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Editorial Board

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JALALABAD MEDICAL JOURNAL

Editorial

Fighting Pneumonia in Bangladesh: 12th November 'The World Pneumonia Day'

Pneumonia kills more children than any other illness. More than 2 million children under 5 years of age die from pneumonia each year accounting for almost one in five, under 5 deaths worldwide. More than 150 million episodes of childhood pneumonia occur every year in the developing world, accounting for more than 95% of all new cases worldwide. South Asia and sub-Saharan Africa together bear the burden of more than half of all childhood pneumonia cases worldwide. And three-quarters of all childhood pneumonia cases occur in just 15 countries[1]. Among these 150 million new cases, 61 million cases occur in Southeast Asia[2]. Of these, 11-20 million are severe enough to be life threatening and to necessiate hospitalization in developing countries. Among under 5 children who die in Bangladesh each year, 14% are due to pneumonia[3]. Only one in five caregivers in the developing world knows the two key symptoms of pneumonia - fast and difficult breathing - which indicate that the child should be treated immediately. Only about half of children with pneumonia receive appropriate medical care. Parents often mistake the early stages of pneumonia for a common cold and only seeking treatment when things deteriorate.

The union of 140 organizations worldwide formed 'Global Coalition Against Childhood Pneumonia' and organizes World Pneumonia Day, 12th November each year, to raise awareness, promote interventions to protect, prevent and treat pneumonia and to generate action to combat the leading killer of children. The WHO, UNICEF and USAID integrated 'Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea' (GAPPD) in 2013, to protect, prevent and treat pneumonia and diarrhea in children.

Bangladesh had tremendous achievements in its health sector in last few years including MDGs, which we need to keep continued. Since 1990 the average life expectancy has been increased by 21 years, reaching an average of 70 years. For many countries around the world including Bangladesh, leading healthy and happy lives has become a reality and this is a remarkable global achievement. From 1990 to 2013, Bangladesh recorded an 80% drop in child pneumonia deaths. In 1990 Bangladesh had the 6th highest number of child pneumonia deaths in the world and by 2013 our country fell to the 14th highest among 15[4]. To take on its biggest childhood killer, Bangladesh substantially improved the three components of reducing pneumonia cases: prevention, treatment and risk reduction.

The global health community has proposed aiming to end preventable child deaths by 2030, a target that will require heightened efforts. Coordinating approaches to fighting pneumonia will be far more effective and efficient and will provide better services to the communities, families and children. It's time to demonstrate, document and scale up comprehensive, integrated approaches to improving child health. By this time we know what needs to be done to reduce childhood pneumonia deaths. Given its significant contribution to overall child mortality, pneumonia must assume a more prominent position on the child survival agenda and if Bangladesh can sustain its achievements and actions, there is a good chance of greater reduction in child pneumonia deaths in the upcoming years.

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JALALABAD MEDICAL JOURNAL

Original Article

Various Refractive Errors in Children Attending Eye Out Patient Department of Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet

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ABSTRACT

Childhood visual impairment due to refractive errors is one of the most common problems among school going children and is the 2nd leading cause for treatable blindness. Most of the children with uncorrected refractive error are asymptomatic & undiagnosed and hence screening helps in early detection of refractive errors and timely interventions. In developing countries very few data are available on the prevalence of refractive errors in children. This descriptive cross sectional study conducted in eye out patient department (OPD) of Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet from January 2013 to December 2013 to find out the pattern of refractive errors in children between 5 to 16 years. This data may add some vital information for further improvement in primary eye health care planning. A total of 4120 patients between 5 to 16 years visited the ophthalmology outpatient department at JRRMCH during this period having different eye problems. Out of these 4120 patients, 758 (18.39%) had refractive errors. Amblyopia, squint, conjunctivitis and systemic diseases were excluded in this study. Our study found astigmatism in 41.3%, myopia in 35% and hypermetropia in 23.7%. Regarding age group, 52.9% respondents were from 10-16 years of age and the rest (47.1%) were from 5-9 years age group. The global initiative for the elimination of avoidable blindness sets a major challenge to work relentlessly to avoid the preventable blindness. Though the outcome of the study yielded from a very small portion of the entire population of a developing country like Bangladesh, but may add some formidable information for the stakeholders in this field.

Key words: *Hypermetropia, Myopia, Astigmatism, Refractive error, Blindness.*

[Jalalabad Med J 2015; 12(2): 51-54]

INTRODUCTION

Blindness is one of the important public health problems in Bangladesh. Several millions of people have been suffering from blinding conditions or from visual impairment. A big share of this problem comprises of refractive correction problem. Refractive error, in particular, has in these days' excellent treatment scopes which is cheap, convenient, comfortable and finally within people's capabilities. The number of visually impaired persons in the world is about 259 millions. This estimate includes 98 million persons with visual impairment due to uncorrected refractive error[1]. Refractive error is a major contributor to visual impairment which is a significant cause of morbidity in children worldwide[2]. According to Bangladesh National Blindness and Low Vision Survey done in 2002, there are about 3.3 million cases, of refractive error in adults and 1.3 million cases among children (i.e. 3.5% of the whole population). Despite this huge number of people who are in need of refractive error correction, only 3% of them use spectacles and the rest remain uncorrected[3]. Bangladesh has an estimated 1.3 million blind children, more than any other country in the world[4]. Even though this represents a small fraction of the total blindness, the control of blindness in children is one of

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the priority areas of the World Health Organization's (WHO) "Vision 2020: the right to sight" program. This is a global initiative, which was launched by WHO in 1999 to eliminate avoidable blindness from world by the year 2020[5,6]. Under "Vision 2020: the right to sight" program, refractive errors have been listed, along with cataract, trachoma, onchocerciasis and childhood blindness, among eye problems whose prevention and cure should provide enormous savings and facilitate societal developments[6,7]. Ametropia (a condition of refractive error) is defined as a state of refraction, when parallel rays of light coming from infinity are focused either in front or behind the retina after passing through the diopteric power of the eye when the accommodation is at rest. Myopia, hyperopia and astigmatism are the different types of refractive error[8]. Human being is born with about 2 to 3 D of hyperopia which diminishes with aging process. At puberty, refraction reaches to be emmetropic. The change may progress to myopia. Study conducted in Finland covering 1 to 15 years of children, showed the emmetropising trend from infant hyperopia and emetropia being reached in 10th year of life[9]. Most of the children with uncorrected refractive error are asymptomatic and hence screening helps in early detection of refractive errors and timely interventions. Uncorrected refractive error may have impact to a larger extent on the learning capability and potential of the student. Early detection and prompt treatment are also essential to prevent irreversible amblyopia. In developing countries very few data is available on the prevalence of refractive errors in children. This study was carried out to evaluate patterns of refractive errors, result of which can be helpful in primary eye health care planning.

MATERIALS AND METHODS

This is a descriptive cross sectional study conducted in eye out patient department of JRRMCH, Sylhet from January 2013 to December 2013 to find out the pattern of refractive errors in children between 5 to 16 years. Samples were selected purposively. A total of 4120 patients, aged 5 to 16 years visited the ophthalmology outpatient department during the study period. Out of these 4120 patients, 758 had refractive errors irrespective of sex without amblyopia, squint, conjunctivitis or any systemic diseases. Children having refractive errors of 0.50 diaptre or more were included in the study. New cases of refractive errors and cases diagnosed previously were also included in the study. Each child was examined thoroughly by torch light examination, slit lamp examination, visual acuity test using Snellen's chart for distance vision, 'N' series chart for near vision and retinoscopy. Auto-refractometer was used for refraction. Cycloplegic refraction was not done. Detailed history including family history was recorded.

RESULTS

The total number of the patients was 758 with the mean age of 9.98 (SD ± 2.95) years. The outcome is demonstrated here in these following tables & figures.

Table-I: *Refractive errors among the study population (n=758).*

Refractive Error	Frequency	Percentage
Myopia	265	35
Hypermatropia	180	23.7
Astigmatism	313	41.3
Total	758	100

Table-II: *Refractive errors according to age group (n=758).*

Age Group (Years)	Refractive Error			Total, No (%)
	Myopia	Hypermatropia	Astigmatism	
5-9	136	79	142	357 (47.1)
10-16	129	101	171	401 (52.9)
Total	265	180	313	758 (100)

Table-III: *Visual acuity among the study population (n=758).*

Visual Acuity	Frequency	Percentage
VA 6/6 -VA 6/12	411	54.2
VA 6/18 -VA 6/36	302	39.8
VA 6/60 - <VA 6/36	45	5.9
Total	758	100

Table-IV: *Refractive errors according to sex (n=758).*

Sex	Refractive Error			Total, No (%)
	Myopia	Hypermatropia	Astigmatism	
Male	164	109	172	445 (58.7)
Female	101	71	141	313 (41.3)
Total	265	180	313	758 (100)

Table-V: *Refractive errors according to socio-economic status (n=758).*

Socio-economic Status	Myopia	Hypermatropia	Astigmatism	Total, No (%)
Lower	159	104	189	452 (59.6)
Middle	97	72	119	288 (38)
Upper	9	4	5	18 (2.4)
Total	265	180	313	758 (100)

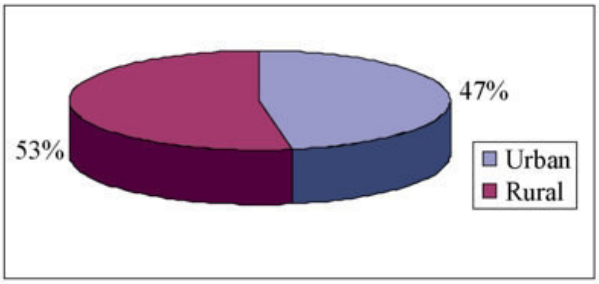

Figure-1: *Pie chart of respondents residence (n=758).*

DISCUSSION

This study showed that out of 4120 patients, 758 were ametropic. Prevalence of refractive error was 18.39%. One study[10] in 1989 found 8.47% prevalence. The figure was 6.35% in another study[11].

Three patterns of refractive errors were found in our study eg. astigmatism, myopia and hypermetropia. Our investigation showed astigmatism as the most frequent problem (41.3%), followed by myopia 35% and hypermetropia 23.7%. Pattern in our study slightly differed from study done by Hossain MA[10] (Myopia 46.23%, hypermetropia 19.35% astigmatism 34.42%) and Deen Mohd[11] (Myopia 47%, hypermetropia 19% astigmatism 34%) and observation of Pavithra MB[12] (Myopia 62.9% hypermetropia 14.4% and astigmatism 22.7%). But a Nepalese study conducted by Rai (KC) S et al including 133 children showed similarity with the outcome of our study. Their inference was, commonest type of refractive error among the children being astigmatism (47%) followed by myopia (34%) and hypermetropia (15%)[13]. Regarding the age group we found, 52.9% respondents were in age group of 10-16 years. Probably the sufferers of this age group could explain their complaints to their guardians properly, while the problem of children of 5-9 age group were needed to be identified by their guardians themselves. Singh H et al found the most common age group affected was 8 to 12 years followed by 13 to 16 years[14].

Alam H et al[1] found refractive error was mostly complained by the children age below 10 years (65%) and above 10 years (35%). This observation differed with our report, but not that strikingly significant. In our study tenth year of life was grouped in senior age group. However, our study has no contrast with the reference from Rai (KC) S et al, where they found the refractive error was more prevalent among children of age group 11-15 years as compared to their younger counterparts (RR = 1.22, 95 % CI = 0.66-2.25)[13]. The visual acuity was an important tool for detection of various refractive errors in children. Our study yielded that more than half of the study sample (54.2%) had visual acuity (VA) 6/6-6/12.

The study population had participants from both the gender. Female participants were less (41.3%) which was probably due to the less attention they received from the family but in a study by Alam et al found that refractory error was reported mostly by female (53.7%)[1].

Our study pointed out the fact that more than half of the study population (59.6%) was from lower socio-economic group who had astigmatism (189), followed by myopia (159) and hypermetropia (104). Participants from the middle income group were 38%, while 18 cases were reported from upper class. Lower socioeconomic condition has a negative impact on food habit and the hygienic living status.

This institution is situated in such a place that patients of nearby village can take service with ease and comfort. In this year long study 53% children hailed

from rural area with refractive error and 47% children from the urban vicinity. We have data from Rai (KC) S et al, where they found the refractive error was more common (70%) in the rural than the urban children (26%). The rural females had a higher (38%) prevalence of myopia than urban females (18%)[13]. Refractive error is an easily treatable cause of visual impairment[15]. Provision of appropriate spectacles is one of the simplest, cost effective strategies to improve vision[16].

Another modality of treatment is contact lens. It is specially indicated for high degree of refractive error and anisometropia. Laser refractive surgery is gaining popularity nowadays. It is suitable for certain profession like players, pilots and those who want to avoid glass or contact lens.

CONCLUSION

In our study we have found, three patterns of refractive errors eg. astigmatism, myopia and hypermetropia. Among them, astigmatism was the most frequent problem, followed by myopia and hypermetropia. Children living in rural areas are risk group. Lack of awareness of vision problems and cost of spectacles are the likely factors. Shortage of eye specialists in rural areas & absence of screening facility may contribute to the problem. Screening program for eye sight testing in preschool children will help in identifying refractive error cases. Prescribing them spectacles and other necessary management in appropriate time will help in preventing serious consequences of refractive error like amblyopia and squint.

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Original Article

Comparison of Fetal Weight Estimation using Clinical and Sonographic Methods in Term Pregnant Women

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ABSTRACT

Accurate estimation of fetal weight prior to delivery is useful in the management decision of labour and perinatal outcome. This prospective study was conducted in departments of Obstetrics & Gynaecology and Radiology & Imaging of Jalalabad Ragib-Rabeya Medical College Hospital. The study protocol consisted of estimating fetal weight clinically by Johnson's and Dare's formula followed by sonographic method using Hadlock's formula within 48 hours before delivery and then its correlation with actual birth weight. A total of 100 singleton term pregnant women (37 completed weeks) with cephalic presentation and intact membrane participated in this study. All results arising from different formulas were studied by descriptive statistics and compared with actual weight at the time of delivery (gold standard). It was observed that fetal weight estimation by clinical method was relatively accurate and comparable to ultrasound. The Johnson's formula could predict fetal weight more accurately than Dare's formula and ultrasound when fetal weight was > 2500 gm, whereas ultrasound can be more accurate than clinical methods when fetal weight was < 2500 gm. However, the rates of estimates within 10% of birth weight were not significantly different (71%, 65% and 72% respectively). In our study it was observed that clinical estimation of birth weight especially by Johnson's formula showed promising results except in low birth weight babies and thus holds importance in day to day practice especially in developing countries like ours where large group of population resides in rural areas.

Key words: *Estimated fetal wt, Clinical estimation of fetal wt, Sonographic estimation of fetal wt.*

[Jalalabad Med J 2015; 12(2): 55-60]

INTRODUCTION

Accurate estimation of fetal weight in late pregnancy is extremely useful in the management of labour and delivery. During the past two decades estimated fetal weight is incorporated into the standard routine antepartum evaluation of high risk pregnancy. Management of diabetic pregnancy, vaginal birth after caesarean section and breech presentation is guided by the estimated fetal weight[1].

Perinatal mortality, an important indicator in obstetric care, is the result of still birth and neonatal deaths[2]. Today in both developed and developing countries low birth weight is a single most important factor that can affect neonatal mortality and morbidity. High rate of neonatal (24/1000 live birth) and infant mortality (33/1000 live birth) is still a major concern in Bangladesh[3]. In preterm deliveries and intrauterine growth restriction where low birth weight is suspected perinatal counseling of the likely hood of survival, the intervention taken to postpone delivery, optimal route of delivery or the level of hospital where delivery

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should occur is completely based on the estimated fetal weight[4].

Reliable method for assessment of fetal growth continues to be explored. The two main methods for predicting birth weight (BW) are clinical and sonographic estimation with different accuracy[1,5,6,7]. This clinical estimation is based on abdominal palpation of fetal parts and fundal height, although easy and inexpensive that more helpful in developing countries but is subjective and no standard technique. Sonographic estimation is more objective, reproducible and involves a well defined measurement procedure. Numerous formulas like Hadlock FL/AC (femur length/ abdominal circumference) formula, Hadlock BPD/AC (biparietal diameter/abdominal circumference) formula, Shephard's formula, Coomb's formula, etc. have been published for estimating fetal weight from one or more of the following fetal body measurements: BPD, AC, or FL[8]. Although this method is widely available in developed countries, this is not easily accessible for women in countries like ours. Moreover, for this, costly equipments, specially trained personnel are needed.

Findings from multiple studies have shown that sonographic estimates of fetal weight are no better than clinical prediction; this method might provide an objective standard for identifying fetuses of abnormal size for gestational age[9]. Some researchers concluded that clinical EFW has higher accuracy than ultrasound EFW, but other studies showed that ultrasound EFW is more accurate but Chauhan et al. showed that accuracy of both methods are the same[10]. Findings from afore stated literature, it is observed that clinically estimated fetal weight is as accurate as ultrasound estimated fetal weight. Therefore, this study aimed at resolving these controversies, compare and evaluate the most accurate method of fetal weight estimation and their correlation with actual birth weight in term pregnant women.

MATERIALS AND METHODS

This prospective cross-sectional analytical study was conducted in departments of Obstetrics & Gynaecology and Radiology & Imaging of Jalalabad Ragib-Rabeya Medical College Hospital for a period of six months from 1st July 2008 to 31st December 2008. Institutional ethical clearance was obtained prior to conduct the study.

One hundred pregnant women at full term (37 completed weeks) who delivered within 48 hours and fulfilled the inclusion criteria were chosen for the study. The fetal weight was estimated 48 hours before delivery by both ultra sound and clinical examination.

The inclusion criteria were:

a) Pregnant women with gestational age from 37 completed weeks to 42 completed weeks. b) Patients in the 1st stage of spontaneous labour as well as those admitted for elective caesarean section and elective induction. c) Confirmed gestational age by date and early ultrasound before 22 weeks. d) Singleton fetus. e) Cephalic presentation and intact membrane.

The exclusion criteria were:

a) Pregnant women with history of irregular menstrual cycle and not sure about LMP, b) Multiple pregnancies, c) Preterm labour, d) Premature rupture of membrane, e) Abnormal lie and presentation, f) Known fetal congenital anomaly, g) Eclampsia, h) Polyhydramnios, oligohydramnios, big uterine fibroid and extreme obesity.

Clinical weight estimation:

After the initial assessment, the patient was asked to empty her bladder and then lie on her back with legs extended to measure symphysio-fundal height (SFH) using a flexible, non elastic measuring tape. The fundal height was measured from midpoint of the upper border of symphysis pubis to the highest point of uterine fundas. For the abdominal girth (AG) measurement, tape was repositioned to encircle the women's waist, at the level of the umbilicus, without applying excessive pressure to tighten the tape around the abdomen. Then pelvic examination was done to evaluate the degree of decent of the fetal head in pelvis. Both measurements and fetal station were recorded at the individual data sheet and later used to calculate the fetal weight according to the formulas proposed by Johnson's & Toschach[11] and Dare et al[12].

Johnson's formula:

Fetal weight (grams) = {fundal height (cm) - n × 155}
n=12 when presenting part is above the ishchial spine.
n=11 when presenting part is below the ishchial spine.

Dare's formula:

Fetal weight (grams) = fundal height (cm) × abdominal girth (cm).

Ultrasound fetal weight estimation:

After clinically fetal weight estimation the patient was sent to Radiology department for an obstetric ultrasound. All ultrasound scan were performed by one of the three experienced sonologists who were member of the hospital staff but did not have prior information about patient's data regarding clinical weight. The ultrasound fetal weight was calculated automatically by ultrasound machine Hadlock's reference table, which used the biparietal diameter (BPD), abdominal circumference (AC) and femur length (FL)[8].

All the participants delivered within next 48 hours

following fetal weight estimation and immediately after delivery the infants were weighed by a single digital weight machine in labour room and in caesarean section operating theater. After completion of the data collection, fetal weights obtained by the three methods (clinical, ultrasound and actual) were compiled and statistical analysis was done using SPSS. Paired t test, Chi-squared test and Pearson's correlation co-efficient were used for analysis. P value < 0.05 was considered significant.

RESULTS

Total 100 women that satisfied the inclusion and exclusion criteria were prospectively evaluated and the results were analyzed.

The characteristics of the patients are shown in table-I. The mean age was 25.5±4.3 years, gravida 2.4±1.3, gestational age 38.6±1.07 weeks. Actual birth weight was between 2100 to 4100 gm. In table-II it is found that the higher symphysial-fundal height (SFH) at a given gestational age, the higher the estimated weight in Johnson's formula. In ultrasound, estimated fetal weight SFH has no effect, as it is automatically

Table-I: *The demographic data of the studying population (n=100).*

Data	Range	Mean±SD	Group	Number
			< 20	14
Age (Years)	18-39	25.5±4.3	21-30	77
			31-39	9
			Primi	23
Gravida	1-7	2.4±1.3	2nd-4th	68
			□5th	09
Gestational age (wks)	37-41	38.6±1.07	37-39	74
			□40	26
			< 2500	20
Actual birth weight (gm)	2150-4100	3155±396	2500-4000	66
			> 4000	14
Obstetrical			Elective induction	50
indication of	-	-	Elective C/S	37
admission			Spontaneous labour	13
Symphysial-fundal height (SFH) (cm)	26-39	33±2	-	-
Abdominal girth	92-116	95.3±10	-	-
USG EFW (gm)	2311-3710	3091±296	-	-
Johnson's formula	2170-4185	3250±370	-	-
Dare's formula	2378-4524	3149±453	-	-

Table-II: *Relationship between symphysial-fundal height (SFH) and estimated fetal weight.*

SFH (cm)	No	Clinically Estimated Fetal Weight (gm)		USG Estimated Weight
		Johnson's Formula	Dare's Formula	
		Mean±SD	Mean±SD	Mean±SD
26	12	2170±0	2470±74	2739±38
27	5	2325±0	2468±32	2829±16
28	3	2480±0	2651±21	2720±38
29	4	2635±0	2501±99	2848±161
30	5	2790±0	2808±173	2854±123
31	10	2945±0	2749±611	2774±170
32	17	3100±0	3070±237	3005±255
33	14	3255±0	3147±246	326±288
34	10	3410±0	3263±148	317±230

35	3	3565±0	3453±221	3359±258
36	5	3720±0	3622±231	3223±200
37	5	3875±0	3732±216	3314±165
39	7	4185±0	4037±689	3293±21

Relationship among the different methods of estimation of with actual weight is shown in table-III.
P value was > 0.05 for all and it was not statistically significant.

Table-III: *Relationship among the different methods of estimation with actual weight.*

Weeks	No	Johnson's Formula	Dare's Formula	USG (EFW)	Actual Birth Weight
-	100	3250±370	3149±453	3091±296	3155±396
37	12	3087±425	3001±467	2866.9±183	2866±377
38	38	3132±342	3036.68±537	2964.79±260	3032.89±382
39	24	3274.38±380	3168.8±371	3124.5±271	3212.5±351
40	22	3480.45±256	3361.57±319	3348.64±209	3386.36±291
41	4	3448.75±343	3380±329	3350.75±254	3562.5±375

Table-IV: *Accuracy and differences among methods of estimations.*

Birth Weight Stratum		Clinical Method					
		Johnson Method	P value	Dare Method	P value	Ultrasonic Method	P value
Overall	MPE*	3.74±10.96		1.06±10.9		-1.225±9.642	
	MAPE#	8.59±7.731	0.393	8.862±6.53	0.210	7.763±5.797	0.343
	Estimate within 10%	71		65		72	
< 2500gm	MPE*	7.38±12.85		4.78±11.64		3.68±8.21	
	MAPE#	11.37±9.41	0.012	9.94±7.61	0.074	6.981±5.607	0.034
	Estimate within 10%	62.22		64.44		80	
2500- > 4000gm	MPE*	2.13±7.36		-0.59±8.61		-2.82±8.2	
	MAPE#	6.009±4.669	0.827	6.912±5.057	0.458	6.875±5.191	0.823
	Estimate within 10%	81.4		69.77		79.07	
< 4000gm	MPE*	-4.16±9.08		-6.95±11.18		-13.88±5.23	
	MAPE#	7.42±6.43	0.32	11.81±5.05	0.336	13.88±5.23	0.013
	Estimate within 10%	66.67		50		16.67	

calculated using different parameters.

MPE* (Mean percent error): Paired t test.
MAPE# (Mean absolute percent error): independent two sample t test.
Estimate within 10%: Chi-square test.

DISCUSSION

Birth weight is one of the principal variables affecting fetal and neonatal morbidity and mortality, especially in the preterm and small-for-date fetus. Lots of obstetrical management depends on correct estimation of fetal weight.

Estimation of fetal weight on its own and its relation to the gestational age can influence obstetrical decision concerning the timing and route of delivery[13]. Both fetal macrosomia and intrauterine growth restriction (IUGR) increase the risk of perinatal mortality and morbidity in terms of long term neurological and developmental disorders. Identification of IUGR after 37 weeks of gestation is an indication of delivery to reduce the chance of fetal mortality[14]. Similarly diagnosis of fetal macrosomia frequently leads to delivery by means of caesarean section to reduce risk

of failed vaginal delivery and shoulder dystocia[14]. Decreasing the perinatal complications associated with the birth of both small and excessively large fetuses require accurate estimation of fetal weight in advance[15]. This study was done to find out the accuracy of birth weight estimation using different methods.

In our study we compared, clinical estimation by Johnson's and Dare's formula, ultrasonic estimation with actual birth weight. It was observed that clinical estimation of fetal weight using Johnson's formula was as accurate as ultrasound estimation. Rather it was more accurate in case of both average and large fetuses.

In their original publication Johnson and Toschach[11] reported that fetal weight was within 353 gm of actual birth weight in 68% of 200 cases. In the present study using the same formula, 71% of the estimates were within this range. One possible explanation of this difference may be that maternal obesity (< 90 kg) was less frequent in the present study. It is possible that maternal adiposity may have a greater impact on the fetal weight estimation which should be evaluated in the large sample of obese women.

In 1990, Dare et al[12] proposed another formula for clinical fetal weight estimation which used abdominal girth (AG) and symphysio-fundal height (SFH). In their original paper, Dare et al[12] tested their method on 498 full term patients and found a good correlation between clinical estimates and the actual birth weight (r=0.742). In the present study Dare's formula was found least accurate among the three methods. This may be explained by the lack of correction of obesity in the studied sample.

The major findings in this prospective study was that clinical estimation of fetal weight in case of Johnson's formula was more accurate than Dare's formula and ultrasound method in case of birth weight range of 2500- < 4000 gm and it was least accurate in low birth weight group (< 2500 gm). This was in consonance with what several investigators have shown that the clinical method is best for estimating fetal weight in reference birth range of 2500- < 4000 gm with accuracy (mean absolute percentage error) of ±7.5-19.8% depending of gestational age and that below 2500gm, accuracy deteriorates markedly with a mean absolute error of ±13.7-19%[1,14] and in this study only 60-65% weight are estimated by clinical method within ±10% of actual birth weight. While other studies have confirmed that Johnson's formula correctly estimates actual birth weight, a few papers have compared the accuracy of their formula with ultra sound estimates.

In a study involving 46 patients, Banerjee et al[17] did not find significant difference in the mean absolute errors and mean absolute standardized error of EFW using Johnson's formula and ultrasound method. Similarly Cury and Garcia reported that fetal weight estimation using Johnson's formula was as accurate as ultrasound estimate[18]. The studies by Sherman DJ et al[1] have shown that sonographic estimation of fetal weight offers no advantage over clinical estimation at term.

In our study we observed that Johnson's formula estimated correctly among the three methods in case of average and big babies (81% and 66% respectively). In low birth weight babies both the methods over estimated it, but the ultrasound method was statistically more accurate and more estimates were within ±10% of actual birth weight (80%). This was what found in one study where in term gestation of diabetic mothers and those infants with a birth weight of 2500 gm or more, the clinical estimates of birth weight is more accurate; however, in preterm diabetic pregnancies, clinical and sonographic estimates were equal[19].

This study clearly showed that hi tech methods were not always superior to clinical examinations. In babies over 2500 gm ultrasound is an unnecessary expense and does not aid in the management of labour and delivery. Clinical assessment of fetal weight is both convenient and virtually costless. It may be concluded that accuracy of estimation using instrument is not better than single abdominal palpation and errors were also indifferent. As clinical methods are easy to teach, cheap and not so difficult to perform, the grass root level health workers easily can perform and use it as a screening method and may refer for further evaluation if any high risk pregnancy is suspected. This has important implication for developing countries where there is lack of technologically advanced ultrasound machines, experienced sonologists capable of doing sophisticated functions like fetal weight estimation but has experienced clinicians who can perform their function equally well if not better. The role of ultrasonographic estimation appears that when clinically estimated weight suggests <2500 gm, or there is chance of preterm labour and intrauterine growth restriction, subsequent ultrasound estimation would yield a better evaluation and would be further necessary to assess such fetuses for congenital malformation and to do bio-physical profile to determine the wellbeing of the fetus. It will also be necessary to refer such fetuses in utero to tertiary hospital where neonatal resuscitation would be available and efficient.

CONCLUSION

There is no doubt about the importance of accurate estimation of fetal weight. Many obstetric decisions are based largely on it for proper management. The present study indicates that among the full term singleton cephalic pregnancies fetal weight estimation using a measuring tape and two different easy formulas can be more accurate than the ultrasound estimates for prediction of actual birth weight. These clinical methods can be easy, useful and practical tools and if they are taught properly in peripheral centers can contribute for early referral of mothers with macrosomic fetuses or low birth weight fetuses and thus contributing in reduction of obstructed labour and its squelae and also may have a great impact regarding early neonatal resuscitation.

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JALALABAD MEDICAL JOURNAL

Original Article

Morphological Variations of Insertion of the Umbilical Cord in Placenta

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ABSTRACT

The umbilical cord is the vital lifeline of the fetus and is tasked with providing unimpeded blood flow to the developing fetus and has long been recognized through rituals, symbolism and medical science. Although one of the most vulnerable and vital components of the fetal anatomy, the umbilical cord is one of the least studied fetal structures. Yet, prenatal survival is dependent on its function. The objective of this cross-sectional observational study was to observe variations in the insertion of umbilical cords in placenta. One hundred umbilical cords of full term babies delivered by normal vaginal delivery or caesarean section of singleton pregnancy were included in this study which was carried out in the Department of Anatomy, in collaboration with the Department of Obstetrics and Gynaecology, Sylhet MAG Osmani Medical College Hospital, Sylhet from July 2010 to June 2011. Insertion of the umbilical cord in the placenta was central type in 21% and eccentric type in 79% of the studied umbilical cord.

Key words: *Umbilical cord, Placenta, Fetus.*

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INTRODUCTION

The umbilical cord attaches the fetus to the placenta; its length at full term, as a rule, is about equal to the length of the fetus, i.e. about 50 cm. The rudiment of the umbilical cord is represented by the tissue, which connects the rapidly growing embryo to the extra-embryonic area of the ovum. The cord is covered by a layer of ectoderm, which is continuous with that of the amnion, and its various constituents are enveloped by embryonic gelatinous tissue, Jelly of Wharton[1].

The vitelline vessels and duct, together with the right umbilical vein, undergo atrophy and disappear; and thus the cord, at birth, contains a pair of umbilical arteries and one (the left) umbilical vein[1]. The length of the umbilical cord varies from no cord (achordia) to 300 cm, with diameters up to 3 cm[2]. At term, the typical umbilical cord is 55 to 60 cm in length, with a diameter of 2 to 2.5 cm[3]. About 5% of cords are shorter than 35 cm, and another 5% are longer than 80 cm[4]. The umbilical cord normally contains one umbilical vein and two umbilical arteries. As the umbilical vessels are longer than the cord, the umbilical veins being longer than the arteries, the vessels frequently show twisting, bending or looping. These cause external bulging known as false knots, correspond to the looping of the umbilical vessels due to high vascular torsion inside the Wharton's jelly of the umbilical cord. Sometimes during movement of the fetus in the amniotic fluid, the fetus slips through a looped cord in such a way as to produce a simple true knot[5]. The incidence of true knots of the umbilical cord has been reported as between 0.3 and 2.1%. Predisposing factors are: long umbilical cord, polyhydramnios, multiparity, small fetus and monoamniotic twins. It has also been reported to be more common with male fetuses. This is presumably because, on average, the umbilical cords of male

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fetuses are longer than those of females. Almost all studies conclude that the mean cord length is higher in knotted cords than in normal cords e.g. 84 cm versus 59 cm[6].

The insertion of the cord into the placental tissue may be central or eccentric (even marginal). It has been reported that abnormal insertion of the cord is associated with fetal growth restriction, preterm labor, abnormal intrapartum fetal heart rate (FHR), low Apgar scores at 1 and 5 minutes, neonatal death[7] and abruptio placenta[8]. Ordinarily the cord is inserted at or near the center of the placenta. Eccentric insertion even attachment at the margin is not rare. When the cord is attached at the placental margin the placenta is called a battledore placenta. In case of velamentous insertion, the cord is inserted into the membrane outside the placenta. This insertion is very dangerous to the fetus. It may be associated with abruption placentae, placenta previa and ruptured marginal sinus[9]. The umbilical cord insertion into the placenta is described as central, eccentric, marginal, or velamentous as it relates to the chorionic plate[10]. Central and eccentric, both insert into the disc of the placenta; marginal is usually defined as insertion within 2 cm of the disc edge, whereas velamentous inserts directly into the placental membranes before entering the placental tissue[11]. Typically, the umbilical cord inserts at the center or near the center, also known as central or eccentric insertion respectively. About 90% of cord insertions are central or eccentric and about 7 percent of umbilical insertions occur at the placental margin[3]. Marginal insertions, according to Yetter[3], are generally benign. Marginal cord insertions are more common than velamentous cord insertion. It occurs in approximately 5% of pregnancy[12]. Marginal cord insertion has also been associated with fetal growth impairment and preterm delivery[13].

A velamentous insertion is reported to occur in approximately 1-2% of singleton pregnancies[13]. However, the prevalence of this finding is higher in multiple gestations ranging from 13 to 21% for twins[14]. It is more frequently identified in monochorionic twin gestations and has been associated with twin-to-twin transfusion syndrome. Velamentous insertion can be diagnosed by ultrasonography with a sensitivity of 67% and specificity of 100% in the second trimester[7]; first trimester diagnosis is also possible[15]. However, the most relevant is vasa previa, a condition in which the velamentous vessels run in the lower uterine segment unprotected by the Wharton jelly[15]. These vessels are prone to compression and bleeding preferentially at the time of delivery and may cause unexpected fetal death.

MATERIALS AND METHODS

In this cross-sectional observational study 100 umbilical cords of full term babies delivered in the Department of Obstetrics and Gynaecology, Sylhet MAG Osmani Medical College Hospital, Sylhet; during the study period from 1st July 2010 to 30th June 2011 and fulfilling the inclusion and exclusion criteria were included as the study population. Data were collected by using pre-designed questionnaire prepared for the study. Consecutive sampling technique was applied to collect sample. Diagnosis of term pregnancy was established with the help of history of last menstrual period (LMP) in regular menstruating woman or by ultrasound at early pregnancy. Inclusion criteria were: full term babies delivered with normal vaginal delivery or caesarean section and singleton pregnancy. Exclusion criteria were: twin or multiple pregnancy, dead fetus, premature baby, baby of diabetic mother and baby of pre-eclamptic and eclamptic mothers. Informed written consent and ethical permission was also obtained.

For each case, maternal age, parity, gestational period was recorded. After delivery, the fetal end of umbilical cord was cut at 5 cm away from the umbilicus and ligated. The length and diameter of the cord was measured. The weight, length, sex and conditions of baby were also noted. Then the specimen was placed on a flat tray and washed with tap water. After proper washing the specimen was preserved in 10% formalin in a labeled plastic bucket. The placenta was also preserved along with umbilical cord for proper study of the site of attachment of the umbilical cord with the placenta and the vascular pattern of the umbilical cord up to the umbilical vessels into the placenta. When the cord was inserted at the center or within 2 cm to the center of the placenta, it was recorded as a central insertion. When the cord was inserted at or within 2 cm to the margin of the placenta it was recorded as a marginal or peripheral insertion. When the cord was inserted at the any point between central and marginal attachment, it was recorded as a paracentral insertion. Paracentral and marginal insertion were together called the eccentric insertion.

Data were processed manually and analyzed with the help of SPSS. Quantitative data were summarized as mean and standard deviation; and comparison were done by unpaired "Z" test. Qualitative data summarized as frequency and percentage, and comparison was done by Chi-square (χ^2) test. A probability (p) value <0.05 was considered statistically

significant and a p value <0.01 was considered statistically as highly significant.

RESULTS

Distribution of the umbilical cord according to placental insertion is shown in figure-1. Twenty one (21%) umbilical cord inserted into placenta as central type and 79 (79%) umbilical cord inserted into placenta as eccentric type.

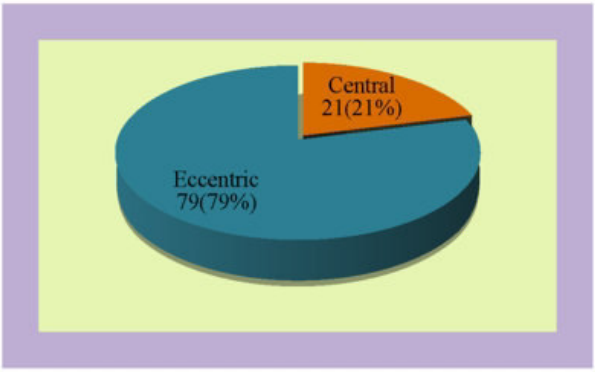

Figure-1: *Diagram showing insertion of the umbilical cord into placenta (n=100).*

Association between length of umbilical cord and placental insertion of studied umbilical cords is shown in table-I. The length of the umbilical cord was ranged from 41 to 45 cm with the mean of 53 (SD±9.8) cm in central placental insertion, 29.5 to 92 cm with the mean of 55.9 (SD±11.8) cm in the eccentric placental insertion. The mean length of studied umbilical cord of both type of placental insertion did not vary statistically (Z=1.031; p>0.05).

Table-I: *Association between length of umbilical cord and placental insertion.*

Placental Insertion	Length of Umbilical Cord (cm)		p value
	Range	Mean (±SD)	
Central (n=21)	41 to 85	53 (9.8)	>0.05
Eccentric (n=79)	29.5 to 92	55.9 (11.8)	

Z test was applied to analyze the data.

DISCUSSION

The umbilical cord has mainly been considered a 'passive structure' connecting the fetus to the placenta[16]. It is vital to the development, well-being, and survival of the fetus[17]. Leonardo da Vinci postulated the rule of thumb that the umbilical cord at any gestational age is on average as long as the fetus itself[18].

The present series showed that 21% umbilical cord inserted into placenta as central type and 79% umbilical cord inserted into placenta as eccentric type. Similiar findings were aslo observed by Laskar[5] and Pathak et al[19].

The present series also showed that the length of the umbilical cord ranged from 41 to 85 cm with the mean of 53 (SD±9.8) cm in central placental insertion and it was 29.5 to 92 cm with the mean of 55.9 (SD±11.8) cm in eccentric placental insertion (p>0.05). Laskar[5] in his study found that the length of the umbilical cord did not vary significantly between the types of placental insertion [58.2 (SD±10.3) vs 54.4 (SD±10.9); p=0.236].

CONCLUSION

Insertion of most of the umbilical cord is eccentric.

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Original Article

Clinical Profile of Patients Attending Department of Physical Medicine and Rehabilitation, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet.

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ABSTRACT

Musculoskeletal disorders are one of the largest health problems in the world in both developed and developing countries. They are among the commonest causes of morbidity in the world. Musculoskeletal complaints account for >315 million outpatient visits per year and nearly 20% of all outpatient visits in the US (United States). The Centre for Disease Control & Prevention estimates that 22% (46 million) of US population has physician diagnosed arthritis & 19 million have significant functional limitation. In Bangladesh, a study on the prevalence of rheumatic diseases in the adult population based on WHO-ILAR-COPCORD (Community Oriented Programme for the Control of the Rheumatic Diseases) showed that the point prevalence of musculoskeletal complaints was 26.1% & life time prevalence was 32.2%. The present descriptive study was designed to find out the incidence of various joints and adjacent tissue disorders attended in the Physical Medicine & Rehabilitation department, Jalalabad Ragib-Rabeya Medical College Hospital (JRRMCH), Sylhet, Bangladesh, during the period from 1st January 2009 to 31st December 2013. Non inflammatory arthopathies were much more common (74.82%) than inflammatory arthopathies (5.08%). Soft tissue rheumatism comprised 11.86% cases. Osteoarthritis (peripheral & vertebral), adhesive capsulitis & rheumatoid arthritis were common specific entities. Prolapsed lumber intervertebral disc (PLID) accounted for 14.57% of all cases. All these findings emphasized the need for increased awareness among physicians, about common musculoskeletal disorders and the rehabilitation issues.

Key words: *Musculoskeletal disorders, Non inflammatory arthopathies, Soft tissue rheumatism.*

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INTRODUCTION

Musculoskeletal disorders are one of the largest health problems in the world in both developed and developing countries[1]. Musculoskeletal symptoms are primary feature of much multisystem illness, not only in the autoimmune joint and connective tissue diseases but also metabolic, endocrine, neoplastic and infectious condition[2]. They are among the commonest causes of morbidity in the world. The prevalence of rheumatic disorders varies between different studies from 11% to more than 50% and these conditions also represent 28% of disability compensation schemes[1]. In Bangladesh a study on the prevalence of rheumatic diseases in the adult population based on community oriented program for the control of the rheumatic diseases (WHO-ILAR-COPCORD) showed that the point prevalence of musculoskeletal complaints were 26.1% and lifetime prevalence was 32.2% with a prevalence of 8.7% in the age group 15-24 years and

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65.3% in 65 years and above age group. There is also a great socio-economic impact of musculoskeletal disorders on the society. In the developed world, it comes in the form of huge number of lost working days, vast amount of compensatory disability allowances, cost of drugs (non-steroidal anti-inflammatory drugs and disease-modifying antirheumatic drugs) and massive reduction of the work output owing to increased mortality and morbidity. The largest component of this cost is hospitalizations (37%), physician's visits (23%) and prescriptions (l6%)[3]. Rheumatological disorders are also among common causes of morbidity, disability and work loss in rural and urban communities of developing and underdeveloped countries of Asia, Africa and Latin America, resulting in colossal economic loss for those nations. A large proportion of patients with musculoskeletal diseases require management in the department of Physical Medicine and Rehabilitation. The number of patients attending the department of Physical Medicine and Rehabilitation is increasing day by day and most of the patients have been suffering from different rheumatological disorders. Rehabilitation of patients with rheumatologic and neurologic disorder is a major concern for physiatrist in their day-to-day practice. The study was designed to give emphasis on the prevalence of rheumatological and neurological disorder in a teaching hospital where tertiary level patient's care has been provided. The aim of the study was to examine the rheumatic and neurologic disease profile of patients visiting Physical Medicine and Rehabilitation Department, Jalalabad Ragib-Rabeya Medical College Hospital (JRRMCH), to reveal the various epidemiological aspects of the commonly occurring rheumatological and neurological disorders and to develop a strategic plan for the health management to encounter the huge burden of this kind of diseases.

MATERIALS & METHODS

This was a retrospective study done in the Department of Physical Medicine and Rehabilitation, JRRMCH from January 2009 to December 2013. All patients attended the department for treatment during this period was included in this study. Information was obtained from outdoor and indoor registers and clinical data sheet.

RESULTS

A total 54,282 patients from outdoor and indoor were studied. Of them 23,179 (42.7%) were male and 31,103 (57.3%) were female. Male-female ratio was 1:1.34.

Table-I shows the frequency and sex distribution of major categories. Around 74.82% of the cases presented with non inflammatory type articular disorder and 5.08% had inflammatory joint diseases. Around 11.86% cases were soft tissue rheumatism, 2% cases were disease of bones and 6.24% cases presented with neurological symptoms.

Lumbar spondylosis was the commonest lesion (39.17%) followed by cervical spondylosis 14.08%, knee osteoarthrosis 13% and hip osteoarthrosis 0.45% among the degenerative diseases. About 14.57% cases were designated as cases of PLID because of the presence of features of lumbar root involvement (e.g. sciatica like distribution, positive Lasegue's sign and/or signs of neurological deficit) and absence of radiological evidence of spondylosis, tuberculosis, malignancy etc. MRI confirmation was obtained only in few cases. Around 12.71% cases presented as non specific low back pain. Rheumatoid arthritis was the commonest inflammatory arthritis observed in 47.39% of total cases followed by seronegative arthritis (41.85%). Ankylosing spondylitis was 6.78%. Pyogenic arthritis was 0.9%. Gout was diagnosed in 2.43% cases (Table-II).

Table-I: *Major categories of musculoskeletal disorders (n=54,282).*

Major Categories	Number	Percentage	Male, No (%)	Female, No (%)
Articular disorder				
Non-inflammatory	40,616	74.82	16,883 (41.57)	23,733 (58.43)
Inflammatory	2,760	5.08	1,291 (46.78)	1,469 (53.22)
Soft tissue rheumatism	6,437	11.86	2,754 (42.78)	3,683 (57.22)
Disorders of bone	1,083	2	630 (58.17)	453 (41.83)
Neurological disorders	3,386	6.24	1,621 (47.87)	1,765 (52.13)
Total	54,282	100	23,179 (42.7)	31,103 (57.29)

Table-II: *Distribution of various articular disorders.*

Name of the Disease	Number	Percentage	Male, No (%)	Female, No (%)
Non-inflammatory	40,616	74.82	16,883 (41.57)	23,733 (58.43)
Lumber spondylosis	15,910	39.17	6,462 (40.62)	9,448 (59.38)
PLID	5,918	14.57	2,381 (40.23)	3,537 (59.76)
Cervical spondylosis	5,719	14.08	2,442 (42.7)	3,277 (57.3)
Knee osteo-arthritis	5,281	13	2,163 (40.96)	3,118 (59.04)
Non specific low back pain	5,164	12.7	2,512 (48.64)	2,652 (51.35)
Generalized osteo-arthritis (GOA)	2,440	6	818 (33.52)	1,622 (66.48)
Hip osteo-arthritis	184	0.45	105 (57.07)	79 (42.93)
Inflammatory	2,760	5.08	1,291 (46.78)	1,469 (53.22)
Idiopathic/Autoimmune				
Rheumatoid arthritis	1,308	47.39	412 (31.5)	896 (68.5)
Seronegative arthritis	1,155	41.84	651 (56.36)	504 (43.64)
Ankylosing spondylitis	187	6.77	155 (82.89)	32 (17.11)
Infective				
Pyogenic arthritis	25	0.9	17 (68)	8 (32)
Tubercular arthritis	18	0.65	10 (55.55)	8 (44.44)
Crystal induce				
Gout	67	2.42	46 (68.65)	21 (31.34)

Adhesive capsulitis was the commonest (61.78%) disease in soft tissue rheumatism, followed by fibromyalgia (12.24%), tennis elbow (7.16%), Dequervain's tenosynovitis (7.07%), plantar fasciitis (6.03%), tendinitis (3.6%), chronic regional pain syndrome (CRPS) (2.05%), torticolis (0.06%). All these were characteristically common among females (Table-III).

Table-IV represented incidence of bony disorders. Osteoporosis was the commonest (80.33%), followed by traumatic pain (10.17%), coccygodynia (3.97%) cervical rib syndrome (3.13%), ostitis condense illi (1.84%).

Table-III: *Distribution of patients with soft tissue rheumatism.*

Soft Tissue Rheumatism	Number	Percentage	Male, No (%)	Female, No (%)
Adhesive capsulitis	3,977	61.78	1,900 (47.77)	2,077 (52.23)
Fibromyalgia	788	12.24	170 (21.57)	618 (78.43)
Tennis elbow	461	7.16	207 (44.9)	254 (55.1)
Dequervain's tenosynovitis	455	7.07	155 (34.07)	300 (65.93)
Plantar fasciitis	388	6.03	157 (40.46)	231 (59.54)
Tendinitis	232	3.6	112 (48.28)	120 (51.72)
CRPS	132	2.05	52 (39.39)	80 (60.61)
Torticolis	4	0.06	1 (25)	3 (75)
Total	6,437	100	2,754 (42.78)	3,683 (57.22)

Table-IV: *Incidence of disorders of bone.*

Name of the Disease	Number	Percentage	Male, No (%)	Female, No (%)
Osteoporosis	870	80.33	517 (59.43)	353 (40.57)
Traumatic pain	116	10.71	73 (62.93)	43 (37.07)
Coccygodynia	43	3.97	16 (37.21)	27 (62.79)
Cervical rib syndrome	34	3.14	17 (50)	17 (50)
Ostitis condense illi	20	1.85	7 (35)	13 (65)
Total	1,083	1.99	630 (58.17)	453 (41.83)

Neurological disorders in general, were uncommon, comprising 6.23% of all cases. Peripheral nerve disease (PND) was the commonest among them followed by stroke, GBS, Bell's palsy, cervical myelopathy, cerebral palsy (Table-V).

Table-VII shows the indoor patient distribution. Total 1633 patients were admitted and among them 852 (52.11%) were male & 781 (47.82%) were female. Male female ratio was 1.08:1. Lumber spondylosis was the commonest 25.35% presentation.

Table-V: *Incidence of neurological diseases.*

Name of the Disease	Number	Percentage	Male, No (%)	Female, No (%)
Peripheral nerve disease	2,374	70.11	1,064 (44.82)	1,310 (55.18)
Stroke	677	19.2	372 (54.95)	307 (45.05)
GBS	159	4.7	89 (55.97)	70 (44.03)
Facial palsy	143	4.22	73 (51.05)	70 (48.95)
Cervical myelopathy	20	0.59	14 (70)	6 (30)
Cervical palsy	13	0.38	9 (69.23)	4 (30.77)
Total	3,386	6.23	1,621 (47.87)	1,765 (52.13)

Table-VI: *Common rheumatic disorders in order of frequency.*

Name of the Disease	Number	Percentage	Male, No (%)	Female, No (%)
Lumbar spondylosis	15,910	39.17	6,462 (40.62)	9,448 (59.38)
PLID	5,918	14.57	2,381 (40.23)	3,537 (59.77)
Cervical spondylosis	5,719	14.08	2,442 (42.69)	3,277 (57.3)
Knee OA	5,281	13	2,163 (40.96)	3,118 (59.04)
Non specific low back pain	5,164	12.71	2,512 (48.64)	2,652 (51.36)
Adhesial capsulitis	3,977	61.78	1,900 (47.77)	2,077 (52.23)
GOA	2,440	6	818 (33.52)	1.622 (66.48)
Rheumatoid arthritis	1,308	47.39	412 (31.49)	896 (68.5)
Seronegative arthritis	1,155	41.84	651 (56.36)	504 (43.64)
Osteoporesis	870	80.33	517 (59.43)	353 (40.57)

Table-VII: *Distribution of patients in the indoor (according to order of frequency).*

Name of the Disease	Number	Percentage	Male, No (%)	Female, No (%)
Lumbar spondylosis	414	25.35	235 (56.76)	179 (43.24)
PLID	356	21.8	204 (57.3)	152 (42.7)
Cervical spondylosis	168	10.29	76 (45.24)	92 (54.76)
Osteoporesis	133	8.14	61 (45.86)	72 (54.14)
Stroke	112	6.86	54 (48.21)	58 (51.79)
Adhesive capsulitis	77	4.72	33 (42.86)	44 (57.14)
GOA	54	3.31	26 (48.15)	28 (51.85)
Knee OA	48	2.94	21 (43.75)	27 (56.25)
Spondylolisthesis	48	2.94	15 (31.25)	33 (68.75)
Seronegative arthritis	47	2.88	24 (51.06)	23 (48.94)
Rheumatoid arthritis	39	2.39	18 (46.15)	21 (53.85)
GBS	31	1.9	17 (54.84)	14 (45.16)
Non specific LBP	28	1.71	17 (60.71)	11 (39.29)
Ankylosing spondylitis	21	1.29	16 (76.19)	5 (23.81)
Cervical rib syndrome	14	0.86	5 (35.71)	9 (64.29)
Pott's disease	10	0.61	8 (80)	2 (20)
Post fracture contracture	10	0.61	8 (80)	2 (20)
Cervical mylopathy	8	0.49	5 (62.5)	3 (37.5)

Bell's palsy	5	0.31	2 (40)	3 (60)
Scoliosis	4	0.24	4 (100)	-
Myopathy	2	0.122	-	2 (100)
Multiple sclerosis	2	0.122	2 (100)	-
Transverse myelitis	1	0.061	1 (100)	-
Tortcolis	1	0.061	-	1 (100)

DISCUSSION

The prevalence of rheumatological diseases in developing countries is mostly unknown. The present study was a hospital-based study done in a tertiary care hospital in Sylhet. In the current study, most commonly occurring disease group in order of frequency are: non-inflammatory articular disorder (74.82%), soft tissue rheumatism (11.86%), neurological disease (6.23%), inflammatory arthritis (5.08%) and disorder of bone (2%). These findings were in conformity with a community based rheumatologic outpatient study done by Vanhoof et al in Belgium where they showed that 69% of all patients were female, inflammatory joint and spine diseases were diagnosed in 42% of all patients (including 5% with connective tissue diseases), soft tissue rheumatism in 37%, degenerative joint and spine diseases in 36%, and metabolic bone diseases in 17% of all patients[4].

In soft tissue rheumatism group, the number of patient was documented as follows: adhesive capsulitis (3977), fibronyalgia (788), tennis elbow (461), Dequervain's tenosynovitis (455), plantar fasciitis (388), tendinitis (232), CRPS (132), torticolis (4).

In the Western hemisphere, White et al[5] showed in a study that in a Canadian population, the prevalence of fibromyalgia was 0.5-5% and female male ratio was, 13: 1. A population-based study showed the overall point prevalence of musculoskeleletal pain as 26.3%. The most common rheumatic disorders were osteoarthritis of the knees, non-specific low back pain, lumbar spondylosis, fibromyalgia, and soft tissue rheumatism[6]. COPCORD stage I study was carried out in 16 groups in the Trung Liet Commune, Dong Da District, Hanoi City, Vietnam and showed that the prevalence of musculoskeletal pain was 14.9%. The most common musculoskeletal complaints were knee pain 18.2%, low back pain 11.2%, and soft tissue disorder 15.4%[7]. The female preponderance of soft tissue rheumatism was a worldwide feature. It is because of multiple factors including psychiatric and central nervous system factors, described by Goldenberg[8].

Rheumatoid arthritis was the most common among inflammatory arthritis (47.39%), & male female ratio was 1:2.17 in our study. To determine the prevalence rates of musculoskeletal disorders in a rural population of Thailand, 2463 rural subjects were studied by Chaiamnuay et al and low prevalence of rheumatoid arthritis and seronegative spondyloarthropathy were found (0.12%) in each disease[9]. A similar WHO-ILAR-COPCORD study done in India by Chopra A et al showed the prevalence of rheumatoid arthritis was 0.5%, which was the highest ever reported from an Asian rural COPCORD study[10]. Genetic susceptibility may be the other contributing factor for a high prevalence of rheumatoid arthritis. Peripheral osteoarthritis, (5465) were the most common degenerative disorders of bone and cartilage. The ratio of osteoarthritis of knee, hip as a whole in men and women was 1:1.4. Comparable results were available from a large population-based study done in 1997 on adult Pakistani patients, conducted by Farooqi et al[11]. Least common disease was gout (2.43%), the only metabolic disorder documented having male predominance. Male and female ratio was 2.19:1. Nonspecific low back pain (12.71%), lumbar spondylosis (39.17%), PLID (14.57%) spondylohsthesis (2.94%) were four main causes of low back pain.

Cervical spondylosis and shoulder pain comprised 14.08% and 61.78%, respectively, in the present study. To assess the prevalence of cervical spondylosis and musculoskeletal symptoms among coolies, a cross-sectional study was performed in Narayangonj city, Bangladesh, on a random sample of 98 male porters by Mahbub et al. It showed considerably higher prevalence of cervical spondylosis among male porter (39.8%)[12]. The preponderance of the cervical and shoulder joint involvement may be due to their manual labour. In the present study, the seronegative arthritis were (1155), ankylosing spondylitis (AS) (187). AS 6.78% cases, were predominant among the young adult male with male female ratio of 4.8:1. A similar hospital based study on 150 patients of AS done in the Department of Rheumatology and Immunology, Tan Tock Seng Hospital, Singapore by Koh et al showed that patients were predominantly male (7:1) and Chinese (147) origin. The onset of disease was usually in the early 20s and there was a mean delay of 6.3

years before the diagnosis was made[13].

In the present study total 1633 patients were admitted in PMR department. Among them 25.35% had lumber spondylosis. This is the commonest degenerative joint disorder with male female ratio of 1.3:1, PLID (356), cervical spondylosis (168), osteoporesis (133), adhesive capsulitis (77), knee osteoarthritis (48).

In inflammatory arthopathics seronegative arthritis (2.88%), male were predominant than female, where as in RA (2.39%), female (53.85%) were predominant than male (46.15%). Among neurological disorders according to order of frequency stroke (112), GBS (31), cervical myopathy (8), Bell's palsy (5), myopathy (2), multiple sclerosis (2), transverse myelitis (1) were admitted during the study period. The aim of neurological rehabilitation is to improve functional recovery and decrease the burden of disability in patients with neurologic disease. The rehabilitation team uses a variety of techniques to improve performance such as strengthening of both weak & intact extremities, uses of assistive devices and bracing, environmental modification at home and at work and prevention of further disability.

CONCLUSION

Musculoskeletal pain is a major public health problem in Bangladesh although this is not properly emphasized. The primary rheumatology service is inadequate due to the low priority given by the authority, to non-communicable diseases like musculoskeletal disorders, as well as insufficient rheumatology teaching of primary health care doctors during their undergraduate training. This will provide a guideline for future investigators about rheumatic diseases. Additionally, for the true prevalence of the burden of rheumatological disorders, a community based WHO-ILAR in COPCORD study should also be launched in this part of Bangladesh. Critical appraisal of clinical profile and technological advances in radio imaging, immunology and molecular biology would enable future investigators of rheumatology to identify many more clinical syndromes and would help in planning all levels of prevention and therapy.

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JALALABAD MEDICAL JOURNAL

Review Article

Approaches to Management of Difficult Patient Encounter

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ABSTRACT

All physicians must care for some patients who are perceived as difficult because of behavior or emotional aspect that affect their care. Difficulties may be traced to patient, physician, disease or health care system factors. Patient factors include psychiatric disorders, personality disorders and sub-clinical behavior traits. Physician factors include over work, poor communication skills, low level of experience and discomfort & uncertainty. Health care system factors include limited resources, finances and support as well as time pressure and interruptions. All contribute to the difficulties experienced by doctors, also availability of outside information sources that challenges the physician's authority. Most paediatricians experience uneasy interaction involving patients and or their parents. Unique to the paediatric approach is the added quotient of parent or family dynamic. Patients should be assessed carefully for untreated psychopathology. Physicians should seek professional care or support from peers. Specific communication techniques & greater patient's involvement in the process of care may enhance the relationship. Limited resources, finances and support, as well as time pressures and interruptions, all contribute to the difficulties experienced by doctors.

Key words: *Difficult patient, Encounter, Management strategies.*

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INTRODUCTION

Difficult patients are the real problem in any clinicians practice. One prospective study found that 15% of patient encounters were rated as difficult[1]. Application of the difficult doctor patient relationship questionnaire demonstrates that certain patient's traits tend to be associated with difficult patients[2] eg; mental health disorders, multiple (more than 5) symptoms, chronic pain, poor functional status, unmet expectations, reduced satisfaction, greater use of health care service. There are patients in every practice who give the doctor & staff a feeling of heart sink; they evoke an overwhelming mixture of exasperation, defeat and sometimes plain dislike that causes the heart to sink[3].

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Interestingly, physicians with poorer psychosocial score on physicians belief scale were more likely to rate patients as difficult[4]. Other provider traits associated with difficult patients are[5,6]:

- Younger age,
- Female,
- Greater stress,
- Heavy workload,
- Symptoms of depression or anxiety,
- Perfectionist tendencies,
- Desire to be liked,
- Lower psychosocial orientation,
- Less experiences.

Patients with mental health problem or more than 5 somatic symptoms and patients with threatening or abrasive personalities, in addition patients with a list of complaints to a visit or frequent users of health care system were also considered difficult[7]. Bothersome

behavior of patients like; not showing up for an appointment, arriving late, being verbally abusive to staff, showing poor compliance with medication & treatment. Other aggravating behaviors include answering cell phones during office visits, unnecessary after hour calls[8]. Frustrating patient personalities included displaying a lack of respect and challenging recommendation on the basis of incorrect internet information[9]. Encounters are also considered bothersome if too many non essential people (friends, relatives, other children) are in the examination room.

Even at sub-clinical levels, certain disordered personality traits in the patients or their parents cause problems in physician-patients interactions. Patient's family members with personality disorders may be excessively dependent, demanding, manipulative or stubborn or they may self-destructively refuse treatment[10].

Difficult parents:

In the paediatric population it is often the parent who is the contributor to a difficult patient encounter rather than the patient. Parents of children with chronic illnesses may be considered challenging; these parents are vulnerable or even frantic because they are coping day after day with an ill child. Despite recent clinical advances, many chronic diseases cause great suffering and uncertainty. May be, if the parents or patients are special then the doctor will use all the resources available, including time, expertise and advocacy for the child[11]. Challenging encounters may be due to doctor, his or her patient & not just the patient. The difficulty may be due to doctor's personality, cultural gaps between patient & physician or from external sources/circumstances that affect the encounter[12].

Physicians with less experience may be more at risk:

Younger physicians reported more challenging patients encounters than older colleagues[13]. Physicians who are uncomfortable with diagnostic uncertainty are more likely to regard patients as difficult if they are non compliant or have vague complains and/or diagnoses[14].

Health care system factors:

Health care system factors may also increase the likelihood or frequency of difficult parent-patient encounters. Having over booked clinics & over worked physicians leads to greater numbers of patients seen in a day and greater numbers of patients who are considered difficult[15]. Dissatisfied patients-parents may become more demanding and physicians may feel less able to respond to their needs, thus transforming the problems of health care system into interpersonal frustration.

Risks to physicians:

Difficult patient scenarios are associated with negative long-term consequences to physicians. Physicians who experience more job stress and job burnout or dissatisfaction are more likely to report a higher number of difficult patient's encounter[16]. It is not clear whether such encounters contribute to paediatrician exhaustion and subsequent negative health outcomes.

Approaches to the difficult patient/parents encounter (management):

Patient's assessment and referral:

A team approach: In many challenging patients-parents situations, expanding the care team may be warranted. For patients in whom a mental health problem is suspected for difficult encounters, prompt assessment and referral is recommended. For patients with multiple somatic problems, a psychological problem may be suspected but avoid introducing this component to the illness before or until all test results are negative, because that may lead to resistance from the patient & a desire for more medical tests. For some challenging situation a referral to another physician, paediatrician even one of one's colleagues may be of benefit to provide the patient & family for another physicians views in a complex situation.

Physician communication: Many difficult patient-parent scenarios involve faulty physician-patient interactions. It may be helpful for physicians to elicit feedback on their communication skills by a trusted staff, patient, parent or a review of audiotapes-videotapes of patient-parent visit[17].

Improving physician communication can lead to increased patient-parent satisfaction, increased job satisfaction; improve patient health outcomes[18] and a decrease in complaints & lawsuits[19]. In addition understanding the patients-parents agenda and expectation is associated with improved compliance and follow through[20]. Key aspects of physician communication include ensuring that patient-parents understand that the physician comprehends their situation & cares about their health[21] and can reduce patients reported fears of serious illness & patients-parent complains at follow-up[22], specific communication techniques & greater patient involvement in the process of care may enhance the physician-patient-parent relationship. Other recommendations include teaching strategies to help physician manage difficult encounters. Coping techniques should also be supported including learning more about empathy, non-judgmental listening & effective communication[23].

Physician self-care: Physicians who experience on going difficulties with difficult patient-parents or how they themselves deal with them may need additional support to avoid burnout. Options for support include a trusted colleague, a support group, and a psychotherapist[24]. Physicians are encouraged to practice goal oriented self management which includes acknowledging and accepting their own emotional responses to patients[25], and attempting to ensure personal well being[26].

Researchers concluded that success with difficult patients was achieved through three skills[27]:

(i) Collaboration vs. opposition,

(ii) Appropriate use of power vs. misuse of power or violation of boundaries by either party,

(iii) Empathy vs. compassion fatigue.

Clinical experience is perhaps the most critical factor in effectively managing difficult patient. One study found that even 12 years in practice conferred a significant advantage over 9 years in practice as to comfort level with difficult patients[28].

Handling a challenging interaction[29]:

A doctor's reaction to a difficult interaction can make matters worse. Arguing, talking over the patient, or interrupting the patient can lead to a downward spiral in the interaction. Identifying that you are in the midst of a difficult consultation is the first step towards dealing with the problem. Being aware of the causes of difficult interactions and using strategies to cope with them should assist both doctors and patients in achieving a satisfactory outcome to consultation.

Verbalize the difficulty:

Verbalizing the difficulty with the patient can help to define the interactional problem. For example, one might say: "We both have very different views about how your symptoms should be investigated and that's causing some difficulty between us. Do you agree?

This approach names the "elephant in the room" and avoids casting blame. It also externalizes the problem from both the patient and the doctor and creates a sense of shared ownership. Verbalizing the difficulty can help to build trust and opens the way to consider working together towards a solution.

Consider alternative explanations for the patient's behavior: A person who is angry and abusive might, in fact, be highly anxious, for example; about a terminally ill partner. Explore possible alternative explanations through respectful questioning. The approach known as "reframing" will make the patients feel more supported and will increase the possibility of finding a way to work more effectively together.

Support the patient: Support the patient by listening carefully and showing empathy.

Set boundaries where appropriate: The boundaries one might choose to set relate to the interaction, such as the patient turning up late for appointments, or clinical issues, such as prescribing drugs with no evidence base. Boundaries should be applied consistently and by all members of the team.

Find some common ground: Doctors and patients

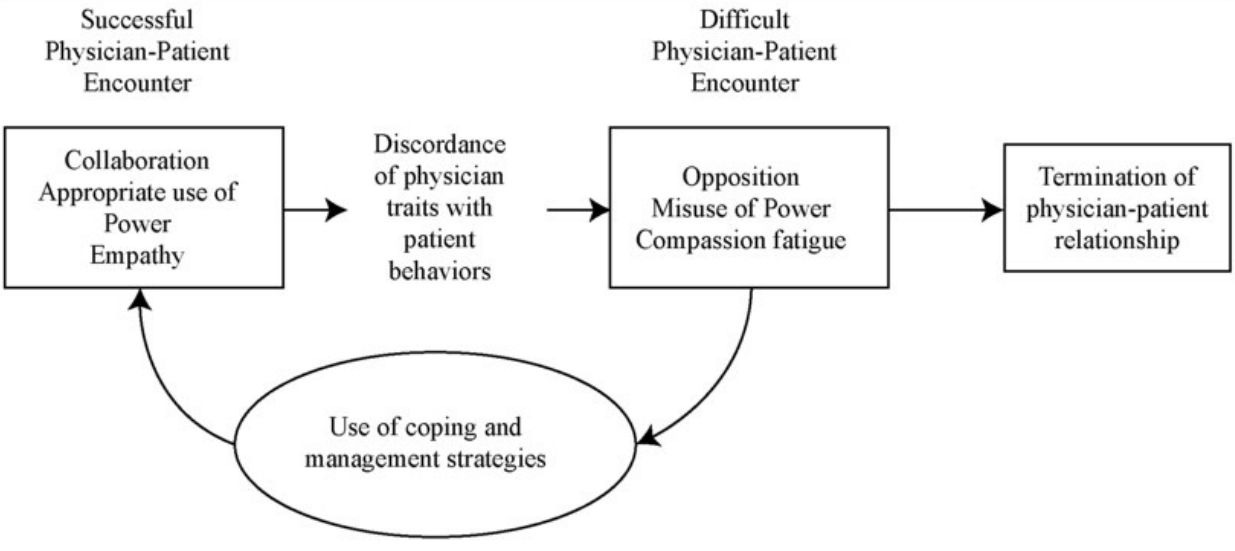

Figure-1: *Model of the 'care cycle' for difficult patients[30].*

might have differing ideas on issues such as diagnosis, investigations and management options. Difficulties can arise when there seems to be no common ground, which is often the result of unrealistic expectations. Patients might be viewed as "demanding" or "manipulative" when they push for a diagnosis or treatment that the doctor is not comfortable providing. As soon as there is some overlap and common ground, the difficulty rapidly diminishes.

Focus on finding solutions rather than areas of disagreement: A solution focused process demonstrates that one are working as a team with the patient. Encouraging the patient to come up with options and working together to agree a solution that is acceptable to both parties can relieve the doctor of being the sole solution makers.

Top tips:

- Stay calm and professional.
- Try to see the consultation from the patient's perspective.
- Work together with the patient to find a solution and act in their best interests.
- Have a 'debrief' with colleagues after a difficult consultation.
- Consider a training session in mastering challenging interactions.

Model of care cycle for difficult patients as performed by respected family physicians[30]:

We believe this model of how successful encounters become difficult and how they can return to success and can serve as a template not only for future research on this important subject and can assist practicing family physicians to better understand their own difficult encounters.

CONCLUSION

Paediatricians have unique challenges when providing care in difficult situations that involve challenging patients and parents. Previous work has outlined many common challenges and strategies for handling them. Future studies should investigate difficult clinical encounters in the paediatric setting. Strategies for improving difficult scenarios can include physician adoption of approach toward difficult patients/parents eg; improved communication skills, awareness, and modification in the practice structure. It is gratifying when an encounter can be changed from one that is extremely challenging to one for which there is a positive outcome for everyone.

There are many different types of difficult patients and individual doctors find certain types more difficult than others. Difficult patients by virtue of their definition as difficult are usually problematic for physician. Basic emotional response skills can help the doctor to increase rapport with such patients to provide more efficient & effective clinical care. This increased rapport will invariably lead to higher patient as well as physician's satisfaction. In government sponsored family practice system in western countries, a physician cannot refuse even a difficult patient or terminate relationship without a legal process. In our country any time a patient can change his physician.

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JALALABAD MEDICAL JOURNAL

Case Report

Ileal Obstruction due to Primary Phytobezoar in Adult Female: Report of Two Cases

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ABSTRACT

Two cases of small bowel obstruction (SBO) in adult female induced by phytobezoar impaction are reported in this article. The adult females were 35 years and 40 years of age respectively and had no history of any previous intra-abdominal operation or other primary cause. Preoperative diagnosis was not possible in either case. Both the cases were diagnosed at exploratory laparotomy and obstruction was relieved by enterotomy and removal of the phytobezoar.

Key words: *Bezoars, Phytobezoar, Intestinal obstruction.*

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INTRODUCTION

Acute intraluminal occlusion of small bowel is uncommon. The causes of intraluminal small bowel obstruction (SBO) are gallstones, foreign bodies, retained meconium, bezoars, and tangles of ascarides. Bezoars are concretions found in the stomach or intestines. They usually originate in the stomach and when they migrate to the small intestine can cause mechanical SBO[1]. Phytobezoars are rare, accounting for only 0.4 to 4% of all cases of intestinal obstructions[2]. Obstruction by food bolus bezoars can stem from the amount of certain foods swallowed. Previous gastric surgery, incomplete mastication, rapid deglutition, swallowing of large nuts and pits, intestinal narrowing due to congenital bands, strictures or physiologically narrowed segments and the presence of Meckel's diverticulum can be among the contributing factors. A great variety of fruit and vegetable matter has been reported in phytobezoars including persimmons, orange pits, grapefruit, mango, carrots, pickled onions, Brussels sprouts, green figs, and dried fruits[1]. The obstruction is more commonly seen in adults who have undergone gastric surgery but can occur in intact intestinal tract without any recognized motility disorder especially in children[3]. Occurrence of isolated bezoar in the small bowel without synchronous existence of primary gastric bezoar or any apparent predisposing factor for bezoar formation has been barely reported and remains exceedingly a rare presentation[4].

We hereby, report two cases of isolated ileal bezoar causing acute small bowel obstruction in healthy adult females. This case report is, principally, aimed at documenting an extraordinary aetiology of small bowel obstruction in this age group and concurrently alerts clinicians that bezoars form an essential part of the differential diagnosis when evaluating patients with small bowel obstruction.

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CASE REPORT

Case 1:

A 35 years old female, was admitted with history of colicky pain abdomen, bilious vomiting and absolute constipation since last 24 hrs. She weighed 45 kg and her temperature was normal with a pulse rate of 64/min. Abdominal examination revealed distension

and tenderness. There was no palpable mass and bowel sounds were more frequent. On digital examination, rectum was empty. She had haemoglobin level of 11.5 gm/dl, the total and differential counts revealed neutrophilic leukocytosis, electrolytes and urine analysis were within normal limits. Plain X-ray abdomen showed multiple air fluid levels consistent with SBO (Figure-1) and ultrasound revealed minimal collection of fluid in the pelvic cavity with distended gut coils. At laparotomy there was approximately 150 ml of straw coloured fluid in the peritoneal cavity. An intraluminal mass was palpable in the ileum of about 20 cm from ileocecal junction with gross dilatation of proximal small bowel loops and distal bowel was collapsed (Figure-2). Enterotomy was made along the antimesenteric border of ileum and removal of that structure (Figure-3 & 4).The stomach and whole of small bowel was thoroughly searched for any additional mass. Postoperative recovery was uneventful and she was discharged on 7th postoperative day. At 3rd and 6 months follow up she was free of any symptoms.

Case 2:

A 40 years aged female was referred to our institution with history of colicky pain abdomen, bilious vomiting and constipation for 8 days. The female weighed 46 kg, had dehydration and was febrile at the time of admission with a feeble pulse, the rate was 120/min. Abdomen was distended, tender but without any palpable mass. Bowel sounds were increased and rectum was empty on digital examination. She had haemoglobin level of 10.1 gm/dl, the total and differential counts revealed neutrophilic leukocytosis, electrolytes and urine analysis were within normal limits. Plain X-ray abdomen showed multiple air fluid levels consistent with SBO and ultrasound revealed minimal collection of fluid in the pelvic cavity with distended gut coils (Figure-6). CT scan findings were consistent with mass on the iliocecal region with sub acute intestinal obstruction (Figure-7). Exploratory laparotomy was performed and about 100 ml of light yellow coloured fluid was sucked out from the peritoneal cavity. A palpable mass was present in the ileum about 10 cm from the ileocecal junction with the collapsed gut loops distal to it and distended proximally. Enterotomy was done with removal of impacted material. Whole of the small bowel and stomach was palpated for any additional bezoar. Postoperatively, patient developed superficial surgical site infection. With regular dressing and secondary closure, she was discharged on 15th postoperative day. The female was well and asymptomatic on 3rd and 5th months of follow-up.

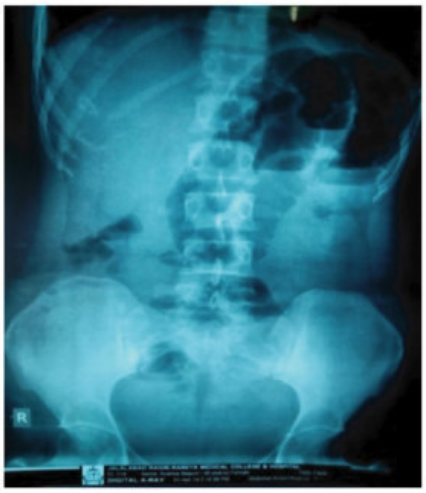

Figure-1: *Plain X-ray showing acute intestinal obstruction (Case-1).*

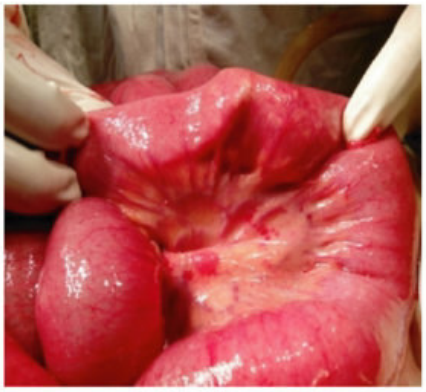

Figure-2: *Hard object in terminal ileum with small intestinal obstruction (Case-1).*

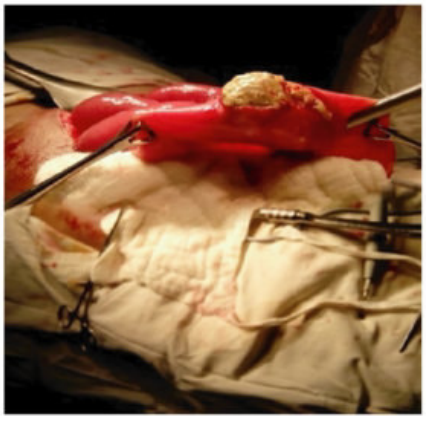

Figure-3: *Peroperative photograph showing impacted phytobezoar mass (Case-1).*

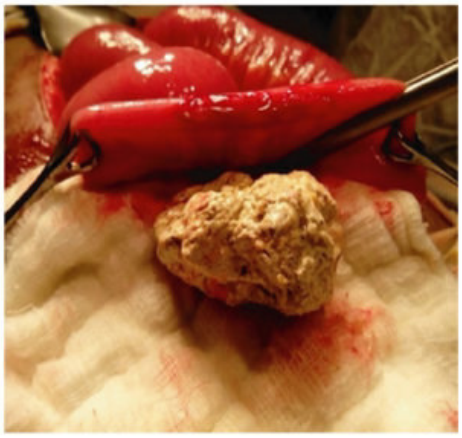

Figure-4: *Showing disintegrated material retrieved by enterotomy (Case-1).*

Figure-5: *Cut section of phytobezoar (Case-2).*

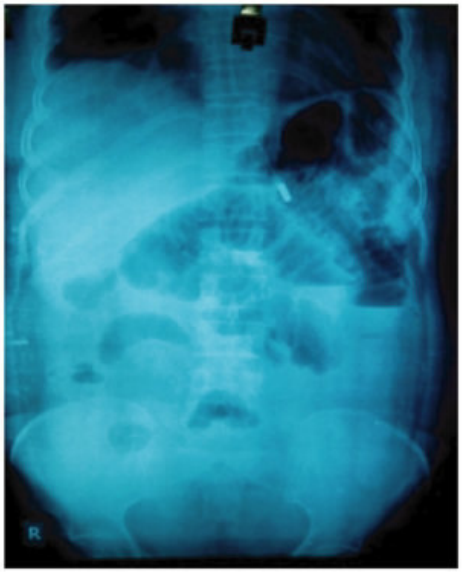

Figure-6: *Plain X-ray showing small intestinal obstruction (Case-2).*

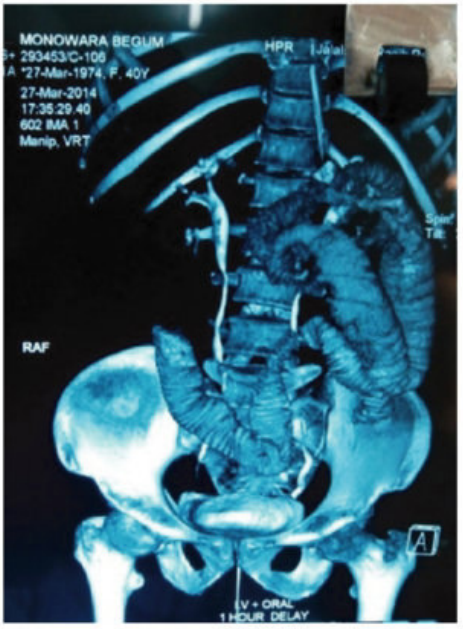

Figure-7: *CT scan showing mass with small intestinal obstruction (Case-2).*

DISCUSSION

Small bowel obstructions account for 20% of hospital admissions[2]. Common causes are adhesions (60%), hernia (15%), malignancy (6%), volvulus and inflammatory bowel disease (5%)[1]. No particular age or sex prevalence has been observed[2]. There are four types of bezoars: phytobezoars, trichobezoars, pharmacobezoars and lactobezoars. Phytobezoars are the most common and are composed of vegetable matter (Celery, pumpkin, grape skin, prune and persimmons) and contain a large amount of non-digestible fibers (Cellulose, hemicellulose, lignin and fruit tannins). On the other hand, trichobezoars are gastric concretion of hair, which usually presents in patients with a history of psychiatric predisposition and in children with mental retardation. Meanwhile, pharmacobezoars consist of medication bezoars, such as cholestyramine, kayexalate resin, cavafate and antacids, which adhere when in bulk. Lastly, lactobezoars are milk curd secondary to infant formula, described in low birth weight neonates, fed on highly concentrated formula within their first week of life[2].

Our reported patient had no obvious predisposing factors which lead to small bowel bezoar formation and subsequently bowel obstruction. Bezoar formation in rather healthy subjects has been previously reported though still remains an extremely infrequent clinical entity[5]. Bezoars mostly stem from the stomach and occasionally drift into small bowel. Primary small

bowel bezoar development may be foreseeable in patients with underlying small bowel disease such as stricture due to previous surgery, tuberculosis or Crohn's disease. Other predisposing factors include poor mastication, bolus intakes of indigestible vegetables, diverticuli formation, and small bowel tumors. It is hypothesized that these conditions provide areas of sufficient stagnation within a dilated bowel segment for a bezoar to conglomerate over time[5].

The most frequent site of obstruction is at the level of the gastric outlet or duodenum. Obstruction of distal parts of the small bowel or large bowel remains a rarity occurrence. Features suggestive of psychiatric ailment and other chronic disease like diabetes mellitus or hyperthyroidism may as well be encountered[5].

Rounded ingested foreign bodies greater than 2.5 cm in diameter are less likely to pass through the pylorus by itself. Ingested foreign bodies longer than 6 to 10 cm will have difficulty passing the duodenal sweep and should be removed[1]. Often patients exhibit diverse clinical presentation depending on the size, type and location of the bezoar. The most common clinical features comprise abdominal pain, poor appetite, vomiting, weight loss and anemia. Also patients may present with a wide range of gastrointestinal tract complications such as ulcer formation, bleeding, pressure necrosis, perforation and intestinal obstruction[5].

Radiological investigations have limitations in studying bowel obstruction caused by foreign bodies, especially if when they are not radio-opaque. Plain abdominal film still plays an important role in the diagnosis of intestinal obstruction due to its high sensitivity (86%) in detecting high grade small bowel obstruction. An intramural width of small intestine of 3 cm is considered abnormal. Ultrasound may clearly demonstrate loops of distended small bowel with hyper peristalsis. Occasionally, the foreign body may be identified on ultrasound as an echogenic intraluminal mass and may cast an acoustic shadow if surrounded by fluid. When plain radiographic findings are inconclusive, abdominal CT is able to correctly reveal the cause of obstruction in 73-95% of cases[1]. CT scan is fast becoming the first line examination for the evaluation of small bowel obstruction because it can exclude other causes of acute abdomen, differentiate between simple obstruction and strangulation, detect signs of concomitant intestinal ischemia and can accurately define the cause, degree and level of obstruction. The presence of round, non-homogenous mottled mass on CT, enabled us to accurately diagnose bezoar as the cause of intestinal obstruction in our patient. Kim et al in their study[6] found that in 11% of the cases, phytobezoar can appear as a soft tissue mass without gas making diagnosis difficult as it can resemble an intraluminal tumour or intussusception. They also described the presence of target sign found in 76% of their patients caused by mural edema or haemorrhage within the intestinal wall. The presence of this sign on CT indicates that the phytobezoar obstructing the bowel may have difficulty passing through the small bowel lumen. An encapsulating wall caused by a gel-like membrane covering the bezoar may also be seen on CT scan[4]. When available, MRI is equally good in evaluating patients with suspected bezoar induced small bowel obstruction[5]. Because of the rarity of the condition, a careful dietary history may suggest the diagnosis preoperatively. A definitive diagnosis is nearly always made at laparotomy. Though CT scan and ultrasound have been shown to be useful tools in diagnosing SBO caused by phytobezoar[3], CT scan was not done in any one of our patients and ultrasound was noncontributory. Barium studies characteristically show an intraluminal filling defect of variable size that is not fixed to the bowel wall. Barium filling the interstices gives a mottled appearance similar to that of a villous tumour[4]. In our patients, the barium study was not done.

In spite of advancement in investigative armamentarium, most of the cases are diagnosed at laparotomy and same had been the experience in our patients. A high degree of suspicion is required and in both of our cases diagnosis was possible by taking the history retrospectively from the parents. Traditionally laparotomy has been advocated for the management of bezoar induced SBO but recently some authors have performed the laproscopic approach successfully. However if the mass is impacted and disintegration is not possible, enterotomy should be done to remove it[3]. Surgical options reported are manual fragmentation of phytobezoar and pushing it towards caecum. If it is not possible, enterotomy should be done to remove the bezoar. Segmental bowel resection and anastomosis may be required in presence of complications such as gangrene of bowel. At the time of laparotomy thorough exploration of abdominal cavity should be done to exclude the presence of concomitant gastric bezoar or intestine bezoars. About one third of patients have multiple intestinal bezoars. Laparoscopic management of phytobezoar induced small bowel obstruction have been reported, however this requires expertise[7].

The best way to manage phytobezoar is prevention. Good eating habits, avoiding high fiber diet particularly in patients with gastric surgery,

introduction of prophylactic medications to improve gastric motility and psychiatric follow up in patients with psychiatric disease[7].

CONCLUSION

Phytobezoar induced small bowel obstruction is a very rare entity and often overlooked. We present an uncommon case of small bowel obstruction caused by a phytobezoar. The presence of intra-luminal mass with mottled gas pattern at the site of obstruction in CT abdomen is diagnostic of phytobezoar. Surgery is the treatment of choice in phytobezoar induced small bowel obstruction. It is mandatory to explore the whole gastrointestinal tract in order to avoid synchronous bezoar and the recurrence of intestinal obstruction due to a retained bezoar. Other treatment options include enzymatic breakdown and endoscopic fragmentation for a gastric bezoar. Recurrence is common unless the underlying predisposing condition is corrected. Prevention includes avoidance of high-fibre food, introduction of prophylactic medication to improve gastric emptying and psychological or psychiatric follow-up in patients with psychiatric disease. In difficult, recurrent cases, periodic endoscopy with repeated mechanical disruption is necessary. Diet modification is the best way of prevention.

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Case Report

Cervical Vagal Schwannoma: A Case Report

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ABSTRACT

Cervical vagal schwannomas are rare, slow growing tumours usually occur in patients between 30 and 50 years of age. This tumour most often presents as a slow growing asymptomatic solitary neck mass which rarely undergoes malignant transformation. The cervical schwannoma represents 25-40% of the total schwannomas observed in the body with a predilection for the shwannoma of vagal nerve. Definitive pre-operative diagnosis may be difficult. Surgical resection is the treatment of choice even if it is in close relationship with nerve fibres, from which it arises, and may threat vagal nerve preservation. Here we report a female patient presented with neck swelling. Diagnosis was made by history, physical examination and investigations. Post operative histopathology confirmed the case of cervical schwannoma.

Key words: *Vagal schwannoma, Cervical benign tumour.*

[Jalalabad Med J 2015; 12(2): 81-83]

INTRODUCTION

Schwannoma arising from the vagus is an uncommon (2-5%) benign nerve tumour. It is a slow-growing tumour usually reported to occur in patients between 30 to 50 years of age. There does not seem to be a sex related predisposition. It typically presents as a slow growing asymptomatic mass, well circumscribed and encapsulated[1], always intimately adherent to its nerve of origin[2] and displacing the internal jugular vein laterally and the carotid artery medially with a very low lifetime risk of malignant transformation[3]. Diagnosis is based on clinical suspicion and confirmation obtained by means of surgical pathology. Schwannomas of the vagus nerve must be differentiated from the carotid body and glomus vagale tumors because the distinction may influence treatment planning. Surgical excision is the treatment of choice for vagal schwannoma, with recurrence being rare[4].

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CASE REPORT

A 34 year old female presented to Department of Otolaryngology and Head Neck Surgery, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, complaining of painless left neck mass which was growing in size gradually for the past two years with no history of pain or weakness of upper limb and hoarseness of voice. Physical examination revealed a firm, smooth surfaced mass in the left middle cervical region, measuring 5x7 cm. It was mobile in horizontal direction but not in vertical direction. Carotid artery

was felt in an anterior displaced position. The cranial nerves were intact. Ultrasound of the neck showed a hypoechoic nodule in the right side of the neck. Fine needle aspiration cytology (FNAC) was performed and showed spindled cell lesion suggestive of schwannoma. MRI of the neck demonstrated a well circumscribed mass, with high and dishomogeneous signal intensity, on the left side of the neck, between the internal jugular vein and the carotid artery.

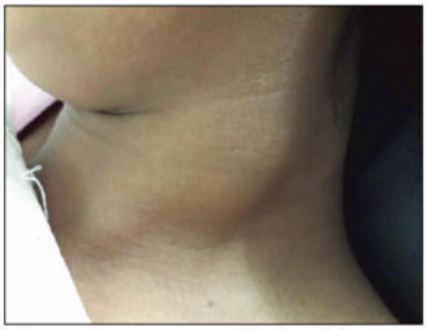

Figure-1: *Patient with left neck mass.*

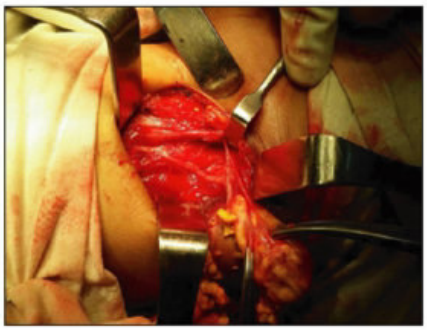

Figure-2: *Peroperative photograph showing tumour arising from vagus nerve.*

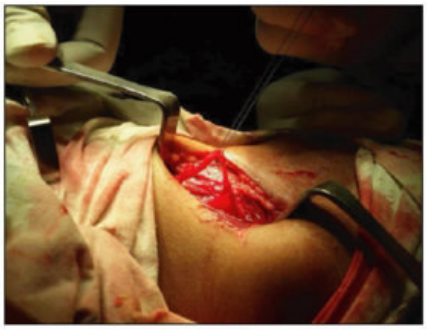

Figure-3: *Peroperative photo, showing intact vagus nerve after excision of schwannoma.*

The patient underwent surgery via a transcervical approach under general anaesthesia. There was an encapsulated yellowish mass related to vagus nerve situated medial to the right sternocleidomastoid muscle and lateral to the carotid artery. The tumour was resected along the surgical plane with preservation of vagus nerve intact. Histopathological examination revealed typical features of schwannoma, exhibiting spindled shaped cells with nuclear palisading. No atypical nucleus, necrosis or mitosis was seen.

DISCUSSION

Schwannomas are rare peripheral nerve tumours; about one third occur in the head and neck region[5]. Clinically, they present as asymptomatic slow growing lateral neck masses that can be palpated along the medial border of the sternocleidomastoid muscle. Pre-operative diagnosis of schwannoma is difficult because many vagal schwannomas do not present with neurological deficits and several differential diagnoses for tumour of the neck may be considered, including paraganglioma, branchial cleft cyst, malignant lymphoma, inflammatory cervical lymphadenopathies, metastatic cervical lymphoadenopathies, submandibular salivary gland tumours, carotid artery aneurysm etc[6]. Furthermore, due to their rarity, these tumours are often not even taken into consideration in the differential diagnosis. Most patients with vagal nerve schwannoma present with a slow growing painless neck mass. This finding is consistent with our patient where no clinical signs were elicited to point to the diagnosis of vagal nerve schwannoma. It was suggested that paroxysmal cough during FNAC or palpation of the mass was diagnostic for the vagal nerve schwannoma[5]. The usefulness of FNAC is still controversial, the majority of authors do not recommend open or needle biopsy for these masses[6,7]. However, FNAC is important to rule out other causes of neck swelling like metastatic cervical lymphadenopathy, lymphoma or branchial cyst. In our case, FNAC showed features suggestive of schwannoma. MRI is the gold standard to assess the origin and the extent of the tumour. It is helpful in definite diagnosis and in evaluating the extent and the relationship of the tumour with the jugular vein and the carotid artery[7]. The MRI appearance is considered quite typical and may lead to suspicion of the diagnosis pre-operatively as the cervical vagal neurinoma frequently appears as a well-circumscribed mass lying between the internal jugular vein and the carotid artery. MRI findings are also useful in providing a pre-operative estimation of the nerve of origin of the schwannomas and to differentiate pre-operatively between schwannoma of the vagus nerve and

schwannoma of the cervical sympathetic chain[8]. The vagal schwannomas, in fact, displace the internal jugular vein laterally and the carotid artery medially, whereas schwannomas from the cervical sympathetic chain displace both the carotid artery and jugular vein without separating them[8]. The management of vagal nerve schwannoma is complete excision[4]. For tumour confined to the neck, few approaches can be used including transcervical, transcondylar, cervical trans-mastoid or via infra-temporal fossa. For tumour involving the jugular foramen, subcapsular extirpation via enlarged jugular foramen is advocated[9]. In our patient, transcervical approach was used. The tumour was successfully resected along the surgical plane. Complete excision including the tumour capsule is the key to prevent recurrence.

CONCLUSION

Vagal nerve schwannoma is rare. The majority of the cases present with a slow growing neck swelling without neurological deficit. MRI is the gold standard investigation to establish pre-operative diagnosis. Complete excision of the tumour is the key to prevent recurrence.

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Miscellaneous

Campus News

Postgraduate Training Recognized by BCPS

A high powered inspection team consisting of nine members from Bangladesh College of Physicians and Surgeons (BCPS) Dhaka, headed by Professor Md. Monimul Haque, visited Jalalabad Ragib-Rabeya Medical College and Hospital on 3rd March 2014. On the recommendations of the inspection team, the council of Bangladesh College of Physicians and Surgeons (BCPS) has extended the tenure of recognition of training imparted in the departments of **Medicine, Surgery, Paediatrics, Obstetrics & Gynaecology, Physical Medicine & Rehabilitation, Dermatology & Venerology and Cardiology** to the resident doctors provisionally for a period of five years. The council has granted recognition to the department of **Radiology & Imaging** for imparting training to the resident doctors provisionally for a period of five years with effect from 06-6-2013. The training will be accepted for appearing in the FCPS, MD, MS Part-II and diploma examinations in these specialties. The postgraduate training imparted in the departments of **Ophthalmology, Otolaryngology, Psychiatry, Pathology (Histopathology), Orthopaedic Surgery** and **Paediatric Surgery** were recognized by Bangladesh College of Physicians and Surgeons (BCPS) earlier and to be continued.

Programmes

* **Orientation of foreign students of 21st batch** of Jalalabad Ragib-Rabeya Medical College was arranged on 24th January 2015 in the college campus. Danobir Dr. Syed Ragib Ali, Chairman of the Governing Body of Jalalabad Ragib-Rabeya Medical College and Hospital graced the occasion as the chief guest. Mr. Abdul Hye, Senior Vice President, Ragib-Rabeya Foundation, Vice Principal and Director of the hospital were present as special guest. The programme was presided over by the Principal Maj. Gen. (Retd) Prof. Md. Nazmul Islam. Fifty six foreign students of 21st batch along with some of their guardians, teachers of this institution were present in the occasion.
* **Bangla Nobo Borsho** was organized by the cultural committee of this college on Pohela Boishak 1422, 14th April 2015. A day long program including 'Mongol Shova Jatra' in the morning, day long 'Boishakhi Mela' and cultural program both in the morning and evening were observed. The teachers and officers with their families, students and staff of this institution were present and enjoyed the festival.
* A 17 membered medical and relief team named **"LET'S HELP NEPAL"** headed by Prof. Cyrus Shakiba from Jalalabad Ragib-Rabeya Medical College and Hospital went to Nepal to serve the helpless people that suffered due to the devastating earthquake. The team worked there under the guidance of Nepal Government from 8th to 22nd May 2015. The team took medicine, surgical items and relief materials with them of about 40 lacs BDT, which was contributed by all the members of Jalalabad Ragib-Rabeya Medical College and Hospital family.
* **55th meeting of the Governing Body** of Jalalabad Ragib-Rabeya Medical College and Hospital was held in the college conference room on 19th May 2015. The meeting was presided over by Founder of the college & hospital and Chairman of Governing Body Danobir Dr. Syed Ragib Ali. The Member Secretary and Principal of JRRMC, Maj. Gen. (Retd) Prof. Md. Nazmul Islam, Mr. Abdul Hye, Senior Vice President, Ragib-Rabeya Foundation, and other members of the Governing Body were also present in the meeting. The meeting discussed about further development of this institution. A budget of Taka 90 crores for the fiscal year of 2015-16 was approved in the meeting.
* **'Rag Day' of 15th batch** of Jalalabad Ragib-Rabeya Medical College was held on 28th May 2015 in the college campus. Danobir Dr. Syed Ragib Ali, Chairman of the Governing Body of Jalalabad Ragib-Rabeya Medical College and Hospital graced the occasion as the chief guest.
* **Seminars:**

  The following seminars held in Jalalabad Ragib-Rabeya Medical College during January to June 2015:

  1. A seminar on **"Metabolic Syndrome: A Global Problem"** was organized by the department of Medicine on

30th April 2015.

2. A daylong seminar on **"Surgical Update"** was organized by the "Society of Surgeons, Sylhet" on 9th May 2015. The seminar was presided over by the Principal of JRRMC, Maj. Gen. (Retd) Prof. Md. Nazmul Islam. All the surgeons of different medical colleges and hospitals of Sylhet attended the seminar and presented scientific papers. The seminar ended with a cultural program in the evening.
3. A seminar on **"Early Childhood Development"** was organized by the department of Paediatrics on 14th May 2015.
4. A seminar on **"Lichen Planus"** was organized by the department of Dermatology and Venereology on 11th June 2015.

Instructions for Author(s)

Manuscripts on clinical, review, experimental and historical topics pertinent to medical sciences are accepted for the publication in this journal. The papers are accepted for the publication with an understanding that they are solely submitted for this journal. The statements, comments or opinions expressed in the papers are exclusively of author(s), not of editor(s) or publisher. The manuscripts are to be prepared as described in following instructions. 3 (three) hard copies are to be submitted. Letters about potentially acceptable manuscripts will be sent after review process is complete. No manuscripts will be returned if not accepted for publication. In addition an electronic/digital version of the manuscript composed in MS word 98/2000 should be submitted in a diskette.

Preparation of manuscripts

Manuscripts should be typewritten, double-spaced throughout (including references and tables) on one side of good quality A4 sized paper, with margins of at least 25 mm. Each component of the manuscript should begin on a new page in the sequence of title or cover page, abstract with key words, text, acknowledgement, references, tables and legends for illustrations.

Title page will contain

a. Concise and informative title of the article
b. Author(s) name, highest academic degree(s).
c. Name of the department(s) and institution(s).
d. Address for correspondence and reprint (please include e-mail address and fax if available)

Abstract and key words

An informative abstract not more than 250 words should briefly describe the objectives, materials and methods, results and conclusion. Number of key words should not more than ten and none that are in the title.

Text should contain Introduction, Materials and Methods, Results and Discussion in sequence.

Introduction

It should briefly disclose the purpose of study. It will help the readers with the problem finding. It should be clear in nature and purpose.

Materials and Methods

Clearly it should include materials, experimental procedures, methods etc. Mention the nomenclature, source of material, equipment with manufacturer's details in parentheses. Describe new methods in sufficient detail indicating their limitation. Established methods should be cited with authentic references. Ethical standards should be followed in reporting experiments done in human subjects. Precisely identify the dosage and route of administration, when drugs or chemicals are used. Measurements and data should be stated in SI unit, or if SI unit does not exist, use an internationally accepted unit. Abbreviations and acronyms should be used for widely used terms and names, which occurs consistently and frequently in the manuscript.

Results

It should be presented in logical sequence in text, tables or illustrations. Duplications of data in the tables or illustrations should be avoided. Emphasize or summarize only important observations.

Discussion

Emphasize the new and important aspects of the study and conclusion derived from them. Detail

data written in introduction and other portions of text should not be repeated. The implication of results and their limitations including suggestion for future research should be included in the discussion.

References

Number the references consecutively in order mentioned in the text. Full list of reference should include all authors. Avoid using abstracts as references. References to paper accepted but not yet published should be designated as 'in press' or 'forthcoming'. Authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication. Information from manuscripts submitted but not accepted should be cited as 'unpublished observations' with written permission from the source. Use the styles of example below, which are based on the formats used by US National Library of Medicine (NLM) in the Index Medicus. The title of journals should be abbreviated according to the style used in Index Medicus.

Article in journal

a) List all six authors when six or less

Vega KJ, Pina I, Krevsky B. Heart transplantation in associated with an increased risk for pancreatobiliary disease. Ann Intern Med 1996; 124 (11): 980-3.

As an option, if a journal carries continuous pagination throughout a volume (as many journals do) the month and issue number may be omitted.

b) More than six authors

Parkin DM, Clayton D, Black RJ, Masuyer E, Friedl HP, Ivanov E, et al. Childhood leukaemia in Europe after chernobyl: 5 year follow-up. Br J Cancer 1996; 73:1006-12.

c) No author given

Cancer in South Africa (editorial). S Afr Med J 1948; 84:15

d) Organization as author

The cardiac society of Australia and New Zealand. Clinical exercise stress testing. Safely and performance guidelines. Med J Aust 1990; 146: 267-9.

Books and monographs

a) Personal author(s)

Laurence DR, Bennett PN, Brown MJ. Clinical Pharmacology. 8th ed. New York: Churchill Livingstone; 1997.

b) Editor(s),compiler(s) as author

Norman IJ, Redfern SJ, editors. Mental health care for elderly people. 5th ed. New York: Churchill Livingstone; 1999.

c) Organization as author and publisher

World Health Organization. Ethical criteria for medical drug promotion. Geneva: World Health Organization; 1988.

d) Chapter in a book

Phillips SJ, Whisnant JP. Hypertension and stroke. In: Laragh JH, Brenner BM, editors. Hypertension: pathophysiology, diagnosis and management. 2nd ed. New York: Raven Press; 1995. p 465-9.

e) Dissertation or thesis

Kaplan SJ. Post hospital home health care: the elderly access and utilization (dissertation). St. Louis (MO): Washington Uni; 1995.

Other published material

a) Newspaper article

Lee G. Hospitalization tied to ozone pollution: study estimates 50,000 admissions annually. The Washington post 1996; June 21; sect. A: 3 (col. 5).

b) Dictionary and similar references

Student's medical dictionary. 26th edi. Baltimore: Williams and Wilkins; 1995. Apraxia; p.119-20.

Unpublished material

a. In press

Leshner AI. Molecular mechanisms of cocaine addiction. N Eng J Med (in press) 1997.

Electronic material

a) Journal articles in electronic format

Morse SS. Factors in the emergence of infectious diseases. Emerg Infect Dis [serial online] 1995 Jan-Mar [cited 1996 June 5]; 1(1): [24 screens]. Available from: URL: http://www.cdc.gov/ncidod/EID/eid.htm

b) Monograph in electronic format

CDI, clinical dermatology illustrated [monograph on CD-ROM]. Reeves JRT, Maibach H. CMEA Multimedia group, producers. 2nd ed. Version 2.0. San Diego: CAEA; 1995.

C) Computer files

Haemodynamics III: The ups and downs of haemodynamics [computer program]. Version 2.2. Orlando (FL): Computerized Educational Systems; 1993.

Table(s)

Each table should be typed on a separate sheet, brief title for each and should be numbered consecutively using Roman numbers and be cited in the consecutive order. Internal horizontal and vertical lines should not be used.

Illustration(s)

(Figure(s), photograph(s) etc.)

Figure(s) should be clear and legible. Illustration will be modified or recreated to conform to journal style. Photographs and photomicrographs should be clear and large enough to remain legible after the figure has been reduced to fit the width of a single column. The back of each figure should include the sequence number and the proper orientation (e.g.top). All illustrations should be referred to as figures numbered consecutively in the text in Arabic numerical.

Acknowledgement should appear at the end of the manuscripts before references.

Review and action

Manuscripts are usually examined by the editorial staff and are sent to outside reviewers. Author's suggestion regarding the names of possible reviewers is encouraged, but editorial board reserves the right of final selection.

Submission

Please send the manuscript(s) to

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