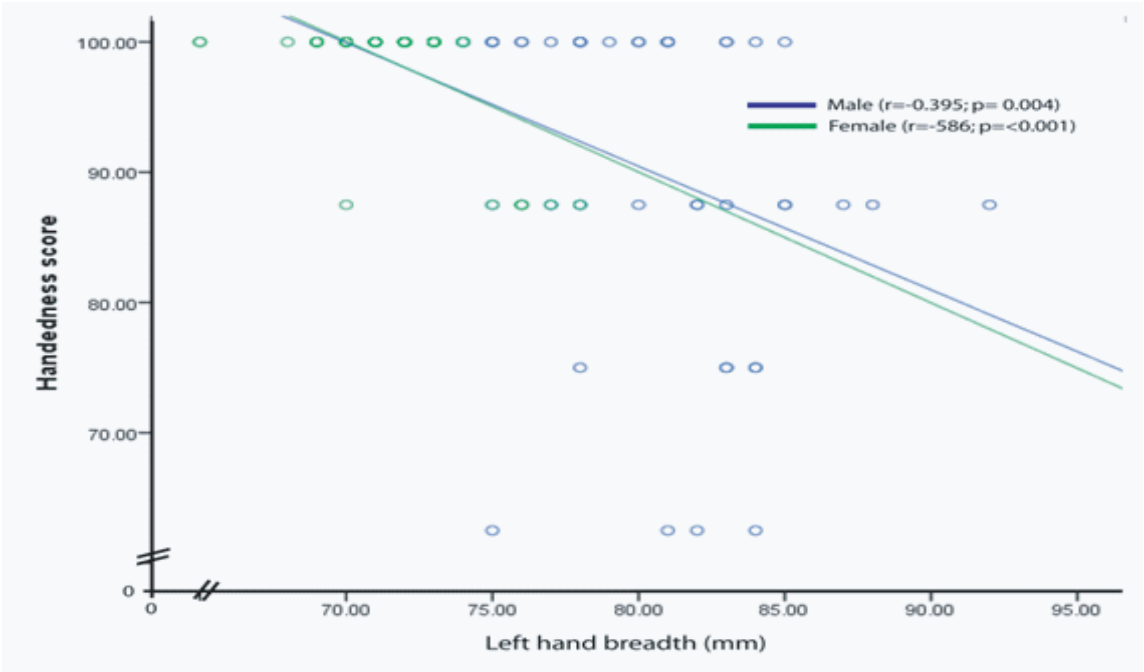

Figure 6: Correlation of handedness score with left hand breadth of right hander male and female

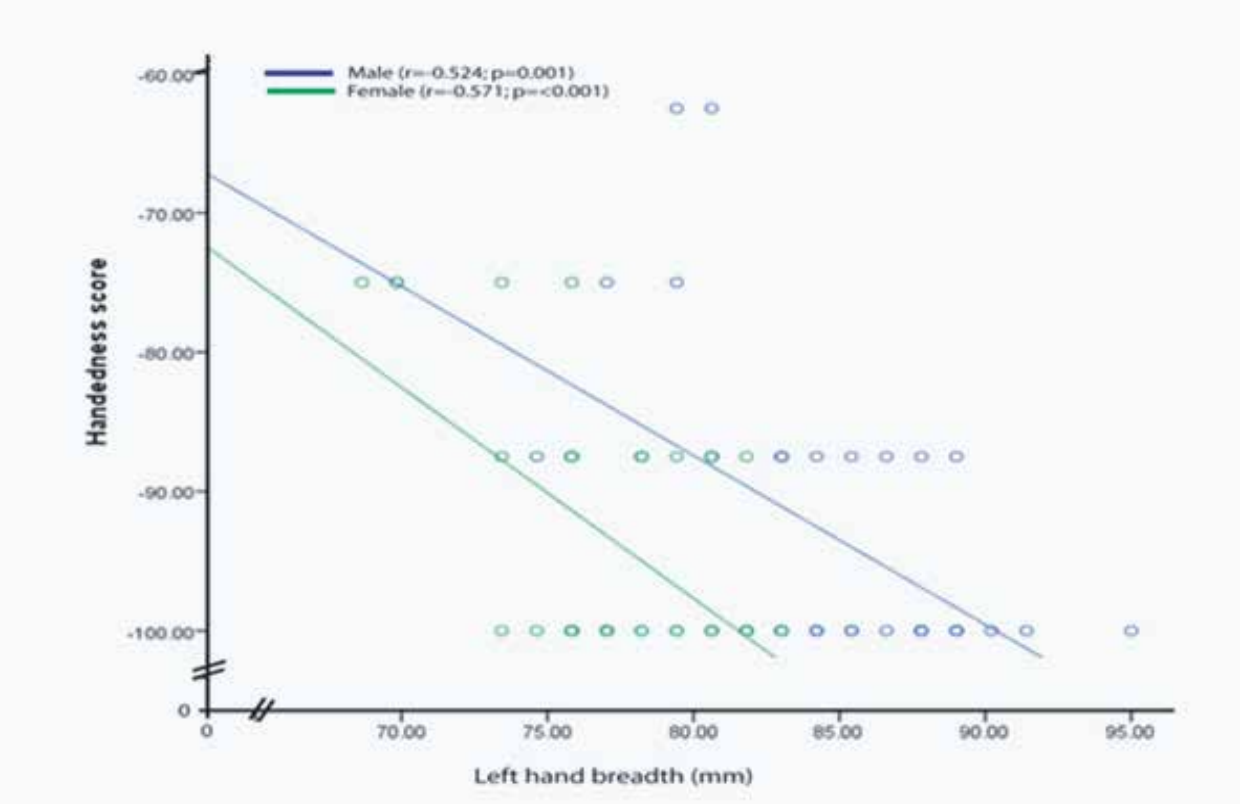

Figure 7: Correlation of handedness score with left hand breadth of left hander male and female

Discussion

Handedness shows substantial individual variability. Skeletal and morphological asymmetries are present in human body though it appears to be bilaterally symmetrical. Bilateral asymmetry is defined as the difference between the measurements of the left and right half of the human body.

The findings of the present study compared with finding of the studies carried out by Barut, Sevinc and Sumbuloglu[9]; Mohammad[10]; Swami, Kumar and Sharma[11&12]; Kulaksiz and Gozil[13].

Barut, Sevinc and Sumbuloglu[9] carried out a study on 53 right hander male and 60 right hander female, 21 left hander male and 10 left hander female healthy individual of Turkey age ranging from 18 to 42 year. Mohammad[10] conducted study on 100 right hander male and100 right hander female, 100 left hander male and 100 left hander female of Jordan, age ranging from 19 to 50 years.They recorded right hand breadth was significantly higher (P<0.001) than left hand breadth in right hander male and right hander female. They also recorded left hand breadth was significantly higher (P<0.001) than right hand breadth in left hander male and left hander female. In present study it was found to be that in right hander male and female right hand breadth was significantly higher (P<0.001) than their left hand breadth. In left hander male and female left hand breadth was significantly higher (P<0.001) than their right hand breadth.

Barut, Sevinc and Sumbuloglu[9]; Mohammad[10] recorded differences between right and left hand breadth in right hander and left hander which were found to be similar to the present study. Right hander use their right hand and left hander use their left hand predominantly in their daily activities which may be responsible of difference in anthropometric dimensions of right and left hand.

The findings of the present study showed dissimilarities with some finding of the studies carried out by Swami, Kumar and Sharma[11&12]; Kulaksiz and Gozil[13].

Swami, Kumar and Sharma11carried out a study on 233 right hander (123 male and 110 female) and 6 left hander (1 male and 5 female) Haryanvi Brahmins of age 18 years and above. They showed non-significant negative correlation between handedness score and right

hand breadth (r= -0.023, P>0.05), and non-significant negative correlation between handedness score and left hand breadth (r=-0.042, P>0.05) in Haryanvi Brahmins. Swami, Kumar and Sharma[12]also carried out a study on 245 right hander (130 male and 115 female) and 7 left hander (5 male and 2 female) Kashmiri pandit of age 18 years and above. They showed significant positive correlation between handedness score and right hand breadth (r= +0.157, P<0.05), and non- significant positive correlation between handedness score and left hand breadth (r= +0.095, P>0.05) in Kashmiri pandit. Kulaksiz and Gozil [13]carried out study on 235 right hander (130 male and 105 female) and 14 left hander (08 male and 06 female) university students of Turkey. They reported handedness score showed non-significant positive correlation with right hand breadth (r=+0.0580, P>0.05) and non-significant negative correlation with left hand breadth (r= -0.0282, P>0.05) in Turkish students. In the present study handedness score showed significant positive correlation with right hand breadth (r=+0.486, P<0.001) and significant negative correlation with left hand breadth (r= -0.395, P=0.004) in right hander male. In right hander female handedness score showed significant positive correlation with right hand breadth (r=+0.475, P<0.001) and significant negative correlation with left hand breadth (r= -0.586, P<0.001).

In left hander male handedness score showed significant positive correlation with right hand breadth (r=+0.610, P<0.001) and significant negative correlation with left hand breadth (r= -0.524, P=0.001). In left hander female handedness score showed significant positive correlation with right hand breadth (r= +0.505, P<0.001) and significant negative correlation with left hand breadth (r= -0.571 P<0.001).

Swami, Kumar and Sharma[11&12;] Kulaksiz and Gozil[13]conducted study on right hander and left hander but they did not show separate data for male and female but in the present study the data was collected separately from both right hander male and right hander female, left hander male and left hander female. This could be the cause of such dissimilarity.

Conclusion

The mean right hand breadth was significantly higher in right hander male and female whereas the mean left hand breadth was significantly higher in left hander male and female Handedness score showed significant positive correlation with right hand breadth and significant negative correlation with left hand breadth in right hander and left hander male and female medical college students of Bangladesh.

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Original Article

Awareness about Sanitation Barrier among Rural Male Adolescents

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Abstract

Background: *Sanitation barrier is the segregation of the excreta by imposing a barrier provided by a sanitary latrine and disposal pit. They break the disease cycle at various levels like Segregation of faeces, Protection of water supplies, Protection of foods, Personal hygiene and Control of flies.*

This study may help making relevant policies to conduct school health education programs in order to stop the vulnerable points of disease transmission by a sanitation barrier for the improvement of the health of all.

Methods: *The study was conducted among a total of 140 rural male adolescents of Aftab-Uddin School in Bhagalpur village on January 2016. Required information was collected with the help of structured questionnaires through face to face interviews.*

Results: *Majority 55% respondents said correct disposal of waste means the cleanliness and sanitation at school. 38% and 46% respondents cited food and water is contaminated through dirty containers. 59%, 65%, 67%, 41% and 46% respondents mentioned Diarrhoea as the mostly spread disease by excreta, contaminated food, contaminated water, dirty nails and by flies accordingly. 51% respondents said flies spread diseases by sitting on excreta first and next on food.*

Conclusion: *Practice on hand washing and maintenance of cleanliness during the school time among the rural male adolescents was impressive as almost 100% respondents said they wash their hands before having tiffin and after defecation as well. Only 3% respondents said they won't attend any health education programs arranged by the school and this approach will help them to remain in a continuous learning process and to practice hygiene regardless of poverty and other barriers.*

Keywords: *Sanitation Barrier, excreta, flies, Personal hygiene*

Introduction

Environmental sanitation is an important public health problem in developing countries. World Health Organization (WHO) statistics indicated that sanitary condition in the South East Asia region is the worse than elsewhere[1].Cambridge University, UK examined in a study conducted in Bangladesh that the cost effectiveness of different regimens if reducing the prevalence and intensity of infection and showed that simple ways of improving personal hygiene and sanitation through hand washing, nail trimming, wearing shoes and use of sanitary latrines with clean water supplies is most effective[2]. So, the global burden of diseases and mortality rates could be reduced by about 9.1% and 6.3% respectively, if rapid success is attained in facilitating access to water, sanitation and hygiene facilities[3].The first thing that comes to mind when talking about sanitation is a latrine. The term 'sanitation', however, commonly covers a much broader area of activities.

List of the broad elements that most professionals would classify as sanitation, according to Evans (2005) are :

- Safe collection, storage, treatment and disposal/re-use/recycling of human excreta (faeces and urine)
- Management/re-use/recycling of solid waste (rubbish)
- Collection and management of industrial waste products
- Management of hazardous wastes (including hospital wastes, chemical/ radio-active and other dangerous substances) Hygiene
- Safe water storage
- Safe hand-washing practices
- Safe treatment of foodstuffs Water management
- Drainage and disposal/re-use/recycling of household waste water (also referred to as 'grey water')
- Drainage of storm water
- Treatment and disposal/re-use/recycling of sewage effluents [4]

Segregation of the excreta by imposing a barrier is called sanitation barrier. The barrier can be provided by a sanitary latrine and disposal pit. They break the disease cycle in the most effective step. As a result, disease cannot reach the new host. The disease cycle can be broken at various levels like Segregation of faeces, protection of water supplies and protection of foods, personal hygiene and control of flies. Again sanitary latrine is the best method of disposal of excreta. It is a non-service type of latrine. Criteria of sanitary latrines are that excreta should not contaminate the ground or surface water, should not pollute the soil, should not be accessible to flies, rodents, animals (pigs, dogs, cattle etc.) and other vehicles of disease transmission and also should not create a nuisance due to odour or unsightly appearance. Many people believe that simply providing a fresh, clean water supply will substantially reduce water-borne illnesses. What most people do not know is that safe hygiene practices and access to sanitation are crucial for combating the main health threats to children under five, in particular diarrhoea. Approximately 88 per cent of all diarrhoea infections worldwide are attributed to unsafe water supply, the lack of safe hygiene practices and basic sanitation infrastructure (Evans 2005). And the scale of the problem is immense today, nearly twice as many people lack access to sanitation compared with water supply (UN 2005). In recent years, sanitation has raised up the international policy agenda. In 2002, sanitation was included in the Millennium Development Goals (MDGs), and specifically within MDG 7, Target 10, which sets the aim of halving 'by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation'. Yet, at national level in most developing countries, hygiene and sanitation do not yet receive much attention, despite important health implications[4]. The aim of personal hygiene is to promote standards of personal cleanliness within the setting of the condition where people live. Personal Hygiene includes bathing, clothing, washing hands and toilet; care of nails, feet and teeth; spitting, coughing, sneezing, personal appearance and inculcation of clean habits in the young. Training in personal hygiene should begin at a very early age and must be carried through school age[5].The term cleanliness should not be used in place of hygiene. Cleaning in many cases is removing dirt, wastes or unwanted things from the surface of objects using detergents and necessary equipment. Hygiene practice focuses on the prevention of diseases through the use of cleaning as one of several inputs[5]. Information about personal hygiene is now being imparted to the school children in Bangladesh. But in spite of scheduled health education programme, children become either ignorant or they are not getting the correct information or they are not practicing.[6] So, people should be provided with sufficient health knowledge through health education. Kaprio suggested that 'health education's primary goal should be changing the social structure of any country in order to achieve a society in which each individual feels both rights and responsibilities to the health"[7].

Materials and Methods

The study was conducted among a total of 140 rural male adolescents of class IX and class X of Aftabuddin School in Bhagalpur area of Chandragram village on January 2016. It was cross sectional study and the sampling technique followed was non probability sampling. Required information was collected with the help of semi-structured questionnaires through face to face interviews. Verbal consent was taken from the respondents before the data collection and they were clearly informed about the objectives of the study. They were also assured that data will remain confiden

tial and it will be used only for academic or medical purpose. After compilation of data, the obtained data were checked and verified. Then the data were analyzed from the master sheet while using computed analyzer software.

Results

Sanitation knowledge related variables:

Among the 140 respondents, majority 77(55%) respondents said that cleanliness and sanitation at school means correct disposal of waste and 32(23%), 18(13%) and 13(9%) respondents said to clean classroom and office room, to clean wearing clothes and not to spit anywhere accordingly. [Table:I]

Table I: Knowledge regarding cleanliness and sanitation in school

Knowledge regarding cleanliness and sanitation in school	Number of the respondents	Percentage
Correct disposal of waste	77	55%
To clean classroom and office room	32	23%
Not to spit anywhere	13	9%
To clean wearing clothes	18	13%

Out of the 140 respondents, majority 85(61%) respondents said the use of sanitary latrine is that it does not spread any diseases and 19(14%), 23(16%) and 13(9%) said it creates no foul odour, water does not get contaminated and flies cannot come in contact with the latrines accordingly. [Table-II]

TableII : Distribution of the respondents by the knowledge regarding use of sanitary latrines

Use of sanitary latrines	Number of the respondents	Perce ntage
Does not spread any diseases	85	61%
Creates no foul odour	19	14%
Water does not get contaminated	23	16%
Flies cannot come in contact with the latrines	13	9%

Spread of Diarrhoea related variables: 59%, 65%, 67%, 41% and 46% respondents mentioned Diarrhoea as the mostly spread disease by excreta, contaminated food, contaminated water, dirty nails and by flies accordingly. [Figure: I]

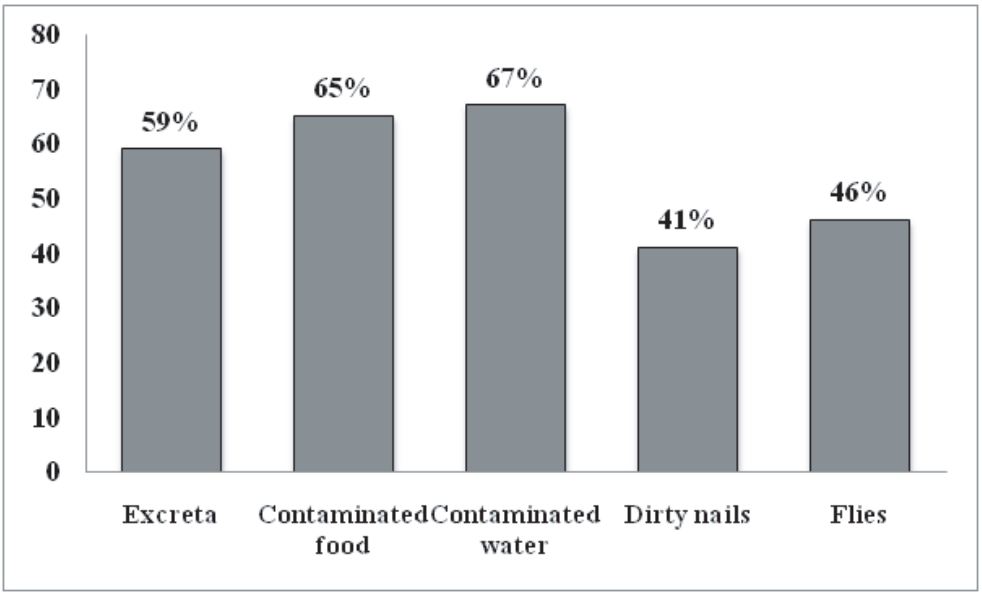

Figure I: Distribution of the respondents according to knowledge on Diarrhoea as the mostly spread disease by excreta, contaminated food, contaminated water, dirty nails and by flies accordingly.

Participation in Health Programmes related variables:

Majority 136(97%) said to attend any health education program if arranged by School and only 4(3%) said they won't attend [Figure: II]

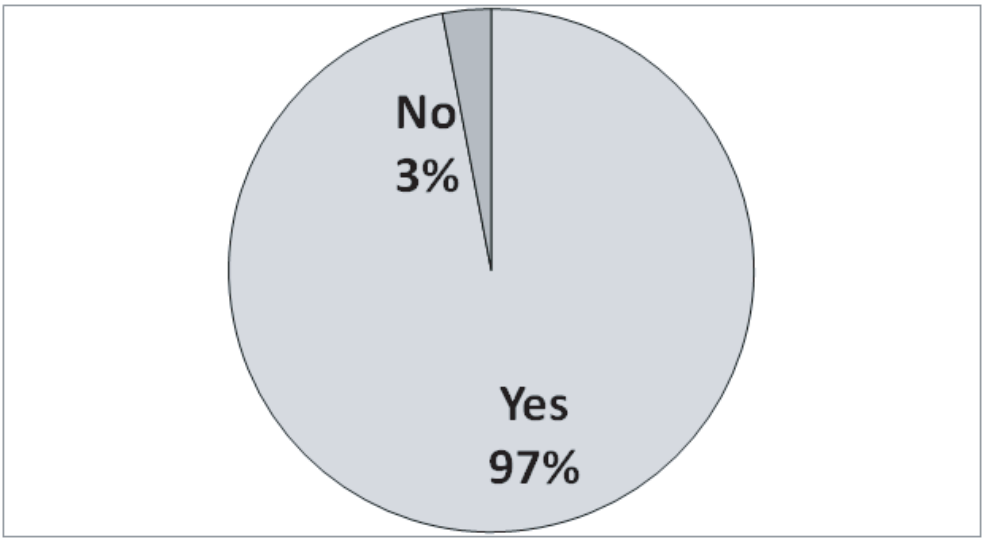

Figure II: Distribution of the respondents according to attending any School Health Education Programs

Discussion

The descriptive cross sectional study reveals that out of the 140 respondents, majority 77(55%) said that cleanliness and sanitation at school means correct disposal of waste and majority 85(61%) respondents said the use of sanitary latrine is that it does not spread any diseases. Majority 136(97%) agreed to attend any health education program if arranged by the School. A similar study on sanitation among high school girls of a slum area in Raipur, India showed, only 38% had access to an independent toilet facility, 9% were practicing open defecation and remaining (51%) were using public toilets. The availability of sanitation facility and latrine utilization rate of the both studies are comparatively satisfactory.

Conclusion

Among the male adolescents from a selected rural school, the awareness and reaction regarding sanitary barrier was quite good. Knowledge of the respondents on different diseases spread by contaminated water, contaminated food, dirty nails, excreta and flies revealed a mixed response. But practice on hand washing and maintenance of cleanliness during the school time was impressive. So frequent health education programs arranged by the schools could be a promising approach for creating awareness among adolescents to adopt proper hygienic habits. This approach will help them to remain in a continuous learning process and to practice hygiene regardless of poverty and other barriers.

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Original Article

Clinico-Hematological Profile and Role of Platelet Transfusion in Children with Dengue Fever

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Abstract

Background:*The incidence of dengue fever has increased dramatically around the world in recent decades. As it has dreadful outcomes early recognition is very important. Bleeding manifestations in dengue put an immense pressure on both parents and treating physicians. The use of platelet concentrate in this situation is a bit controversial.*

Objectives:*The aim of the study was to assess the clinico-hematological parameters and need for platelet transfusion in children with dengue fever.*

Methods: *The prospective observational study was conducted in the inpatient department of DR M R Khan Shishu Hospital, Mirpurand Dhakaupon 270 serologically confirmed dengue children (1 month to 15 years) between 1stJune to 31st October, 2018. Their clinical features, laboratory parameters and requirement of platelet transfusion were recorded.*

Results:Fever was present in all cases, mean duration was 4 days. Vomiting (55%), myalgia(39%), abdominal pain(32%), bleeding manifestations(25%)and circulatory failure(12%) were common clinical presentations.Among 270 cases,166(61.48%) were dengue fever and 104(38.52%) were dengue hemorrhagic fever. About 12% patients developed dengue shock syndrome. Major bleeding manifestations were petechial rash(60%), malena(13%) and hematemesis(7.4%). Leukopenia was found in 24% cases and thrombocytopenia in about 67% cases. Platelet transfusion received 52(19.25%) cases of dengue hemorrhagic fever.

Conclusion: *Platelet transfusion was required in children with dengue hemorrhagic fever with significant spontaneous bleeding, severe thrombocytopenia and shock. Bleeding should not be the only indicator to transfuse platelet in children with dengue. Treating physicians should be rationale to the use of platelet concentrate during dengue outbreak.*

Introduction

Dengue infection is one of the most common mosquito born viral diseases of public health significance[1]. Annually over 500,000 cases of severe dengue requires hospitalization and 90% of them are children below 5 years[2]. It is caused by one of the serotypes of dengue virus (DEN-1, DEN-2, DEN-3 and DEN-4)[1, 3]. In recent decades, the incidence of dengue infection has increased dramatically around the world and become a major public health concern[3,4].

It is endemic in Bangladesh and some other countries of South-East Asia. It is a disease with a wide clinical spectrum ranging from asymptomatic to an undifferentiated fever to the severe life threatening form such as dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) [5]. Sign & symptoms of dengue infection may also vary, particularly in children. The initial symptoms are often nonspecific resembling any viral illness. So, careful assessment of sign- symptoms

is necessary for early recognition of the disease.Though dengue is a self limited viral infection, it could be fatal too[1]. The dreadful complications are thrombocytopenia and bleeding as a consequence and plasma leakage leading to shock[6]. The decreasing platelet counts have found to predict the severity of the disease. The association between low platelet count and bleeding has not been well established [7]. Also; there are lack of evidence based guidelines for transfusion of platelets and other blood products. All these can lead to inappropriate use of blood components during dengue outbreak [8] . Bleeding in dengue fever is not due to thrombocytopenia alone but also due to altered coagulation parameters and platelet dysfunction, but most often it becomes difficult to avoid giving platelets in presence of bleeding due to pressure created by anxious parents.Fluid management of dengue fever is clearly written in WHO guideline for dengue fever[5]. But we can see the increased need of platelet and other blood products during a dengue outbreak. Early recognition of sign symptoms with meticulous fluid management can save many lives. So, the study was conducted to assess the clinical and hematological parameters and the requirement of platelet transfusion in children with dengue fever.

Material and Methods

The prospective observational study was conducted on serologically confirmed dengue children in the inpatient department of a tertiary care pediatric hospital in Mirpur, Dhaka between 1stJune to 31stOctober, 2018. After getting clearance from ethical committee, a total of 270 children of 1 month to 15 years, presented with fever and diagnosed as dengue fever either by positive NS 1 antigen or dengue serology for IgM were enrolled. Patients with enteric fever, rickettsial fever, malaria, hepatitis, urinary tract infection were excluded from the study. Thorough clinical examination was done. Laboratory parameters like complete blood count, serial hematocrit and platelets, liver function test, chest X-ray and abdominal sonography were done when required. Clinical data, hematological parameters and transfusion of platelet and other blood products were recorded.The case definition, diagnosis and management of dengue fever were done according to WHO guideline[5, 9].

Results

A total of 270 patients were diagnosed as dengue fever. Among them 163(60.37%) were male and 107(39.62) were female. Male to female ratio was 1.5:1. Study population was children of 1 month to 15 years. Mean age of children was 5.5 years. Fever was the main presenting symptom and was present in all cases. It was mainly high grade intermittent in nature. Mean duration of fever was 4 days and ranged from 3 to 15 days. The common clinical presentations are shown in table 1.

Table 1: Clinical presentations of dengue fever in children

Symptoms and signs	No. of patient(n=270)	%
Fever	270	100
Vomiting	148	55
Myalgia	104	39
Abdominal pain	87	32
Rash	51	19
Headache	22	8
Hepatomegaly	75	28
Circulatory failure	32	12
Pleural effusion	14	5
Ascities	8	3
Bleeding manifestations(hematemesis, Malena, gum bleeding & epistaxis)	18	7.5

Among 270 serologically confirmed cases, dengue fever were 166 (61.48%) and dengue hemorrhagic fever were 104 (38.52). Dengue shock syndrome developed in 32 patients (11.85%). Hemorrhagic manifestations were present in 69(25%) cases, which includes petechiae 51(60%), malena 9(13%), hematemesis 5(7.4%), gum bleeding 3(4.4%) and epistaxis 1 (1.5%).

Hematological Profile:

Derangements of platelet and leukocyte count usually occur in dengue fever. Table 2 presents the leukocyte count of study children.

Table 2: Leukocyte count of study population

Leukocyte count	No. of patient (n=270)	%
<4000/ cu mm	65	24
4000-11000/ cumm	173	64
>11000/ cumm	32	12

Thrombocytopenia (<100,000/ cumm) was found in 182 (67.40%) cases. Among them 78(42.86%) had dengue fever and 104(57.14%) had dengue hemorrhagic fever. Out of thrombocytopenic patient, 68(37.36%) developed bleeding manifestations. Table 3 presents range of platelet in dengue and dengue hemorrhagic fever, their relationship with bleeding and platelet transfusion.

Table 3: Platelet count in Dengue fever and relationship with bleeding manifestations and requirement of platelet transfusion

Platelet range (per cumm)	Dengue fever (%)	Dengue hemorrhagic fever (%)	Bleeding (%)	Platelet transfusion (%)
<10,000	0	2(0.74)	2(0.74)	2(0.74)
10,000-20,000	0	23(8.5)	18(6.66)	23(8.5)
>20,000-50000	20(7.4)	59(21.85)	41(15.18)	27 (10)
>50,000-100,000	58(21.48)	20(7.4)	7(2.6)	0
>100,000-150,000	29(10.74)	0	0	0
>150,000	59(21.85)	0	0	0
Total	166(61.48)	104(38.52)	68(25)	52(19.25)

Among 270 dengue children 52(19.25%) received transfusion of platelet concentrate. Out of them 25(9%) had platelet count below 20,000 and all of them received platelet transfusion. Seventy nine patients had platelet count between 20,000 to 50,000 and 27(10%) of them received platelet transfusion.

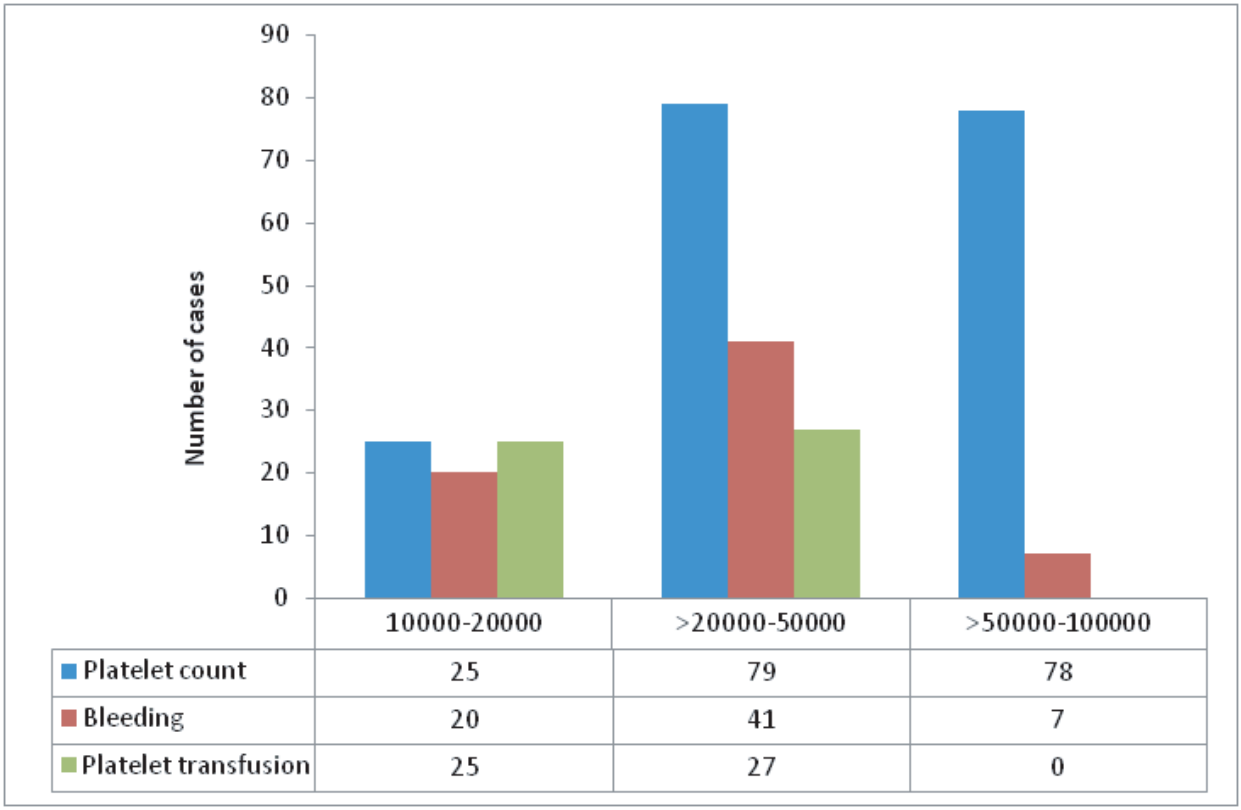

Figure 1: Graph showing relationship between platelet count, bleeding and platelet transfusion

Discussion

Dengue is a hemorrhagic viral fever with serious consequences . Thrombocytopenia with bleeding in dengue fever demands platelet transfusion [8]. Hence, the study aimed at analyzing clinical and laboratory profiles and needs of platelet transfusion in dengue.

In this study, we can see male predominance. Male to female ratio was 1.5:1. In the study done by Yashaswini et al [7] and Choudhury et al [10] the ratio was 2:1. Fever was present in all (100%) cases which was consistent with all other studies. Vomiting was the next common clinical presentation which was followed by myalgia and abdominal pain. Agarwal et al [11] have noted fever, abdominal pain and vomiting as the commonest symptoms. Tahlan et al [1] and Deshwal et al [12] observed headache and myalgia as next common symptoms after fever. Petechial rashes, malena and hematemesis were common bleeding manifestations in our study whereas petechie and gum bleeding were common in Gupta et al [3] study and hematemesis and epistaxis in Choudhury et al[10] study.

We found normal leukocyte count in most of the cases, 173(64%) and leukopenia was seen in 65(24%) cases which was consistent with Deshwal et al's study (20%)[12]. But Yashaswini et al [7] found leukopenia in 52% and Tahlan et al1 in 41% cases.

Among the study population 166(61.48%) had dengue fever, 104(38.52%) had dengue hemorrhagic fever and 32(12%) had dengue shock syndrome. Thrombocytopenia was defined as platelet count below 100,000 as per WHO guideline [5] which was found in 182(67.40%) children in our study. In Tahlan et al[1] study 86.9%, in Yashaswini et al[7] study 89% and in Makroo et al[13] study 85% cases had thrombocytopenia. Platelet count less than 20,000 were found in about 9% cases, among them 7% hadbleeding manifestations. Platelet count less than 50,000 was found in about 38%cases, among them 22% had bleeding. Thirty two (19%) cases presented with shock.

So, bleeding manifestations were variable and did not always correlate with thrombocytopenia as it occurred even with normal platelet counts. The mechanism for bleeding manifestations is multifactorial in dengue fever and factors such as thrombocytopenia, coagulation defect, vasculopathy and hepatic derangements act synergistically[2, 10].Therefore, other causes of bleeding needs to be evaluated before transfusing platelet [14,15] . Accoding to WHO guidelines the indication for platelet transfusion in children with dengue fever is the presence of severe dengue with severe bleeding and severe thrombocytopenia (platelet count <10,000/ cumm) [9]. Chansumrit et al in their study postulated that platelet transfusion is required for gastrointestinal bleeding and not for mucosal bleeding[16].

In our study, platelet was transfused when count was less than 20,000 and between 20,000 to 30,000 in presence of hemorrhage or circulatory failure. Patients were treated symptomatically with intravenous fluid, antipyretics.Apart from platelet transfusion blood, fresh frozen plasma, colloids were also given when needed. Most of the patient survived but 4 patients died due to refractory shock, multi-organ failure and disseminated intravascular coagulation.

Conclusion

Platelet transfusion was required in children with dengue hemorrhagic fever with significant spontaneous bleeding, severe thrombocytopenia and shock. Bleeding should not be the only indicator to transfuse platelet in children as it may occur even with normal platelet count. To avoid transfusion hazards, hypersensitivity and fluid overload treating physicians should be rationale to the use of platelet during dengue outbreak.

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Original Article

A study on non-communicable disease and health seeking behavior among elderly female in rural Bangladesh

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Abstract

Background: *Globally, 10% of the world population is elderly people and it is expected to increase to 21% in the year 2051. In the year 2002, the number of elderly people in the world was estimated to be 605 million, which is expected to rise to more than 1.2 billion by the year 2025.*

Objective: *The study aimed at to find out the non-communicable disease and health seeking behavior among female elderly population.*

Methods:*This cross-sectional study was conducted in the selected rural population of Shamnagar Upazila of Satkhira District. Data was collected from female population, aged 60 years and above, during February to June 2018. Purposive sampling technique was used to collect data from 40 respondents by face to face interview with semi-structured questionnaire.*

Results:*In the study, the mean age of elderly was 61.59 (SD±2.11) years. Other socio-demographic factors among elderly were as follows: 24 (60%) of elderly were illiterate, 24 (60%) of elderly were housewives, 10 (25%) were doing firming. 20 (50%) of elderly were married. Among the respondents, 30 (75%) were tobacco non chewer. Only 10 (25%) had the habit. Among 40 respondents 75% had physical activity more than 3 hours, only 10% had physical activity more than 9 hours. Among 40 respondents 50% had normal weight, 37.5% had overweight and only 12.5% had class I obesity. The study also reported the five most common disease co-morbidities for elderly which included: 40% female had hypertension while 62.5% of female patients were already treated, 50% female had diabetes mellitus and 100% of them were treated, 75% of female elderly were suffering bone and joint pain/arthritis and 53.33% of them were received treatment, no hearing impairment found among the respondents, Only 30% elderly suffered poor vision; however, two third of female patients were treated.*

Conclusion: *On the basis of these findings, it can be recommended that there is a need to develop geriatric health-care services.*

Keywords: *Bangladesh, Non-communicable disease, female elderly*

Introduction

Non-communicable diseases (NCDs) - cardiovascular diseases, cancer, diabetes, and chronic respiratory disease—in Bangladesh have already become major public health concern[1]. Almost 60% deaths, in Bangladesh, are due to NCDs [2]. Both NCDs and their risk factors are showing an increasing trend [3, 4].These risk factors are tobacco use, low intake of fruits and vegetables, physical inactivity, obesity, excessive alcohol consumption, raised blood pressure, and raised blood glucose and cholesterol [5]. Evidences show that the detection and treatment rate of diabetes mellitus and hypertension is also inadequate among Bangladeshi population [6, 7]. A few studies shown that NCD risk factors are also very common in Bangladeshi population in both rural and urban areas and there is tendency of clustering of risk factors[8, 9]. These risk factors control

is less costly than treatment of the total NCDs. Therefore risk factor approach for NCD prevention has become successful in many countries[10]. For any intervention to prevent and control of these NCDs, first of all we have to know the distribution of risk factors in the population. A standardized approach, popularly known as STEPS[11] is being promoted by the World Health Organization for knowing the risk factor distribution in population. The present study was designed following STEPS design to determine the NCD risk factors distribution as well as detection and treatment rates of hypertension and diabetes mellitus in a rural Bangladeshi population in order to design an appropriate intervention for the community.

Material and Methods

This cross-sectional study was conducted to find out the non-communicable disease and its risk factors among elderly female population in the selected rural population of ShamnagarUpazila of Satkhira District. Data was collected from elderly female, aged 60 years and above, during February to June 2018. Purposive sampling technique was used to collect data from 40 respondents by face to face interview with semi-structured questionnaire.No sensitive or privacy invasive questions were asked. They were interviewed after fulfilling the informed consent form. All the data were checked and edited after collection. Results were analyzed by using SPSS for Windows' XP program version 17.0. An analysis plan was developed keeping in view with the objectives of the study. Appropriate statistical tests were done according to the need of the study objectives.

Table I: Socio-demographic characteristics of respondents

Characteristics	Number of Respondents (%) n= 40
Age (in years)	
60-62	**20 (50%)**
63-65	**16 (40%)**
66-68	**4 (10%)**
≥69	**00**
Marital Status	
Married	**20 (50%)**
Unmarried	**00**
Widowed	**20 (50%)**
Religion	
Islam	**40 (100%)**
Hindu	**0**
Others	**0**
Educational Status	
Illiterate	**24 (60%)**
Primary	**10 (25%)**
Secondary	**6 (15%)**
SSC	**0**
HSC and above	**0**
Occupation	
Business	**6 (15%)**
Firming	**10 (25%)**
Day labor	**0**
Shop keeper	**0**
Housewife	**24 (60%)**

In the study, the mean age of elderly was 61.59 (SD±2.11) years. Other socio-demographic factors among elderly were as follows: 24 (60%) of elderly were illiterate, 24 (60%) of elderly were housewives, 10 (25%) were doing firming. 20 (50%) of elderly were married.

Table II: Tobacco chewing habit among the respondents

Tobacco chewing hab it	Number of Respondents (%) n= 40	Percentage
Yes	30	75%
No	10	25%
Total	40	100%

Among the respondents, 30 (75%)were tobacco non chewer. Only 10 (25%) had the habit

Table III: Physical activity of the respondents

Physical activity (Hour/Day)	Number of Respondents (%) n= 40	Percentage
3-5	30	75%
6-8	6	15%
9-11	4	10%
Total	40	100%

Among 40 respondents 75% had physical activity more than 3 hours, only 10% had physical activity more than 9 hours.

Table IV: Body mass index of the respondents

BMI	Number of Respondents (%) n= 40	Percentage
18.5 –24.9	20	50 %
25.0 –29.9	15	37.5 %
30.0 –34.9	5	12.5%
Total	40	100%

Among 40 respondents 50% had normal weight, 37.5% had overweight and only 12.5% had class I obesity.

Table V: Five commonest risk factors among respondents

Risk Factors	Female(%) n=40
Hypertension	
Yes	16 (40%)
No	24 (60%)
Diabetes Mellitus	
Yes	20 (50%)
No	20 (50%)
Joint Pain/Arthritis	
Yes	30 (75 %)
No	10 (25 %)
Hearing Impairment	
Yes	0
No	40 (100 %)
Vision impairment/ Cataract	
Yes	12 (30 %)
No	28 (70 %)

Table VI: Sub analysis among elderly receiving treatment for risk factors

Treatment Received	Female (%)
Hypertension (n=16)	
Yes	10 (62.5 %)
No	6 (37.5 %)
Diabetes Mellitus (n=20)	
Yes	20 (100 %)
No	0
Joint Pain/Arthritis (n=30)	
Yes	16 (53.33 %)
No	14 (46.67 %)
Hearing Impairment (n=0)	
Yes	0
No	0
Vision impairment/ Cataract (n=12)	
Yes	8 (66.67 %)
No	4 (33.33 %)

The study also reported the five most common disease co-morbidities for elderly which included: i)40% female had hypertension while 62.5% of female patients were already treated; ii) 50% female had diabetes mellitus and 100% of them were treated; iii) 75% of female elderly were suffering bone and joint pain/arthritis and 53.33% of them were received treatment; iv) no hearing impairment found among the respondents iv) Only 30% elderly suffered poor vision; however, two third of female patients were treated.

Discussion

Bangladesh is a country of 140 million people, and by the middle of the century its population is projected to grow by half (to 235 million). A key demographic shift between now and then is expected to be the rapid aging of the population – projected to account for a quarter of the population by 2050 [12].This trend will surely increase both the burden of NCDs and the strain on the health care system. Globally, 10% of the world population is elderly people and it is expected to increase to 21% in the year 2051. In the year 2002, the number of elderly people in the world was estimated to be 605 million, which is expected to rise to more than 1.2 billion by the year 2025. This cross-sectional study was conducted to find out the non-communicable disease and health seeking behavior among female elderly population in the selected rural population of Shamnagar Upazila of Satkhira District. Data was collected from female population, aged 60 years and above, during February to June 2018. Purposive sampling technique was used to collect data from 40 respondents by face to face interview with semi-structured questionnaire. In the study, the mean age of elderly was 61.59 (SD±2.11) years. Other socio-demographic factors among elderly were as follows: 24 (60%) of elderly were illiterate, 24 (60%) of elderly were housewives, 10 (25%) were doing firming. 20 (50%) of elderly were married. Among the respondents, 30 (75%) were tobacco non chewer. Only 10 (25%) had the habit. Among 40 respondents 75% had physical activity more than 3 hours, only 10% had physical activity more than 9 hours. Among 40 respondents 50% had normal weight, 37.5% had overweight and only 12.5% had class I obesity. Whereas findings have been observed in a national level representative study13.Six percent respondents were overweight or obese which is one third of another national level report [8].The study also reported the five most common disease co-morbidities for elderly which included: i) 40% female had hypertension while 62.5% of female patients were already treated; ii) 50% female had diabetes mellitus and 100% of them were treated; iii) 75% of female elderly were suffering bone and joint pain/arthritis and 53.33% of them were received treatment; iv) no hearing impairment found among the respondents iv) Only 30% elderly suffered poor vision; however, two third of female patients were treated.These data are consistent with other studies conducted among older persons in India[14, 15] and the world[16, 17]. In this study, hypertension was registered as the second most common morbidity (64.29%). Similar finding has been reported in a study among older persons in India[13,18] and abroad [19,20]. Cataract was present in 63.16% elderly subjects. Sharma et al. [21] reported 30%; Shankar et al [22] 48%; and Shraddha et al. [21] 30.2%, from different rural parts of India.

Conclusion

The elevated morbidity load among elderly population pressurizes for efforts to assist them with specialized healthcare. The elderly population must be made aware of periodic medical checkups to enable prevention and early recognition of the chronic ailments. Furthermore, the study shows that elderly living in rural areas are the most vulnerable group in their healthcare-seeking behavior. To overcome this, the policymakers must concentrate more on rural elderly population and their views, which stop them from seeking health care.

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Original Article

Maternal Outcome of Adolescent Pregnancy Admitted In Tertiary Level Hospitls In Chittagong

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Abstract

Introduction: *Teenage pregnancy is coming up as one of the most important social and public health problems all over the world with varying prevalence rate. Adolescent childbearing has emerged as a major concern in Bangladesh due to its adverse effects on both the mothers and babies born to adolescent mothers. The estimated lifetime risk of dying from pregnancy and childbirth related causes in Bangladesh are about 100 times higher than in the developed countries.*

Objectives: *To find out maternal outcome of adolescent pregnancy in Chittagong.*

Methodology: *Institution based cross sectional study design conducted in April 2015 to July 2015 at ctg. One hundred respondents were selected conveniently. Mixed type of questionnaire was applied to collect data. Health education on information regarding menstrual hygiene was provided after the study.*

Results: *In this study, the mean age at the time of child birth was 17.87(SD+1.13) years. Among the participants 82.4% had antenatal complications where iron deficiency anemia, pregnancy induced hypertension were common. It was observed that 69.44% experienced intra-natal complications and majority (46.66%) had pre-term delivery. Only 17.59% respondents suffered by post-natal complications. The major fetal complication was premature baby.*

CONCLUSION: *Adolescent pregnancy is a burning health issue till now as it is at increased risk of adverse maternal and perinatal morbidity.*

Keywords: *Adolescent Pregnancy, Maternal Outcome, Pregnancy Induced Hypertension*

Introduction

The term "adolescent" comes from a Greek word "adolescere" which means to grow up. Adolescent is a period of transition from childhood to adulthood. According to WHO, the period of adolescence extends from 10-19 years. Pregnancy during this period is called adolescent pregnancy. Adolescent pregnancy is one of the most important social and public health problem all over the world with varying prevalence rate[1]. Around the world, 15 million women under the age of 20 give birth, representing up to one-fifth of all births[2], evidence that in developing world indicates that one-third to one half of women become mothers within 19 years of age, making pregnancy related causes of death [3]. Relatively, the situation in South Asian Countries is severe as there are higher proportions of teenage pregnancies in this region due to common practice of early marriage and social expectation to have a child soon after marriage [4,5]. Globally, 5,29,000 women die in every year due to pregnancy and childbirth related complications [6], whereas the risk of death due to pregnancy related causes is double among women aged 15-19 compared to women in their twenties [7]. This may be due to several reasons including low use of prenatal care in the first trimester, and insufficient physical development to bear child. In addition, teenage

pregnancy can significantly affect socio economic situations of women and family, including maternal education, women's employment opportunity, marital stability, and increased economic and social dependency on family and neighbors.Deaths from anemia, eclampsia and obstructed labour are more common in young mothers. If mother is small as well as young, she is likely to give birth to a small, weak baby whose chances of survival is equally small. The infants of adolescent mother have a higher incidence of low birth weight, prematurity, still birth and perinatal birth[7].Under these circumstances, in the current study , an attempt has been made to find out the maternal outcomes of adolescent pregnancy in Bangladesh context.

Methodology

This was a hospital based cross-sectional study to find out maternal outcome of pregnancy among adolescent mothers aged 14-19 years, who had recently delivered babies in tertiary level hospitals named Chittagong Medical College Hospital, Chattagram Maa-Shishu-0 general hospital, University of Science and Technology, Chittagong. Institution based descriptive cross sectional study to find out maternal outcome was pregnancy among conducted from April 2015 to July 2015. Atotal of 108 adolescent mothers were included in the study. The study subjects were selected conveniently. A written informed consent form was given and all the women who gave consent were included in the study. The permission was taken from the respective authority to conduct the study. Data were collected by face to face interview method through semi-structured pre tested self-administered questionnaire and also from medical records. The questionnaire was prepared in local language. The Ethical clearance was obtained from the Institutional Ethical Committee to conduct the study. Data were entered into Microsoft office excel worksheet and analyzed as frequency and proportions. The data were presented as tables and graphs.

Results

108 women participated in the study. Among the respondents' majority55(50.93) were from 18 years of age. The mean age of respondents was (17.53+1.32). 44.44% respondents completed primary level of education. It was evident that, 61% respondents experienced menarche at 12 years of age and 78% respondents had regular menstrual cycle. The mean age at the time of child birth was 17.87(SD+1.13) years.

Most of the respondents 98(90.74%) had no history of abortion or menstrual regulation and 10(9.25%) had history of abortion or menstrual regulation. Among the participants 82.4% had antenatal complications and among them 61.8% was suffering from anemia. It was observed that 69.44% experienced intra-natal complications where majority (46.66%) had pre-term delivery. Only 17.59% respondents suffered by post-natal complications. From survey it is found that, 61.1% had caesarean section followed by normal vaginal delivery. Majority 61.1% delivered term baby. It was evident that 91.6% delivered live baby and 69.7% had complications where prematurity 50.7% was most common. From survey it is found that, 61.1% had caesarean section followed by normal vaginal delivery. Majority 61.1% delivered term baby. It was evident that 91.6% delivered live baby and 69.7% had complications where prematurity 50.7% was most common.

Table 1: Distribution of respondents by Age

Age of the Mother	Frequency	Percentage
15 years	16	14.81%
16 years	10	09.26%
17 years	05	04.63%
18 years	55	50.93%
19 years	22	20.37%
Total	108	100.00%
Age of Mother	Mean $\pm$ SD	Range
	17.53$\pm$1.32	15-19

Table 2: Distribution of the respondents according to occupation		
Occupation	**Frequency**	**Percentage**
Housewife	49	45.37%
Garment worker	17	15.74%
Service	09	08.33%
Day labor	12	11.11%
Student	18	16.67%
Cultivation	03	02.74%
Total	108	100.00%

Table 3: Distribution of the respondents by age at Child Birth(n=108)		
Age at First Marriage	Frequency	Percentage
18 years	31	28.70%
18 years	77	71.30%
Total	108	100.00%
Age at first child birth	Mean±SD	Range
	17.87±1.13	15-19

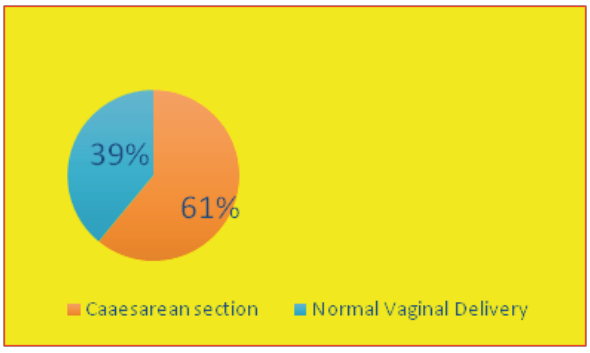

Table 4 : Distribution of respondents by Complications		
Antenatal Complications	**Frequency**	**Percentage**
Pregnancy with anemia	55	61.8%
Pregnancy induced Hypertension	12	13.5%
Gestational DM	03	03.4%
Ante Partum Hemorrhage	05	05.6%
Premature rupture of membrane	08	08.9%
Hyperemesis Gravid arum	06	06.7%
Total	89	100.00%
Intranatal Complication	**Frequency**	**Percentage**
Pre-term delivery	35	46.66%
Prolonged labour	10	13.34%
Obstructed labour	13	17.33%
Perineal tear	10	13.34%
Mal presentation	07	09.33%
Total	75	100.00%
Post-natal Complication	Frequency	Percentage
Post-partum Hemorrhage	09	47.36%
Shock	05	26.32%
Infection	05	26.31%

Table 5: Association between age of the mother and mode of delivery(n=108)

Age of Mother	Mode of the Delivery		Total	X^2 Value	P value
	NVD	C/S			
18 yrs	06	25	31	6.981	0.008 HS
18 yrs	36	41	77		
Total	42	66	108		

Discussion

Adolescent pregnancy is a burning health problem now.The cross sectional study was conducted among 108 adolescent pregnant mothers who delivered baby during data collection period in study places.This study determines the maternal outcome of teenage pregnancy. In this study, the mean age of respondents was (17.53+1.32). Highest proportion of them was in 18-19 years' age group which was almost similar to the study done by Demir et a l9. Majority 50% of the respondents came from lower class followed by 46.3% from lower middle class. Shrestha demonstrated that the incidence of teenage pregnancy was significantly higher in lower social class than in the higher social class which is similar to this study compare to the relative to younger group10. The mean age at the time of child birth was 17.87+1.13 years. In this study, anemia during pregnancy 61.8% was most common complications followed by pregnancy induced hyper-tension 13.5%, 4.55 had PROM, 5.6% had APH, 4.5% had threatened abortion A study conducted by Thato S showed similar results where anemia was signifi-cant11. During intra natal period, pre-term delivery was most common complicationsfollowed by 13.345 prolonged obstructed labor,13.34% perineal tear and 9.33% mal presentation.These findings are similar to a study done by Nato S at Cha0 Rhaya Abhaibhubejhjr hospital where found that, adolescent pregnancy was associated with many adverse outcomes12. In this study only17.59% respondents suffered by post-natal complications. Among them, 47.36% had post-partum hemorrhage. The study is similar to a study conducted by Pun KD where post-partum hemorrhage was higher among adolescents13.

In this study, Majority of the respondents 61.1% had caesarian section followed by normal vaginal delivery 38.9.The similar study has been shown on the study done in Rajuvithi Hospital, Bangkok where found that teenage mothers had significantly higher incidence of caesarean delivery than that in the adult mothers.In this study, 91.2% adolescent mother delivered live baby and only 8.4% delivered still born A study in Bangladesh conducted by Roy N showed that overall 7.5% of all the reported pregnancies ended up in abortion or live birth either premature or still birth14. These findings were quite similar to this study.It was evident that 91.6% delivered live baby and 69.7% had complications where prematurity 50.7% was mostcommon. This study revealed significant association between age of the mother and mode of delivery (6.981, df=1, p=0.008). The mother who gave birth baby before 18 years of age had more C/S compared with mother of 18 years of age. From this study, it is found that adolescent pregnancy outcome was unsatisfactory. So proper education and knowledge on adverse impacts of adolescent pregnancy should be informed to community people. Thus more positive outcome regarding adolescent pregnancy can be achieved.

Conclusion

The study revealed that anemia, Pregnancy induced abortion, PROM, APH,prolonged labor, obstructed labor, mal-presentation, PPH were major maternal complications. Moreover, the incidence of caesarian section is very high.Bangladesh is one of the vulnerable countries in South Asian Region regarding early motherhood risks. Most of the adolescent pelvis is not mature for child birth and malnutrition may stunt normal growth of adolescent women. Bangladesh is one of the vulnerable countries in South Asian Region regarding early motherhood risks. Good

Services during whole pregnancy period and proper post-partum care, contraceptive services, abortion services all together can minimize the various risks

associated with teenage pregnancies to a large extent.With all these measures, we can hope for a world-wide decline in the trend of teenage pregnancy rates and women for positive outcomes. special attention is required to educate these women for more positive outcome.

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Original Article

Adult Acute Retro-pharayngeal Abscess

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** For correspondence*

Abstract

Retropharyngeal abscesses are rare in adults. They occur mostly in immunocompromised patients or as a foreign body complication.The presenting symptoms were fever, odynophagia, torticollis and trismus. The clinical examination showed bulging of the posterior wall of the oropharynx. The radiography of cervical spine showed prevertebral thickening. The surgical drainage without anesthesia was also performed. The outcome was good & the management of these cases is based on antibiotics, surgical drainage& removal of bone Chips. Usually adult chronic retropharyngeal abscess due to TB is common. But we are reported acute retropharyngeal abscess in an adult due to impacted Foreign Body (FB) by Bone Chips& Infection. It required surgical drainage and prolonged hospital admission.

***Key words:** Retropharyngeal abscess, deep neck space, Foreign Body (FB).*

Introduction

A retropharyngeal abscess is an infection in the deep spaces of the neck. In adults, retropharyngeal abscesses are rare and can occur as a result of local trauma such as foreign body ingestion (fishbone) or instrumental procedures (laryngoscopy, endotracheal intubation, feeding tube placement, etc.), or in the particular context of an associated disease [1,2].

These abscesses are more frequent in children because of the abundance of retropharyngeal lymph nodes [2,3]. Retropharyngeal abscesses require prompt diagnosis and early management which frequently involves surgical drainage to achieve the best results. However, the appropriate timing to undergo a surgical procedure is still controversial [3]. Adult retropharyngeal abscess also occur due to trauma, foreign body impaction.

A foreign body (FB) is any object originating outside the body of an organism. Most references to foreign bodies involve propulsion through natural orifices into hollow organs. Foreign bodies can be inert or irritating [4]. Early recognition and aggressive management of retropharyngeal abscess are essential because retropharyngeal abscess still carries significant morbidity.

The retropharyngeal space can become infected in two ways. Either infection spreads from a contiguous area or the space is inoculate directly secondary to penetrating trauma. Typically an upper respiratory infection (URI) causes spread to retropharyngeal lymph nodes. Sources of infection can include pharyngitis, tonsillitis, adenitis, otitis, sinusitis, and other infections (i.e. nasal, salivary, dental).

Case Report

Mr. Tuslim 23 years old came from kuliarchar, Kishoregonj to ENT OPD 12. 03.2018with a diagnosis of acute follicular tonsillitis by local physician which later manifested with increasing pain & odynophagia. Then he had been referred to ENT OPD for better management.

On examination, patient is sick, tonsils were normal. There was mild bulging on the post pharyngeal wall. Patient was feeling pain on neck movement & tenderness on pressing the larynx &trachea. Indirect laryngoscopy revealed pulling of saliva in the hypopharynx .

X-ray soft tissue Neck (lateral view) showed Increased soft tissue shadow in pre-vertebral region with Radio- opaque shadow in the level of cervical 3,4,5 vertebra. There were straitening of cervical vertebra with no vertebral carries.

Surgical Procedure

Patient was admitted under ENTDepartment & sent to the OT on the same day &without G/A in tonsillectomy position. Right lateral posterior pharyngeal wall was found bulged with sing of impending rupture. Incision & drainage of abscess was done with removal of FB (bone chips) by crocodile like action forceps. Pus was sent for Culture & sensitivity. Culture & sensitivity report came after three days .

Patient was kept on lnj ceftriaxone &lnj Metronidazole upto15-03-2018. Injections Flucloxacillin was given according to culture & sensitivity report.

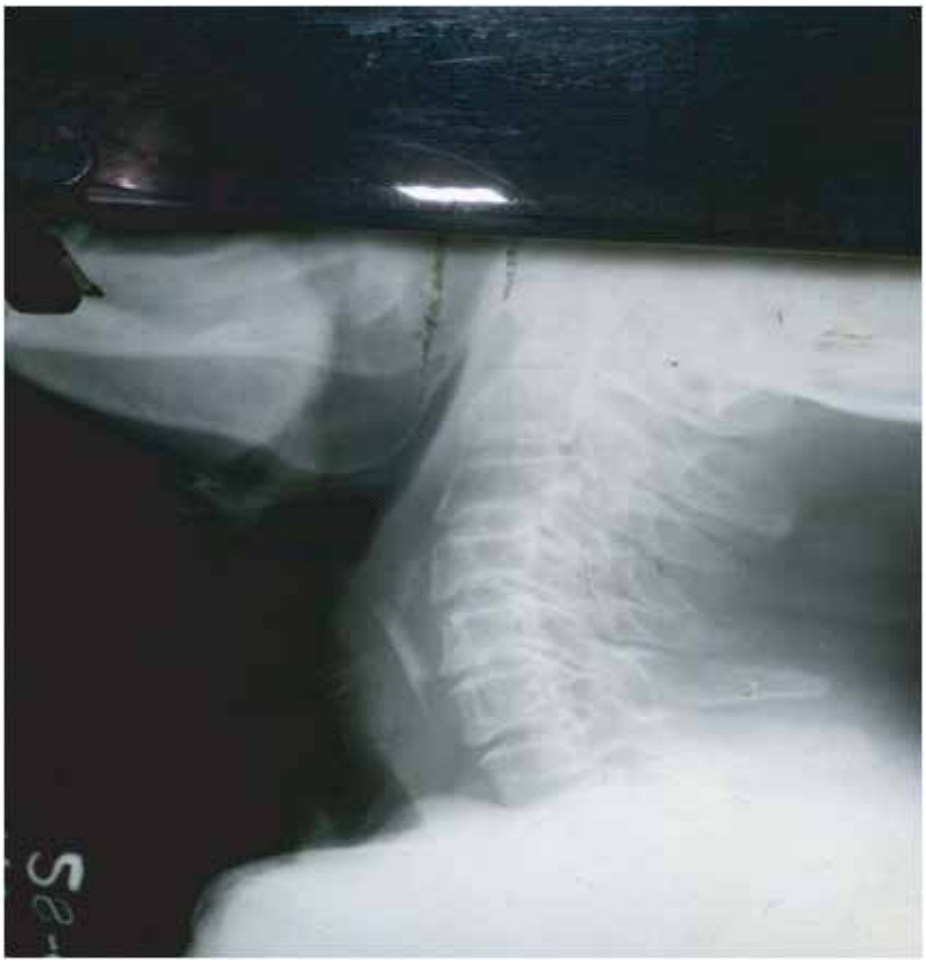

Figure: Impacted FB(Bone Chips)

Discussion

Abscesses in this space can be caused by many organisms such as aerobic organisms (beta-hemolytic Streptococci and Staphylococcus aureus), anaerobic organisms (species of Bacteroides and Veillonella), or Gram-negativeorganisms(Haemophilusparainfluenza e and Bartonellahenselae) [5] but in my case report, I have isolated one organism: Staphylococcus aureus.
The high mortality rate associated with retropharyngeal bscesses is due to its association with airway obstruction, mediastinitis, aspiration pneumonia, epidural abscess, jugular venous thrombosis, necrotizing fasciitis, sepsis, and erosion into the carotid artery [6]. In a study of 234 adults with deep space infections of the neck in Germany, the mortality rate was 2.6% [7]. The cause of death was primarily sepsis with multiorgan failure. Unlike children, adult's abscesses due to nasal or pharyngeal infection are rare and are usually secondary to trauma, foreign bodies or as a complication of dental infections [8] and in our study, the principal etiology was bone chips impaction.

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