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Pelvic Aggressive Angiomyxoma

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Editorial

Necessity of Continuing Medical Education and Research for a Medical Man

Akber EB

Medical science has its own esteem, heritage and success over many a years. It is a known fact that this science is a progressive one and its changes are inevitable and time tested. A medical man during the undergraduate and postgraduate period as a medical student or as a resident doctor is exposed to a rigorous teaching experience specially to become such a physician whose skills reflect the contemporary best knowledge and practice. On many occasions, that very physician fails to keep himself up-to-date after finishing his graduation or residency training owing to non realization of the importance of lifelong learning. The undergraduate medical students should be given fundamental knowledge and idea about research activities and continuing medical education in an integrated way. And of course, they should be inspired by giving idea about the value and impact of these activities on their upcoming professional life.

In Bangladesh, a medical student studies for five years in a medical college to be a medical graduate and spends a compulsory one year internship training from the medical college hospital to be recognized as a physician throughout his life. Afterwards he completes his residency training program in order to become a specialist. Later, he engages himself as a medical teacher for the rest of his professional life. During the time of teachership, he needs to know more and should be in touch with books. He should engage himself in research works on a continuous basis not only to provide better education for his students but also to upgrade his knowledge and provide enormous contribution to the health sector. These efforts on the part of a medical teacher will undoubtedly meet the standard of medical education and provide better care for the ailing people of the land. But, these efforts and practice are often found absent among medical teachers and doctors now-a-days.

The field of medical science and its practice are vigorous and ever expanding. The new facts are included and revised guidelines are taken on constantly. Thus, medical education is classified as undergraduate, postgraduate and continuing medical education(CME)¹.

Continuing medical education is not a new concept and it comprises of the assembly of doctor colleagues, participation in scientific conferences, case presentation, exchange of views and publishing articles in different reputed medical journals. Clinical sessions to solve clinical problems, case discussion, questioning & answering sessions – all are considered to be the core for effective learning and further improvement of the skills for the doctors². Documentation and analysis of the daily experiences on the part of a practicing physician are elemental prerequisites for an advanced medical professional development at every level. CME is the crucial part to maintain, develop and enhance knowledge & skills. Thus, it is an integral part to upgrade professional performance of the physician. Institutional initiative is expected to make the CME programs effective and fruitful .

It is seen that, recertification examination of doctors conducted at a regular interval by State Medical Council in many countries. American Board of Surgery conducted a study on the practicing doctors which showed that who were about 30 years out of their training were less successful in their recertification result than those who were closer to their training time. Nevertheless self learning is the best way of CME, recertification for medical practice might be a productive means to inspire practicing doctors for continuing learning³. But, this is not practically possible to conduct such an examination in a country like Bangladesh. Clinical audit had been formally incorporated in the health services systems of many countries, as in 1993 into the United Kingdom's National Healthcare Services(NHS).

Research publication should be an obligatory requirement in permitting medical teaching profession and medical specialty performance as well⁴. Medical research is very much neglected here in Bangladesh. It is a matter of regret that doctors are not

encouraged everytime to do medical research. Sometimes, they even show no interest in it⁵. Sometimes, they forget that medical research is an ongoing process and it should be continued⁶. Research phobias are often seen among few doctors. Continuous encouragement from the trainers, strong will force to overcome research phobias and attitudinal changes in doctors are essential to solve these problems altogether⁷.

We are to confess that, unavailability and limitation of funding for medical research are big issues in Bangladesh. It also puts a negative impact on the curious medical researcher to come forward. We should never forget that the increased longevity of humans and conquering many diseases over the past century are the direct outcome of advances in medical research and continuing medical education. Lastly, without any doubt we all can say – “The more is the efficacy of continuing medical education and research, more will be the expected development in the field of health services”

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Knowledge of Postnatal Care among the Mothers of Rural Community

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Abstract

Introduction: Postnatal period is especially critical for newborns and mothers, but mothers are not compassionate about receiving the service which indicates that mothers are not aware about the Postnatal care services. **Objective:** The study was objected to illuminate the level of knowledge about Postnatal care among the mothers of rural community and the various factors influencing the knowledge within the community. **Materials and Methods:** This descriptive type of cross sectional study was conducted from November, 2017 to April, 2018. Sample size 300 was selected purposively. **Results:** Most of the respondents (51%) belonged to age group between 21 to 30 years, majority (89.34%) were housewives, about one-third (33.66%) were educated up to primary level. Only around fifty percent (52.67%, 158) mothers were found to have knowledge about postnatal care. Seventy nine percent (79.33%) mothers received medical care during pregnancy period (ANC), among which only 66.39 percent mothers were informed of postnatal care. Study analysis found that knowledge of postnatal care gradually increased with increasing level of education. younger mothers bearing 1 to 2 children or got pregnant once or twice in lifetime were more knowledgeable then the elder mothers bearing 3 to 4 children or who got pregnant for more than 3 to 4 times. Mothers who received medical care during pregnancy period were two times more knowledgeable (60.08%) than those who did not receive medical care during pregnancy (24.19%), respondents who gave birth in private clinics and government hospitals were more knowledgeable about postnatal care that is 80.78% and 68.97% respectively than the respondents who gave birth at home, which was 33.61% only. **Conclusion:** There is little information about mothers' knowledge of Postnatal care and factors that influence the knowledge of PNC in rural areas of Bangladesh. It is well thought-out that the findings of this study will help in setting effective strategies for increasing knowledge on postnatal care among the rural population of the country.

Keywords: Awareness, Post natal care, Rural mothers.

Introduction

The health of mothers is mostly regarded as an indicator the health of the society. Globally, more than half a million women die each year from complications of pregnancy and childbirth¹. A large proportion of maternal and neonatal

deaths occur during the first 48 hours after delivery. Thus, postnatal care (PNC) is important for both the mother and the child to treat complications arising from the delivery, as well as to provide the mother with important information². The World Health Organization (WHO) guidelines on postnatal care recommend postnatal visits within six to 12 hours after birth, three to six days, six weeks, and at six months (6-6-6-6 model)³. Postnatal services ensure that women are not experiencing complications following delivery, and provide an important opportunity to assess the infant's development, the family's capability to cope and whether pediatric care and other services are being received by both the mother and the infant. Postnatal care may also have an effect on family planning and contraceptive use⁴. All these are significant reasons for promoting postnatal care and also to increase awareness among the mothers about postnatal care services. Almost all newborn deaths are in developing countries, with the highest number in South Asia and the highest rates in sub-Saharan Africa. As with newborn deaths, nearly all maternal

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deaths occur in developing countries. An analysis found that more than two thirds of newborn deaths will have occurred by the end of the first week after delivery, with up to one-half of all newborn deaths occurring in the first 24 hours⁵. Similarly, approximately two-thirds of all maternal deaths occur in the postnatal period⁶. So the days and weeks following childbirth is a critical phase in the lives of mothers and newborn babies. Yet, this is the most neglected period for the provision of quality care and also a great proportion of mothers are not aware of the importance of this service⁷. Postnatal care is needed to encourage preventive behaviors and practices, such as warming of the infant, and to increase the likelihood that potentially life-threatening complications in both newborns and mothers are detected, referred, and treated as early as possible. Where families have poor access to or do not utilize services of formal health care systems, PNC should be provided via community providers making routine home visits. Providing PNC visits in community settings requires the collaboration of policymakers, health professionals, and community organizations with traditional local care-givers, parents, and families⁸. Regardless of the location and provider of PNC services, the focus should be to guarantee that the mother and the newborn receive appropriate care throughout the entire postnatal period. Postnatal contact with the health provider should inform and reinforce the family's own care practices and care seeking behavior, empowering the family to provide appropriate care to both newborn and mother in the household. Ideally, even before birth, antenatal contacts with the family should promote the importance of PNC for newborns and mothers⁹. Postnatal care is best delivered in a health facility. There is a good opportunity to implement and improve postnatal care services in government facilities, particularly district hospitals and upazila health complexes. Research shows that in spite of having considerable success over the years in the health care services; more than 60% of the population does not have access to basic health care facilities¹⁰. Due to many socio-economic and cultural reasons, such as the distance to travel and the cost of attending and so on, most rural mothers avoid going facilities and give birth at home. Furthermore lack of proper knowledge about the need for postnatal care and from where and when to get the services results in serious maternal and neonatal death¹¹. In Bangladesh approximately two-thirds of all maternal deaths occur in the postnatal period⁶. It is observed that most of the maternal deaths occur between the third trimester and the end of the first week after pregnancy⁶. BDHS, 2014 found that, 36 percent of women

received postnatal care for their last birth from a medically trained provider within two days of their delivery¹². This is really very alarming in this context. It's very important to focus on maternal and newborn health to reduce morbidity and mortality with a view to ensure a developed health care system. And to achieve the goal, it is to be emphasized on the postnatal service for the 'just new born babies along with its mother. For the continued existence and safety of both the mother and the newborn baby, the health care received by the mother before delivery, and soon after delivery plays a vital role¹¹. Healthcare system in Bangladesh has been achieved a changed and improved status now. A continuous significant progress in many areas of maternal as well as child health has been obtained during the last decade. But there is still a field where we are to work a lot and that is the slow progress in improving neonatal survival in Bangladesh as neonatal mortality still remains unacceptably high at 37 per 1000 live births. Almost two-thirds of the newborns die within 7 days of birth and more than 50% within 24 hours. Thus we will have to pay an extra attention on postnatal care to reduce the morbidity and mortality of the mothers and newborns. Furthermore postnatal care is important to encourage healthy domiciliary practices that are closely linked with child health and survival and the postnatal care services also provide women a chance to take information and support for healthy practices⁹. Despite of the benefits of postnatal care, most newborns and mothers do not receive postnatal care services from a skilled health provider during the first few days after delivery⁹. Warren et al., 2006 in a Sub-Saharan African study, explained "The large gap in postnatal care coverage is evident in a recent analysis of Demographic and Health Surveys in 23 African countries. Approximately one-third of women in Sub-Saharan Africa give birth in facilities, and no more than 13% receive a postnatal care visit within two days of delivery"¹³. In fact, the use of postnatal care services is not present in both home delivery or in a facility. Although in some cases postnatal care services are available, these are not guided by essential elements of care required to get best output for the mothers and newborns. Many cultural, social, and economic barriers delay women from using postnatal care services formal health system, even where these services are available¹⁴. So utmost vital important is the knowledge of the service recipients about their need and demand. But there is not still much systematic study yet to identify the knowledge of the mothers about postnatal care services. Therefore, this study will make an attempt to assess the knowledge of the rural mothers about postnatal care

services in improving the newborn and women's health situation in Bangladesh and to find out the association of level of knowledge on postnatal care among the rural mothers with their selected demographic variables.

Materials and Methods

A descriptive type of cross sectional study was conducted in a rural setting of Village "Malancha" of Keraniganj upazila, Dhaka from November 2017 to April 2018. Married reproductive age female, who at least once got pregnant in her lifetime, was the study population. Purposive sampling technique was followed and on spot total 317 samples was collected but due to incomplete or inaccurate information on different variables 17 samples could not be included in the data processing and analysis so the sample size stood 300 of total. For quantitative data collection a pretested semi-structured interviewer administered questionnaire was developed. The questionnaire was prepared by using the selected variables according to objectives of the study. Each of the respondents was explained about the aim, importance and purpose of the study. Then, after taking oral consent, data were collected through face to face interview. To maintain consistency, the data were then checked and verified. Afterward data were analyzed manually and by calculator. Results were presented on tables and figures by using computer.

Results

Over all analyzed result was presented through Table and Graphs. It was found that out of 300 respondents majority (51%) belonged to the age group 21-30 years (Figure-1). Most (89.34%, 268) of the respondents were house wives, 7.66% (23) of the respondents were service holders, 2.66% (8) were students & only 0.34% (1) was engaged in business. A good number e.i. 15% (45) was illiterate and 11.66% (35) can only sign. One-third (33.66%, 101) of the respondents' education status were up to primary level, Subsequently 28% (84) of the respondents' education status were up to secondary level, 25 (8.34%) of the respondent were educated up to higher secondary level & only 10 among 300 respondent (3.33%) were educated up to honors level or more (Table-1). Maximum (66%, 198) out of 300 respondents had one to two living children, 27% (80) had three to four living children, 4% (12) had five or more living children and 3% (10) had no living children as they were pregnant during the study period (Figure-2). It was found that majority (67.33%, 202) got pregnant for one or two times in

their life, 28% (84) got pregnant for three or four times. Only 4.67% (14) got pregnant for five or more times. 79.33% (238) mothers received medical care during pregnancy period and 20.67% (62) mothers never received any anti-natal care no matter how many times they got pregnant in their lifetime. It was seen that among 290 mothers, place of last delivery of 40.67% (122) mothers was home, 39% (117) was govt. hospital and 17.33% (52) at private clinic. This delivery history also included the cases of abortion too (Table-2). In case of knowledge about Post natal Care slightly above fifty percent (52.67%, 158) mothers said that they know about postnatal care and, 47.33% (142) mothers had no knowledge about receiving care after delivery (Table-3). Furthermore among those who (158) were knowledgeable on post natal care, 5.06% (8) had knowledge about taking postnatal care once, only 10.13% (16) could mention that frequency may be four times, and 2.53% (4) reported that they should receive post natal care if any complication arises. But on a large 46.20% (73) had no knowledge about frequency of receiving PNC. Again, almost one third (29.11%) of the mothers who knew about the need of postnatal care stated that the care should be within 7 to 14 days after delivery. Only 1.90% could mention need of PNC within 24 hours of child birth and only 10.13% could mention all four times of PNC service. Many of the respondents mentioned several options regarding the variable (Table 4). Besides, 64% (193) of the respondents knew that mother can suffer from any form of Complications after delivery and 36% (107) mothers had no knowledge about post-natal complication (Figure-3). In addition associating respondents' knowledge with different variable (Table-5) found that knowledge about postnatal care among the highly educated respondents such as Honors/ Honors+ was highest (90%) and poorest among those who can only sign (31.43%) and were illiterate (37.78%). Trend analysis shows that with the increase of education level of the respondents, knowledge of postnatal care also increased. Awareness among those who were engaged with Business, and were Student was found to be sent percent (100%) rather than those who were Housewife (51.12%) and service holders (52.17%). Awareness was highest (56.06%) among the mothers who had 1-2 children than those who had 3-4 children (52.50%), having no viable children (30.00%) or five or more than five children (16.67%). Similarly, more than fifty percent (55.94%) were knowledgeable about postnatal care among those who got pregnant once or twice in their life time, 50% among those who got pregnant three to four times in lifetime and among those who got pregnant five

or more times in life time knew less (21.43%) about Post natal care. A great proportion of the mothers who received medical care during pregnancy period had knowledge about postnatal care which was 60.08% among the care recipients', and only 24.19% of the mothers who did not receive medical care during pregnancy had knowledge about postnatal care. Respondents who gave birth in Private clinics and Government hospitals were more knowledgeable about postnatal care that was 80.78% and 68.97% respectively than the respondents who gave birth at home, this was 33.61% only. Mothers who knew that women can suffer from any form of complication during post natal period were more knowledgeable about post natal care which was 63.21% of them, on the other hand knowledge about post natal care was only 33.64% among those who could not mention the presence of any form of post natal complication.

Figure 1: Distribution of the respondents according to their age (n=300)

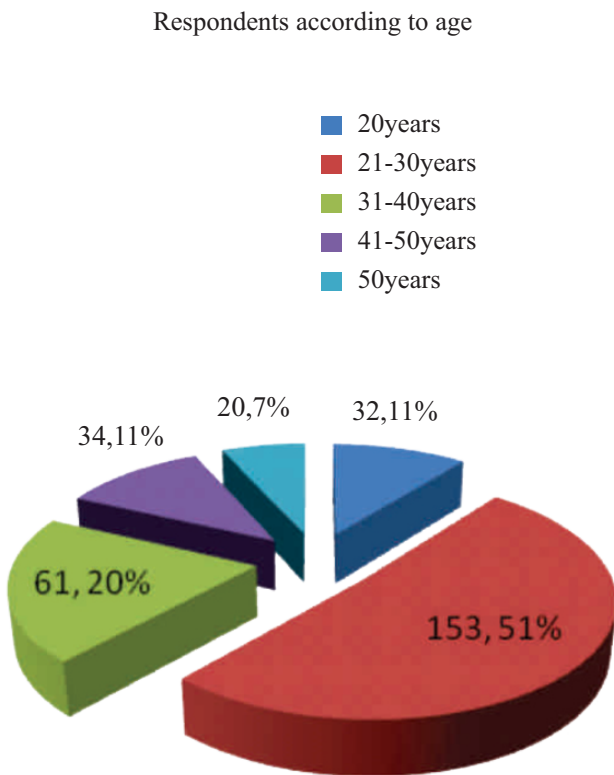


Table 1: Distribution of the respondents (n=300) according to their socio-demographic variable

Variables	Frequency	Percentage (%)
Occupation of the respondents		
Housewife	268	89.34
Service holder	23	7.66
Business	1	0.34
Students	8	2.66
Doing nothing	0	0
Total	300	100
Level of education		
Illiterate	45	15
Can only sign	35	11.66
Primary	101	33.66
Secondary	84	28
Higher Secondary	25	8.34
Honors or more	10	3.34
Total	300	100

Figure 2: Distribution of the respondents (n=300) according to living children

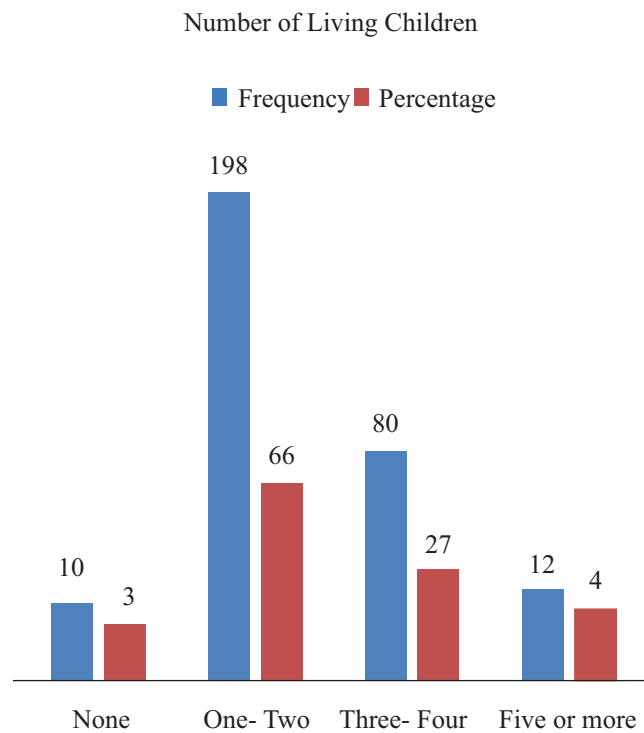


Table 2: Distribution of the respondents according to reproductive issues

Variable	Frequency	Percentage (%)
Number of pregnancy (n=300)		
1-2	202	67.33
3-4	84	28
≥ 5	14	4.67
Total	300	100
Receiving medical care during pregnancy (n=300)		
Yes	238	79.33
No	62	20.67
Total	300	100
Place of last delivery (n=290)		
Home	122	42.07
Government Hospital	116	40
Private Clinic	52	17.93
Total	290	100

*Note: Variable “Place of last delivery” included 6 of abortion cases also and n=290 as 10 were currently pregnant and waiting for deliver at the time of study

Table 3: Distribution of the respondents (n=300) according to knowledge about postnatal care

Knowledge about postnatal care	Frequency	Percentage (%)
Yes	158	52.67
No	142	47.33
Total	300	100

Table 4: Distribution of the respondents (158) according to knowledge about frequency and timing of receiving postnatal care

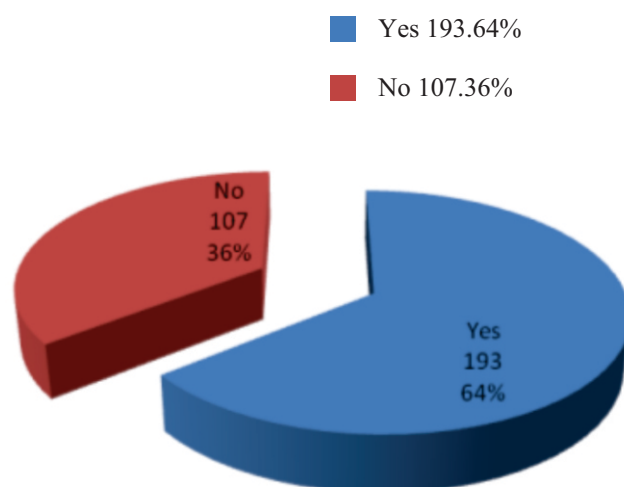
Variables	Frequency	Percentage (%)
Knowledge about frequency of receiving postnatal care		
Once	8	5.06
Twice	17	10.76
Thrice	21	13.29
4 Times	16	10.13
Don't know	73	46.20
More than 4 times	19	12.03
If complication arises	4	2.53
Total	158	100

Knowledge about timing of receiving postnatal care		
Within 24 hours of child birth	03	1.90
Within 3 days	35	22.15
Within 7-14 days	46	29.11
Within 6 weeks	23	14.56
All of the above	16	10.13
If complication arises	48	30.38
Don't know	73	46.20

Note: Many of the respondents mentioned several options for the variable.

Figure 3: Distribution of the respondents (n=300) according to knowledge of postnatal complication

knowledge on postnatal complication

**Table 5:** Associating respondents knowledge about postnatal care with various variables used in the study

Education level of the respondents (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Illiterate	17	28	45	37.78
Can only sign	11	24	35	31.43
Primary	47	54	101	46.53
Secondary	57	27	84	67.86
Higher Secondary	17	10	25	68
Honors/ Honors+	9	1	10	90
Total	158	142	300	52.67

Occupation of the respondents (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Housewife	137	131	268	51.12
Service	12	11	23	52.17
Business	1	0	1	100
Student	8	0	8	100
Doing Nothing	0	0	0	0
Total	158	142	300	52.67

Number of living children (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
1-2	113	89	202	55.94
3-4	42	42	84	50
≥ 5	3	11	14	21.43
Total	158	142	300	52.67

Number of pregnancy (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Knowledge about postnatal care				
0	3	7	10	30.00
1-2	111	87	198	56.06
3-4	42	38	80	52.50
≥ 5	2	10	12	16.67
Total	158	142	300	52.67

Receiving medical care during pregnancy (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Yes	143	95	238	60.08
No	15	47	62	24.19
Total	158	142	300	52.67

Place of delivery of last child (n=290)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Home	41	81	122	33.61
Government Hospital	80	36	116	68.97
Private Clinic	42	10	52	80.78
Total	158	142	290	52.67

Knowing of postnatal complication (n=300)	Knowledge about postnatal care			
	Yes	No	Total	Percentage (%)
Yes	122	71	193	63.21
No	36	71	107	33.64
Total	158	142	300	52.67

Discussion

In a sample of 300 rural mothers, current study demonstrated that only around fifty percent (52.67%, 158) mothers were found to have knowledge about postnatal care and about another fifty percent (47.33%, 142) mothers had no knowledge about receiving care after delivery. It is seen that, among 158 respondents having knowledge on post natal care, 5.06 percent (8) mentioned that they may receive care once in postnatal period, 10.76 percent mentioned of twice, 13.29 percent of thrice, 10.13 percent of four times and 12.03 percent mentioned of more than four times. 2.53 percent of population reported that they should receive post natal care if any complication arises. But 46.20 percent had no knowledge about number of receiving PNC. Furthermore less than only one third (29.11%) of the mothers who knew about the need of postnatal care stated that the care should be within 7 to 14 days after delivery, 30.3 percent claimed its need when complication arises, 46.20 percent could not mention the time of PNC. Only 1.90 percent could mention need of PNC within 24 hours of child birth, almost quarter (22.15%) told of 3rd day after delivery, 14.56 percent mentioned of within 6 weeks and merely 10.13 percent could mention all four times of PNC service. At Kasama urban clinic in Kasama Northern Zambia a descriptive study was conducted to assess the knowledge and found, 147 (60%) of the study participants having knowledge about postnatal care. The finding of this is nearly close to the present study¹⁵. Another descriptive type study among postnatal mothers in Pokhara, Nepal during May–June 2015 with a sample size of 196 found that most of the respondents 123 (62.76%) had average knowledge whereas 2(36.73%) only had good knowledge and mean percentage in the area of basic concept of postnatal care was 69.14 with mean and SD of 9.68 ± 2.40 [16]. This variation with current study may be due to socio-demographic characteristics, methodology difference, implementation of the service, and accessibility of health organizations. The other cross-sectional study among 107 sample at Gazipur and Mymensingh district in Bangladesh by Shahin MMR (2015) on awareness on neonatal care among women having one pregnancy resulting one viable young found- about 81.30%, 13.08% and 5.60% respondents having poor, moderate and good awareness on newborn care respectively¹⁸. The result of this study may be considered to be similar to the current study where awareness level is not satisfactory. Study at Gondar Zuria District, Ethiopia (Sample size = 920) found that Six hundred ninety-two (84.39 %) of mothers were aware that they should receive

PNC services after delivery¹⁸. Finding of this of Ethiopian study is much higher than the current study. The difference may be attributed to time, place, and social context variation between the two studies. Studying the impact of essential newborn-care interventions at the household level in the Saving Newborn Lives project areas of rural Bangladesh Uzma Syed (2006) could indirectly reveal the need of awareness of post natal care among the mothers through knowing the awareness level about neonatal danger sign and maternal danger sign. Study found that, knowledge about post natal maternal danger signs requiring immediate medical attention were found to be 64.3%. Awareness in Uzma Syed (2006) study was much higher than the current study probably due to the fact that this study was conducted in an area where intervention was given to increase saving new born lives¹⁹. In current study it was found that among the respondents knowledge about postnatal care was lowest (31.43%) among those who could only sign their names and among the illiterate was 37.78% but among the highly educated respondents such as Honors or above Honors level was found to be highest (90%). Trend analysis shows that with the increase of education level of the respondents, knowledge of postnatal care also increased. Searching for relationship between occupation and knowledge about postnatal care among the respondents, it was found that knowledge of postnatal care among the housewives were lowest (51.12%). Awareness among the service holders were 52.17 percent and awareness among those who were engaged with Business and Students were found to be sent percent which was highest. So effort should be given to raise awareness among the housewives or the homemakers who constitute a great portion of our society to contribute to bring up our future generation. Descriptive study on postnatal care among postnatal mothers in Pokhara, Nepal during May –June 2015 also revealed that there is significant association of level of knowledge with selected demographic variables; educational level ($\chi^2 = 48.75$) and occupation ($\chi^2 = 5.008$) [16]. Study on awareness on neonatal care among women having one pregnancy by Shahin MMR (2015) found that poor awareness was more among who had education level below SSC and it was statistically significant ($P < 0.05$). Poor awareness was prominent among housewives. Statistically significant association was found between occupation of respondents and awareness on newborn care¹⁷. Finding of this study is also supportive to the current study. Exploring relationship between number of living children and knowledge about postnatal care found that awareness about

postnatal care was highest (56.06%) among the mothers who had 1-2 children, mothers having 3-4 children had awareness of 52.50%, awareness among the mothers having no viable children was 30% and mothers who had five or more than five children had awareness about 16.67%. Probably mothers having one to two children were much younger. So as the mothers at this level is younger and therefore more conscious about care of their children. But mothers of five or more children were relatively aged, so as they were old enough, they were not aware about the modern concept of postnatal care. Similarly association between variable 'number of pregnancy' and 'knowledge about postnatal care' originated that among those who got pregnant once or twice in their life time, 55.94% were knowledgeable about postnatal care. Fifty percent were knowledgeable among those who got pregnant three to four times in lifetime and among those who got pregnant five or more times in life time knew less (21.43%) about Post natal care. Thus it can be said that those who got pregnant less times in life time, may be of younger age and have more knowledge on postnatal care than those who got pregnant 5 times or more and are of relatively older age group of population. Likewise, correlating variables 'receiving medical care during pregnancy' and 'knowledge about postnatal care' could sort that a greater proportion among the mothers who received medical care during pregnancy period had knowledge about postnatal care, which was 60.08%, and among the mothers who did not receive medical care during pregnancy, only 24.19% had knowledge about postnatal care. That means effective antenatal care also helps to raise post natal coverage of a community. So, effort should be intensified to increase antenatal coverage, which may indirectly influence the knowledge of post natal care of the mothers. Similar finding was seen in the study at Gondar Zuria District, Ethiopia where respondents having follow up for antenatal care had association with awareness of mothers about PNC service in both bivariate and multivariate logistic regression analysis (p value < 0.05)¹⁸. Again correlating variable 'place of delivery of last child' and 'knowledge on postnatal care' found that respondents who gave birth in Private clinics and Government hospitals were more knowledgeable about postnatal care that is 80.78% and 68.97% respectively than the respondents who gave birth at home, which was 33.61% only. It may be due to the fact that contact with an institution helps in coming to close contact with health care providers which may influence their care seeking behavior. Hence, if we can increase the coverage of institutional delivery, it may

also be helpful to increase awareness on post natal care among the mothers. Furthermore correlating variables 'knowing of postnatal complication' and 'knowledge about postnatal care' bring into being that mothers who knew that a women can suffer from any form of post natal complication were more knowledgeable about post natal care, which was 63.21% of them, on the other hand knowledge about post natal care was only 33.64% among those who could not mention the presence of any form of post natal complication. So it can be mentioned that knowledge about any form of post natal complication may act as a driving force for being aware about post natal care also. As far as the literatures were reviewed, data of few selected variable could not be managed for supporting the current study, therefore, considering it as a baseline survey further study can be conducted on a larger scale.

Conclusion

Knowledge on Postnatal care to women is a good starting point for the introduction of better future life for the child and also a better life for the mothers. A need exists for establishing postnatal care education activity in maternal and child health centers in order to teach women better methods of taking care of herself and of her baby during postnatal period and for being aware of taking postnatal checkup at a regular timing. Knowledge about postnatal care should be largely diffused to the public through the mass media. Awareness programs are required to improve knowledge on the different aspects of postnatal care. Further studies can be conducted to make more clear views and to plan for future on reproductive rights and to utilize the reproductive health services by people.

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Smart Phone Use and Internet Addiction to Medical Students and Medical Professions

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Abstract

Background: Smart phone has become an integral part of our daily living. The problem of internet users in access internet via their smart phone addiction is growing across the world especially among the students. **Objective:** To see the socio-demographic condition of the students and to evaluate the internet addiction among the medical students. **Methods:** This cross-sectional study was conducted among medical students of a private medical college in Dhaka from November 2018 to February 2018. A structured proforma along with young's Internet Addiction scale was used. **Result:** Among the 98 participants majority (87.8%) were between 20-25 years age group and 73.5% were female and 26.5% were male. Most of them were Islam 94.9% and in concern to monthly income, 34.7% were in 30000 taka/month income group. Majority were using smart phone (98%). Majority were using internet on smart phone (62.2%) and less than 300 taka/month spent money for using internet. Social networking 49% was the most common purpose. Duration of internet use 38.8% were between 3 to 5 years. Frequent online status was 60.2%. According to young's Internet Addiction scale 66.26% were average online users, 21.42% were moderate users and 12.24% were less than average online users. **Conclusion:** Although some participants were using smart phone for academic literature purpose, majority were using it for social networking (fb, instgram). Medical students are vulnerable for internet addiction and efforts should be taken to increase awareness and prevent the problem of internet addiction in them.

Key words: Internet addiction, Medical student, Smart phone.

Introduction

Over the last decade, the internet has become one of the most important tools of urban people for information, job opportunities, and education and to entertainment, including social media sites and networking. Internet is gradually

becoming an integral part of our daily life. With the advent of new age smart phones, tablets, and computers, the internet is readily accessible to the general population or "at the fingertips". It has a tremendous effect on society and is leading to a very gradual but perceptible can have a negative impact on youths and young adults in particular if it is not utilized in a controlled and proper way. According to the last census data (in 2011)¹ the Indian population is approximately 1.2 billion, and in this exponentially growing population, youth and young adults occupy a significant number. It is estimated that in India, about 18 per 100 of the general population are active internet users and most are young adults.² So, as the internet grows, the vices do as well there is increasing concern worldwide with regard to what has been labeled internet addiction. In 1995, Ivan Goldberg first proposed the term internet addiction in a satirical hoax, which soon became popular.³ Since then, numerous terms have been used to describe this problem such as internet over use, problematic computer use, pathological computer use, I Disorder, etc. Internet addiction is the inability to control one's use of the internet, which causes marked distress and leads to functional impairment in various domains of life as social, familial, and individual. It can affect occupational and

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academic achievement and may cause psychological and physical problems as shown by numerous studies^{4,5,6,7} conducted globally. Internet addiction is defined as "psychological dependence on internet, regardless of the type of activity once logged on"⁸. Studies have shown that internet addiction is a worldwide phenomenon and its prevalence varied greatly from 03% to 38% depending on the population studied, methodology of the study, and diagnostic instrument used⁹. Researchers have also shown that younger population and especially college students are more vulnerable because of their psychosocial and environmental characteristics^{10,11}. Several factors have been attributed to this vulnerability. First, students have larger proportion of unstructured time when they can use internet. Second, students may have unlimited access to internet provided by universities through Wi- Fi. Many times students are encouraged by their teachers to use internet for academic purposes. Third, young students have more urge to use the latest gadgets and technologies as well as the latest application available on internet. Fourth, young students have less parental control and censoring of what they do online. Fifth, being young, students have their own developmental needs. Among these important are developing a sense of identity and developing meaningful and intimate relationship online. Objective of the research is to see the socio- demographic condition of the respondents and to evaluate the internet addiction among medical students.

Methodology

This is a descriptive type of cross-sectional study. The study was carried out among the respondent of Aichi Medical college. The study was carried out from November 2018 to February 2018 among medical students and medical professions. A total 98 respondents were selected. Purposive sampling was done. Pre-testing was done among respondent in medical college with structured questionnaire. Data were collected using self- administered structured questionnaire consisting of information about demographic data, information about internet usage, and internet addiction test scale developed by Dr. Kimberly Young²¹. Young's internet addiction test is a self -rated scale developed for screening and measuring level of internet addiction and has been used extensively for this purpose worldwide. It contains twenty questions related to internet usage to be scored on Likert scale from 1(rarely) to 5 (always). A total score of <20 represent normal user, between 20 and 49 represent mild

addiction, between 50 and 79 represent moderate addiction, between 80 and 100 severe addiction. The validity and reliability of Young's internet addiction scale has been tested in many studies^{22,23}. After collection of data it was checked and verified and edited to reduce inconsistency. The data were processed by computer. Statistical analysis of data was carried out by using SPSS, version 23.

Results

Table 1: Age distribution of the respondents

Age	Frequency (n)	Percentage (%)
20-25 years	86	87.8
25-30 years	06	06.1
30-35 years	01	01
35-40 years	02	02
More than 40 years	03	03.1
Total	98	100

Table 2: Sex distribution of the respondents

Sex	Frequency (n)	Percentage (%)
Male	26	26.5
Female	72	73.5
Total	98	100

Table 3: Distribution of religion of the respondents

Religion	Frequency (n)	Percentage (%)
Islam	93	94.9
Hindu	05	5.1
Buddist	00	00
Christian	00	00
Total	98	100

Table 4: Level of income of the respondents

Income	Frequency (n)	Percentage (%)
Less than 30000	34	34.7
30000-40000	24	24.5
40000-50000	24	24.5
More than 50000	16	16.3
Total	98	100

Table 5: Spent money for using internet

Money spent for internet	Frequency (n)	Percentage (%)
<300 taka/month	61	62.2
300-500 taka/month	21	21.4
500-1000 taka/month	13	13.3>
1000 taka/month	03	3.1
Total	98	100

Table 6: Common gadgets use of the Respondents

Gadgets	Frequency (n)	Percentage (%)
Smart phone	96	98
Tablets	02	2
Computer	00	0
Total	98	100

Table 7: Online status of the Respondents

On line status	Frequency (n)	Percentage (%)
Always	26	26.5
Frequent	59	60.2
Sudden	13	13.3
Total	98	100

Table 8: Most accessed content use by Respondents

Most accessed content	Frequency (n)	Percentage (%)
Social networking	48	49.0
Academic content	17	17.3
Downloadable media	02	2.0
Social media	31	31.6
Pornography	00	00
Total	98	100

Table 9: Duration of Internet use by Respondents

Duration of internet use	Frequency (n)	Percentage (%)
1 year	8	8.2
2 -3 years	21	21.4
3-5 years	38	38.8
More than 5 years	31	31.6
Total	98	100

Table 10: Distribution of severity of internet addiction among the respondents (98)

Scoring	Severity	Percentage (%)
Less than 20 points	Normal	12.24%
20- 49 points	You are an average on-line user. You may surf the web a bit too long at times, but you have control over your usage.	66.26%

50- 79 points You are experiencing occasional or frequent problems because of the internet. You should consider their full impact on your life. 21.42%

80- 100 points Your internet usage is causing significant problems in your life. You should elevate the impact of the internet on your life and address the problems directly caused by you internet usage. Nil

Discussion

This is a descriptive type of cross sectional study in a private medical college in Dhaka city with a sample of ninety eight (98) respondents during the period of November 2018 to February 2019 with a view to assess the internet addiction and use of smart phone of medical students and medical professions in a private medical college of Dhaka city. The age of the respondent's in this study ranged between 20 to more than 40 years. In our study 87.8% respondent were 20-25 years in this group. Other study shows that majority (99.7%) were less than 23 years age, in the study of Unnikrishnan B et al, 84.8% of the study respondent were less than 24 years age, and about 15.2% Respondent were of age more than 24 years. All these study shows age is between 25 years²⁴. That means young adult were the most common user of smart phone. Due to technology attract them very much. In our study about male 26.5% and 73.5% respondent were female. Other study shows that about 51.4% respondent were male and 48.6% respondent were female. In the study of Unnikrishnan B et al (2008) carried out among medical students in coastal south India, 56% Respondent were male and 44% Respondent were female.²⁵ Female respondent were more as they came more in higher education now a days than man. Regarding religion, Islam found more (94.9%) and rest are other religions. This is consistent with our national context. Regarding level of income among the respondents more found (34.7%) at income group less than 30000 taka/month. Some has (24.5%) 30000-40000 taka/month & same (24.5%) has 40000- 50000 taka/month. Few has (16.3%) more than 50000 taka/month. The study showed they came with middle class and can afford to buy a smart phone. They got interested attractive package of buy a smart phone. Regarding using of money for internet majority were

(62.2%) less than 300 taka/month. A few were (3.1%) more than 1000taka/month. Other study shows 40% of the respondent spent 200- 500 rupees monthly for internet use on their smart phone.²⁴ Regarding most common gadgets 98% respondent were smart phone. Similarity in the study conducted by Aggrawal sumit et al (2015) among the medical college Akola, 97.02% Respondent were using internet on their mobile phones.²⁶ and another study 98.1% Respondent were using internet on their smart phone.²⁴ Due to parents giving more attention to their children. May be to their accessibility and affordability. Regarding online status of the respondent (60.2%) were in frequent while 26.5% were said that they were always online at any point of time of the day. Other study shows that 54.8% said that they were occasionally online, while 35.1% were always online at any point of time of the day²⁷. Parents were more responsible to their children in all aspect. Whereas other country was occasionally because they were more practical than our country as they continued their study by their own cost. By doing job to spent money to continue their study. Regarding most common purpose of using internet in current study 49% Respondent mentioned social networking (FB) about 17.3% have mentioned academic content 31.6% social media (watching online movies and songs) .other study shows that 65.2% Respondent mentioned social networking about 19.5% have mentioned academic content 8.3% were social media(watching online movies and songs)²⁴.May be the reason for spending more time on social network websites due to high speed internet on mobile phone. Regarding duration of internet use (38.8%) were 3-5 years. Other study shows that 42% were 3-6 years of internet used²⁷. Which is similar to my study.

Young's internet addiction scale

In our study according to young's internet addiction scale, 65.26% as average users, 21.42% as possible addicts, and 12.24% of medical students internet usage was less than average user. They are normal. Other study shows that 59.1% as average users, 17.1% as possible addicts, 0.3% as addicts and in 23.5% of medical students internet usage was less than average user. In the study of srijampna et al 23.2% Respondent were less than average online users, 64.4% were average online users, 11.8% were possible addicts, and 0.4% of medical students were addicts²⁸. Similar findings were observed in this study .

Conclusion

Although some participant used smart phone for academic

literature search, majority of them used it for social networking. Availability of high speed internet on mobile phones may be the reason for spending more time on social network websites. Smart phone addiction is a growing public health problem across the world particularly in developing countries like our countries where youth population is high.

Recommendation

Internet using is a common behavior to mankind. Without it life thing may be difficult to pass on. But irrational using & misusing by young causing tremendous affects on physical and mental health . So some regulation should be put on it for the users.

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Age Related Changes of Thickness of Endometrium of Body and Cervix of Bangladeshi Women

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Abstract

Back ground: Uterus is a major female reproductive organ. Prevalence of uterine diseases like congenital anomalies, endometriosis, endometrial carcinoma etc is rising day by day. Therefore we should have the knowledge regarding uterus of our population. **Objective:** The aim of this study was to measure the thickness of the endometrium of the body and the cervix of the uterus in mm in different age group. **Methods:** Cross sectional Descriptive type of study was done in Sir sallimullah medical college and Dhaka Medical College from July 2009 to December 2010. The study was performed on 60 postmortem uterus of Bangladeshi women in different age groups. Samples were divided in to three different age groups such as the group A or Reproductive Group (12- 44years), Group B or perimenopausal group (45- 50 years) and Group C or post-menopausal group (51- 70 years). **Results:** Staisticaally significant differences were present in the thickness of endometrium of body of the uterus and cervix of different age group. **Conclusion:** There were changes on thickness of endometrium of the body and cervix of the uterus in relation to age. Age related changes were marked in both charecters.

Key wards: Endometrium, Cervix

Introduction

The uterus is the major female hormone responsive reproductive organ¹ which is muscular in nature, lining of which undergoes monthly periodic changes, named as menstrual cycle, in preparation of reception of a fertilized ovum². The embryo and fetus develop in the uterus, its muscular walls adapting to the growth of the fetus and then providing the power for its expulsion during childbirth³. It is inverted pear shaped, tapering inferiorly to the cervix. In the non-pregnant state, it is situated entirely within the lesser pelvis⁴ between the urinary bladder and rectum⁵. The uterus

receives the rapidly developing morula from uterine tube⁶. The uterus is divided into three regions-fundus, body and cervix⁷. The body of the uterus forms the upper two third and cervix forms the lower third. The wall of the uterus consists of three layers. From inside to outwards endometrium, middle myometrium and external perimetrium. The endometrium under goes cyclic changes with the phases of menstrual cycle and is profoundly modified in pregnancy⁸. The inner coat of the uterine wall is the mucous membrane or endometrium. It consists of an epithelium and lamina propria containing simple tubular gland, which open into the uterine lumen. The epithelium of endometrial surface is lined by ciliated and secretory simple columnar cell. The connective tissue of the lamina propria houses the simple branched tubular glands and the glands may be coiled⁹. Abnormal uterine bleeding is a common problem of all gynecological consultations in the menopausal years¹⁰. The main aim of investigating these women was to rule out endometrial cancer and its precursor lesion and endometrial hyperplasia. The probability of endometrial cancer in women presenting with postmenopausal bleeding is 10% and approximately 15% for endometrial hyperplasia. The prevalence of benign intrauterine structural pathology (example, endometrial polyps) found in association with bleeding was 25%¹¹. For many years, diagnostic curettage has been the method of

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choice to diagnose endometrial abnormalities¹². Endometrial carcinoma is one of the most common gynecological cancers diagnosed in United States. Approximately 37,000 new invasive cancer of the body of the uterus is diagnosed annually¹³. Average age of women is 55 to 65 years in endometrial carcinoma. In premenopausal women, the incidence of endometrial carcinoma is 5 times lower than the incidence of cervical cancer. But after 70 years of age, endometrial carcinoma appears frequently¹⁴. This occurs in women in the 6th and 7th decades of life at an average age of 60 years; 75% of cases occur in women older than 50 years of age¹⁵.

Considering the above mentioned clinical importance of uterus the thickness of endometrium of uterus in relation to age may lead to provide valuable data which may help the people concerned in both the medical and surgical treatment of uterine disorders.

Variable studied

Thickness of the endometrium of the body and cervix of uterus

Material and methods

Cross sectional Descriptive type of study was done in Sir sallimullah medical college and Dhaka Medical College from July 2009 to December 2010. The sample size was 60. The samples were collected from unclaimed dead bodies autopsied on different dates in the Department of Forensic Medicine of Sir Salimullah Medical College (SSMC) and Dhaka Medical College (DMC). Samples were collected from the dead bodies within 12 to 36 hours of death, discarding the sample showing considerable signs of putrefaction. During collection, appropriate age and the cause of death were noted from record book. After removal from the dead body, the uterus was kept in formalin and brought to Anatomy department of SSMC. Then they were washed gently and thoroughly with running tap water to remove blood and blood clots as far as possible.

Each sample was tagged properly bearing an identification number and the age of the cadaver. The sample was preserved in 10% formol saline solution for fixation and preservation. The formalin fixed sample was washed with the running tap water. The tissue from the upper part of the body of the uterus was chosen for block. Lower part of the cervix is the least muscular part as described by Rorie and Newton, 1967. So for cervix, upper part of the structure was chosen for block.

Grouping of samples

Table1: Age distribution in different study groups

Study group	Age range (in years)	No. of samples (n = 60)
A	12-44	39
B	45-50	11
C	51-70	10

Estimation of thickness of endometrium of body and cervix of uterus

Two slides were prepared from each sample (one from the body and one from the cervix). Thus a total of $6 \times 2 = 12$ histological slides were made from each group. Finally $12 \times 3 = 36$ slides were prepared for the whole study.

Preparation of the slides

Tissue blocks were fixed in Carnoy's fluid in a plastic container. The tissues were washed in running tap water, dehydration was done with ascending grades of alcohol, cleared with xylene, infiltrated and embedded in paraffin. Paraffin blocks were cut at $5\mu\text{m}$ thickness and stained with Mallory–Heidenhains aniline blue (Mallory-Azan) stain.

For studying these variables, the tissue sections were divided into three equal parts by drawing vertical lines with fine marker pen on the cover slip at right angle to the long axis of the section. Thickness of the endometrium was measured at the midpoint of the three divisions by ocular micrometer. Mean of these three readings were calculated.

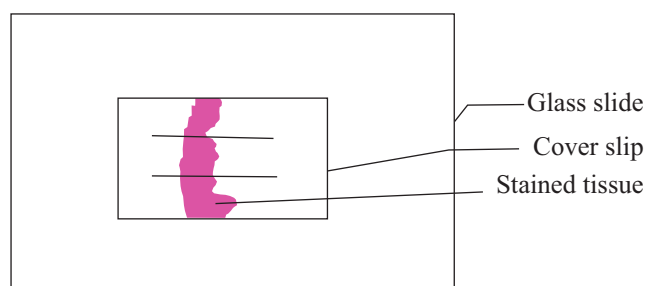


Fig 1: Showing the equal division of the endometrium where the ocular micrometer was superimposed

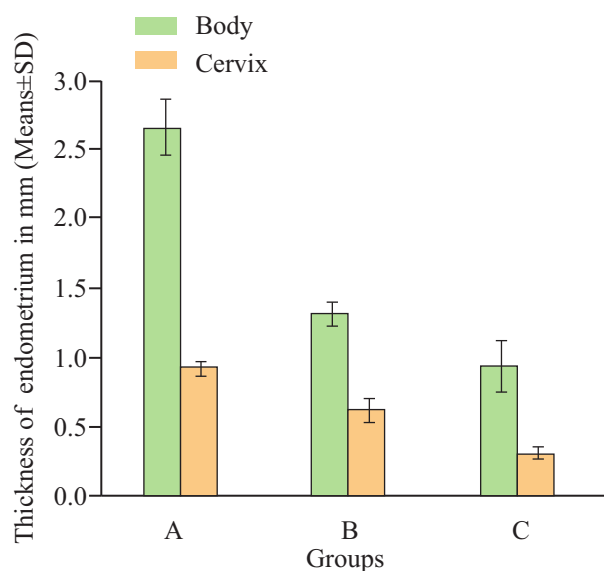
Result

Table 2: Thickness of endometrium of body and cervix of uterus in different age groups

Groups	n	Thickness of endometrium (mm)	
		Body Mean±SD	Cervix Mean±SD
A	6	2.659±0.203 (2.500-2.918)	0.9212±0.0504 (0.8240-0.9610)
B	6	1.321±0.086 (1.167-1.406)	0.6381±0.0831 (0.5237-0.7620)
C	6	0.957±0.182 (0.824-1.236)	0.3377±0.0397 (0.3060-0.4120)

Groups	P value	P value
A vs B	<0.001***	<0.001***
A vs C	<0.001***	<0.001***
B vs C	<0.01**	<0.001***

Fig 2: Thickness of endometrium of body and cervix of uterus in different age groups



Body

The mean thickness of the endometrium of the body was 2.659 ± 0.203 mm in group A (12 - 44 years), 1.321 ± 0.086 mm in group B (45 - 50 years) and 0.957 ± 0.182 mm in group C (51 - 70 years). The differences of the thickness of the

endometrium of the body of the uterus was highly significant ($P < 0.001$) between A vs B, A vs C and significant ($P < 0.01$) between B vs C.

Cervix

The mean thickness of the endometrium of the cervix was 0.9212 ± 0.0504 mm in group A (12 - 44 years), 0.6381 ± 0.0831 mm in group B (45 - 50 years) and 0.3377 ± 0.0397 mm in group C (51 - 70 years) The differences of the thickness of the endometrium of the cervix of the uterus was highly significant ($P < 0.001$), when compared between A vs B, A vs C and B vs C. (Table 2 & Figure 1)

Discussion

In case of thickness of the endometrium in body of uterus we found in present study that the highest mean thickness of the endometrium of the body of the uterus was 2.659 ± 0.203 mm in group A and the lowest was 0.957 ± 0.182 mm in group C. The value of the present study was similar with Ind⁵, Gartner¹⁷ 2001, Keele¹⁸ and Ham¹⁹. The value obtained in this study was lower than that was stated by Anita²⁰ and Hempstock²¹. Sonographic measurements might be the cause of different values. The finding of the present study was lower than that was found in the descriptions of Ara²², Levy²³, Ross⁷, Janqureira & Carneiro⁶, Vellacot⁴, Leonhardt²⁴ and Arey²⁵. These variations might be due to the differences in the methods of collection, fixation, staining and magnification. In case of thickness of the endometrium in Cervix of uterus we found in present study that the mean thickness of the endometrium of the cervix was 0.9212 ± 0.0504 mm in group A (12 - 44 years), 0.6381 ± 0.0831 mm in group B (45 - 50 years) and 0.3377 ± 0.0397 mm in group C (51 - 70 years) The differences of the thickness of the endometrium of the cervix of the uterus was highly significant ($P < 0.001$), when compared between A vs B, A vs C and B vs C. Ind⁵, Bloom and Fawcett²⁶ reported that the thickness of the endometrium of the cervix was 3 mm, which was lower than the present study. Fixation and staining might be the cause of the lower value.

Conclusion

There were changes on thickness of endometrium of the body and cervix of the uterus in relation to age. Age related changes were marked in both characters.

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Knowledge, Awareness and Preventive Practice Regarding Dengue among the Military Recruits of Bangladesh Army

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Abstract

Background: Dengue is a mosquito-borne viral infection causing a severe flu-like illness and sometimes causing a potentially lethal complication called severe dengue. Approximately, half of the world's population is at risk and it affects infants, young children and adults. Bangladesh is one of the countries that are affected by dengue viruses. Since outbreak, Bangladesh Army has taken extensive efforts to contain this epidemic situation through provision of knowledge, awareness and ensure practices to all classes of personnel including recruits. **Objectives:** In this context the aim of this study was to explore the knowledge, awareness and preventive practice regarding dengue among military recruits of Bangladesh Army. **Methods:** A cross-sectional descriptive study was conducted amongst the military recruits undergoing training in various formation training centres at Cumilla cantonment. Responses of self-administered structured questionnaire covering aspects of knowledge, awareness and practices toward the dengue were obtained from 175 recruits during health screening campaign. **Results:** Majority 171 (97.7%) of the recruits believed that a person with dengue may develop typical symptoms like fever for 3-5 days, headache 164(93.7%), joint pain 132(75.4%), muscle pain 129(73.7%), and rashes in skin 87(49.7%). As many as 89 (50.9%) of the recruits knew that dengue is caused by a virus and 128 (73.1%) and 133 (76%) respectively believed that this disease is transmitted by female Aedes mosquito bite. Only 87 (49.7%) could answer rightly that Aedes mosquitoes lay eggs in clean stagnant water. Regarding biting time of Aedes mosquitoes 87 (49.7%) believed that they usually bite at sunrise, while 110 (69%), 100(57.1%) and 119 (69%) opined that their biting time is either at sunset or at noon or at night respectively. Maximum recruits opined that insecticides spray 139 (79.4%), mosquito coils 148 (84.65), netting doors and windows 134 (76.6%), wearing full sleeves shirts and pants 128 (73.1%), using mosquito net 150 (85.7%) and putting patients within mosquito nets 132 (75.4%) are effective to contain dengue while 104 (59.4%) believed there is no effective vaccine against dengue. **Conclusion:** Though the educational and socio-demographic status of the recruits are secondary and higher secondary level and almost all of them are from urban background; yet their acquired knowledge and experiences seems to be quite satisfactory. Still they have misconception in few aspects about dengue spread and management. More emphasis must be given to educational campaigns for mosquito control practice among them.

Key words: DENV-1, DENV-2, DENV-3, DENV-4- Dengue virus-1,2,3 &4; DGHS- Directorate General of Health Services; Knowledge, Awareness, Practices, Aedes aegypti, Military recruits, Formation Training Centre.

Introduction

Dengue is a viral infection caused by four types of viruses (DENV-1, DENV-2, DENV-3, DENV-4) belonging to the Flaviviridae family. The viruses are transmitted through the bite of infected Aedes aegypti and Aedes albopictus female

mosquitoes that feed both indoors and outdoors during the daytime (from dawn to dusk). These mosquitoes thrive in areas with standing water, including puddles, water tanks, containers and old tyres. Lack of reliable sanitation and regular garbage collection also contribute to the spread of the mosquitoes¹. Dengue is one of the most important emerging viral diseases of major public health concern in Bangladesh. Dengue was first reported as “Dacca fever” in Bangladesh in 1964 by Aziz and his colleagues². Subsequent reports suggested that dengue fever may have been occurring sporadically in Bangladesh from 1964 to 1999². Dengue cases have been confirmed in Bangladesh. Dhaka is the Centre of the outbreak, but cases have been reported from

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across the country. Risk is present throughout Bangladesh and year-round with peak transmission during the monsoon season, from June to September. The 2019 dengue outbreak in Bangladesh is a nationwide occurrence of dengue fever in Bangladesh that began primarily on April 2019¹. The dengue is characterized by flu-like symptoms which include a sudden high fever coming in separate waves, pain behind the eyes, muscle, joint, and bone pain, severe headache, and a skin rash with red spots. Treatment includes supportive care of symptoms. There is no antiviral treatment available¹. As there is no vaccine against dengue virus and the only mean to prevent disease is through vector control of the Aedes mosquito and personal protection measures³. Knowledge regarding Aedes mosquito breeding sites and larval habitats is vital for effective vector control that uses various methods including spraying of breeding sites with insecticide and removal of the breeding sites⁴. Personal protection against mosquito bites usually include protective clothing, use of repellents, and sleeping under insecticide-treated bed nets⁵. The very fewer number of dengue cases in Bangladesh Army proves that vector control and dengue prevention programs are the most effective³. Dengue has a significant burden in the armed forces of the affected countries and can be responsible for the incapacitation of a large number of troops. During the dengue epidemic in Bangladesh the attack rates in Armed forces were insignificant due to extensive protective, preventive measures and continuous awareness program. In this context this study was conducted to explore knowledge, awareness and preventive practice regarding dengue among military recruits of Bangladesh Army.

Methods

This cross-sectional descriptive study was conducted among the Bangladesh Army recruits who were undergoing recruit training in various formation training centers in Cumilla Cantonment. The data were collected in the month of September 2019 when the epidemic was declining. Convenience sampling was used to draw the sample for this study. A total of 175 Army recruits, undergoing recruit training were included in this study as sample. The structured, pre-tested questionnaire both in Bengali and English were developed from the literature with few necessary modification^{6,7,8}. The questionnaire consisted of six parts. The first part included questions regarding socio-demographic states. The second part consists of knowledge of dengue symptoms, the 3rd part about treatment, 4th part

about routes of transmission, common Aedes mosquito breeding sites, 5th part regarding personal protective measures while 6th part on vector and dengue control measures. The response options included “yes” or “no.”. The questionnaires were handed over at the site personally and collected on the spot once the participants have completed those individually and anonymously. All the variables were coded, labeled, and analyzed descriptively using the Statistical Package for Social Sciences, version 22. Frequencies and percentages were used for analyzing demographic data and responses related to knowledge, attitude, and practices toward dengue.

Results

Table 1: Socio-demographic characteristics of the recruits (n=175)

Variable	Event	n(%)
Education status of the recruit	SSC	44 (25.1)
	HSC	131 (74.9)
Department of education	Science	39 (22.3%)
	Arts	81(46.3%)
	Commerce	28(16.0%)
	Technical/Vocational	22(12.6%)
	Madrasha	5(2.9%)
Grading in SSC or Equivalent	A+	-
	A	28 (16.0)
	A-	11(6.3)
	B	4 (2.3)
	Total	43 (24.6)
Grading in HSC or equivalent	A+	4 (2.3)
	A	36 (20.6)
	A-	23 (13.1)
	B	44 (25.1)
	C	25 (14.3)
Place of birth	Rural	175 (100)
	Urban	-
Occupation of father	Private service	2 (1.1)
	Farmer	135 (77.1)
	Business	18 (10.3)
	Others	20 (11.4)
Total		43(24.6)

Figure- 1: Knowledge on Dengue symptoms (n=175)
(Multiple response)

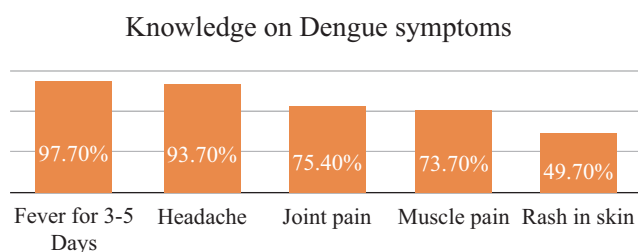


Table 2: Responses on knowledge of dengue symptoms (n=175)(Multiple response)

Events	Yes n(%)	No n(%)
Fever for 3-5 days	171 (97.7)	4 (2.3)
Headache	164 (93.7)	11 6.3
Joint pain	132 (75.4)	43 (24.6)
Muscle pain	129 (73.7)	46 (26.3)
Rash in skin	87 (49.7)	88 (50.3)
Pain in abdomen	74 (42.3)	101(57.7)
Heart attack	15 (8.0)	160 (92.0)

Table 3: Responses on knowledge of dengue treatment (n=175)(Multiple response)

Events	Yes n(%)	No n(%)
Antibiotic	83 (47.4)	92 (52.6)
Anti-malarial drugs	92 (52.6)	83(47.4)
Pain killer	47 (26.9)	128 (73.1)
Homeopathic/ Ayurved treatment	24 (13.7)	151 (86.3)
Infusion of fluid	121 (69.1)	54 (30.9)
Transfusion of blood to all cases	34 (19.4)	141(80.6)
Platelets transfusion	93 (53.1)	82 (46.9)

Table 4: Responses on knowledge of causes, vector characteristics and transmission of dengue (n=175) (Multiple response)

Events	Yes n(%)	No n(%)
Bacterial disease	57 (32.6)	118 (67.4)
Viral disease	86 (49.1)	89 (50.9)
Prevalent in tropical countries	109 (62.3)	66 (37.7)

All types of mosquitoes spread dengue	29 (16.6)	146(83.4)
Ades mosquito spreads dengue	128 (73.1)	47 (26.9)
Male Ades mosquito spreads dengue	94 (53.7)	81 (46.3)
Female Ades mosquito spreads dengue	133 (76.0)	42 (24.0)
Ades mosquito bites during sunrise	87(49.7)	88 (50.3)
Ades mosquito bites during sunset	110 (62.9)	65 (37.1)
Ades mosquito bites at noon	100 (57.1)	75 (42.9)
Ades mosquito bites at night	119 (69.0)	56 (32.0)
Ades mosquito lays eggs in clean stagnant water	87 (49.7)	88 (50.3)
Ades mosquito lays eggs in dirty stagnant water	148 (84.6)	27 (15.4)
Ades mosquito lays eggs in clean running water	41 (23.4)	134 (76.6)
Ades mosquito lays eggs in dirty running water	106 (60.6)	69 (39.4)
Ades mosquito lays eggs in garbage	104 (59.4)	71 (40.6)
Dengue held through drinking dirty water	25 (14.3)	150 (85.7)
Dengue held through unhealthy food	27 (15.4)	148 (84.6)
Dengue held through human to human	54(30.9)	121(69.1)
Dengue held through sex	22 (12.6)	153 (87.4)

Figure 2- Knowledge on causes, vector characteristics and transmission of dengue (n=175)(Multiple response)



Table 5: Responses on knowledge of dengue preventive measures (n=175)(Multiple response)

Events	Yes n(%)	No n(%)
Dengue can be prevented by insecticides spray	139 (79.4)	36 (20.6)
Dengue can be prevented by mosquito coils	148 (84.6)	27 (15.4)
Dengue can be prevented by netting doors and windows	134 (76.6)	41 (23.4)
Dengue can be prevented by repellent oils/creams	136 (77.7)	39 (22.3)
Dengue can be prevented by wearing full shirts/pants	128 (73.1)	47 (26.9)
Dengue can be prevented through vaccine	71 (40.6)	104 (59.4)
Dengue can be prevented by using mosquito net	150 (85.7)	25 (14.3)
Dengue can be prevented by putting patients within mosquito nets	132 (75.4)	43 (24.6)

Table 6: Responses on knowledge of mosquito control measures (n=175)(Multiple response)

Events	Yes n(%)	No n(%)
Mosquito can be controlled by cleaning garbage	165 (94.3)	10 (5.7)
Mosquito can be controlled by cleaning stagnant water	163 (93.1)	12 (6.9)
Mosquito can be controlled by covering water pots	147 (84.0)	28 (16.0)
Mosquito can be controlled by cleaning water reservoir	144 (82.3)	31 (17.7)
Mosquito can be controlled by cleaning Jungle/bushes	165 (94.3)	10 (5.7)
Mosquito can be controlled by fogging	141 (80.6)	34 (19.4)
Mosquito can be controlled by using electric bats	140 (80.0)	35 (20.0)
Mosquito can be controlled by using electric fan	139 (79.4)	36 (20.6)
Mosquito can be controlled by spreading smoke	156 (89.1)	19 (10.9)

Socio-demographic characteristics

Table- 1 describes the socio-demographic details of the study population. Amongst the recruits all were from rural background, majority 131 were HSC and 44 (25.1%) were SSC qualified. Maximum 81 (46.3%) from Arts followed by 39 (22.3%) from science 28 (16%) from commerce and 22 (12.6%) from technical/vocational background among others. Regarding their other occupation majority 135 (77.1%) were farmer, 18 (10.3%) were small businessmen among others.

Knowledge on Dengue symptoms and treatment

Majority 171 (97.7%) of the recruit opined that a person with dengue may develop typical symptoms like fever for 3-5 days, headache 164(93.7%), joint pain 132(75.4%), muscle pain 129(73.7%), and rashes in skin 87 (49.7%) (Table-2). Large proportion 121 (69.1%) and 93 (53.1%) believed that infusion of fluid and plate lets transfusion respectively are effective against dengue while 83 (47.4%) and 92 (52.6%) respectively believed antibiotics and anti-pyretic are useful. As many as 128 (73.1%) and 151 (86.3%) opined that pain killer and homeopathic are not suitable for treatment of dengue respectively (Table-3).

Knowledge of causes, vector characteristics and transmission of dengue

Recruits have limited knowledge on causes, vector characteristics and mode of transmission. As many as 89 (50.9%) of the recruits knew that dengue is caused by a virus and 146 (83.4%) knew that it is not transmitted by all types of mosquitoes rather 128 (73.1%) and 133 (76%) respectively believed that this disease is transmitted by Aedes and female Aedes mosquito bite. Regarding biting time of Aedes mosquitoes 87 (49.7%) believed that they usually bite at sunrise, while 110 (69%), 100(57.1%), and 119 (69%) opined that their biting time is either at sunset or at noon or at night respectively. Only 87 (49.7%) could answer rightly that Aedes mosquitoes lay eggs in clean stagnant water while 148 (54.6%) believed that they lay eggs in dirty stagnant water, 106 (60.6%) in dirty running water and 104 (59.4%) at garbage; on the other hand, 134 (76.6%) in favor not lay eggs in clean running water. About mechanical transmission the respondents could reply righteously 150 (85.7%) opined that dengue doesn't transmit through drinking dirty water 148 (84.6%), 121(69.1%) and 153 (87.4%) reported that dengue never transmits either through unhealthy food consumption or human to human or through sex (Table-4).

The recruits perceived commendable knowledge regarding preventive and personal protective measures against dengue. They opined that insecticides spray 139 (79.4%), mosquito coils 148 (84.65), netting doors and windows 134 (76.6%), wearing full sleeves shirts and pants 128 (73.1%), using mosquito net 150 (85.7%) and putting patients within mosquito nets 132 (75.4%) are effective to contain dengue while 104 (59.4%) believe there is no effective vaccine against dengue (Table-5).

Knowledge on control measures of mosquitoes

The recruits possess very high level of knowledge about control measures of mosquitoes. Majority put opinion that mosquitoes can be effectively controlled by cleaning garbage 165 (94.3%), cleaning stagnant water 163 (93.1%), covering water pots 147 (82.3%), cleaning water reservoir 144 (82.3%), cleaning jungle/bushes 165 (94.3%), fogging 141(80.6%), using electric bats 140 (80%) and electric fan 139 (79.4%) (Table-6).

Discussion

The findings of this study demonstrated that recruits were knowledgeable of the symptoms of dengue. This study depicted that, majority 171 (97.7%) of the recruits answered that a person with dengue may develop typical symptoms like fever for 3-5 days, headache 164 (93.7%), joint pain 132 (75.4%), muscle pain 129 (73.7%), and rashes in skin 87(49.7%); while the study in Malaysia among military cadets revealed almost similar results e.g. most of the respondents answered that a person with dengue may develop typical symptoms like fever for 3-5 days (95.1%), headache (92.3%), joint pain (91.8%), muscle pain (72.7%), and rashes (75.4%)⁹. In this study the recruits were having satisfactory knowledge about the treatment of dengue. Large proportion 121 (69.1%) and 93 (53.1%) believed that infusion of fluid and platelets transfusion respectively are effective against dengue while 83 (47.4%) and 92 (52.6%) respectively believed antibiotics and anti-pyretic are useful. The study among military cadets in Malaysia revealed that maximum cadets believe that dengue can be treated with antibiotics and antimalarial drugs⁹. In contrast, the study among university students in Pakistan found that only 20.6% of them believed that antibiotics are used against dengue¹⁰. Recruits were found to have limited knowledge on causes, vector characteristics and mode of transmission. As many as 89 (50.9%) of the recruits knew that dengue is caused by a virus and 146 (83.4%) knew that it is not transmitted by all types of mosquitoes rather 128 (73.1%) and 133 (76%)

respectively believed that this disease is transmitted by Aedes and female aedes mosquito bite. Regarding biting time of aedes mosquitoes 87 (49.7%) believed that they usually bite at sunrise, while 110 (69%), 100(57.1%), and 119 (69%) opined that their biting time is either at sunset or at noon or at night respectively. Only 87(49.7%) could answer rightly that aedes mosquitoes lay eggs in clean stagnant water while 148 (54.6%) believed that they lay eggs in dirty stagnant water, 106 (60.6%) in dirty running water and 104 (59.4%) in garbage; on the other hand, 134 (76.6%) in favor not lay eggs in clean running water. Similar study among military cadets in Malaysia depicted that the majority of the cadets knew that dengue is caused by a virus (85.5%) and transmitted by Aedes mosquito bite (97.8%). Most of them knew the information that the mosquito usually bites either at sunset (92.3%) or at sunrise (68.9%)⁹. In Nepal, similar study among community people revealed that few participants (16%) knew that not all mosquitoes can transmit DENV and 19% knew that certain Aedes mosquitoes transmit DENV¹¹. The recruits perceived commendable knowledge regarding preventive and personal protective measures against dengue in this study. They opined that insecticides spray 139 (79.4%), mosquito coils 148 (84.65), netting doors and windows 134 (76.6%), wearing full sleeve shirts and pants 128 (73.1%), using mosquito net 150 (85.7%) and putting patients within mosquito nets 132 (75.4%) are effective to contain dengue while 104 (59.4%) believed there is no effective vaccine against dengue. In a study among community people on preventive measures against dengue fever in Nepal, they found that the measures to reduce mosquito-man contact that were most commonly used by the majority of participants were: covering water containers in the home (95%), cutting down bushes in the yard (94%), eliminating standing water around the house (95%), disposing of water holding containers such as tyres, parts of automobiles, plastic bottles, cracked pots, etc. (91%), preventing any stagnant water (90%), cleaning out garbage/trash (92%), using window screens to keep mosquitoes out of the house (81%), using insecticide sprays (80%), turning containers upside down to avoid water collection (90%) and using mosquito coils (69%)¹¹. In our study, it is revealed that the recruits possessed very high level of knowledge about control measures of mosquitoes. Majority put opinion that mosquitoes can be effectively controlled by cleaning garbage 165 (94.3%), cleaning stagnant water 163 (93.1%), covering water pots 147 (82.3%), cleaning water reservoir 144 (82.3%), cleaning

jungle/bushes 165 (94.3%), fogging 141(80.6%), using electric bats 140 (80%) and electric fan 139 (79.4%). The military cadets in a study in Malaysia opined that elimination of stagnant water around the house (61.7%), covering water containers (59.0%), wearing protective clothes (65, 35.5%), cutting trees/vegetation around the house (65, 35.5%), using mosquito coils/liquids/vaporizers (62, 33.9%), electric fan (59, 32.2%), mosquito bed net (50, 27.2%), insecticide spray (44, 24.0%), and use of window/doors screen (42, 23.0%) are effective control measures against mosquitoes⁹.

This Cross-sectional descriptive study was conducted among the military recruits of Bangladesh, so the results may not be generalized. Nevertheless, findings from this study provide useful inputs as it is the first analysis on dengue behavior conducted among military recruits in Bangladesh. Further research would benefit from adopting more detailed research and analysis.

Conclusion

The educational and socio-demographic status of the recruits in this study are secondary and higher secondary level and almost all of them are from rural background; moreover, they are not sufficiently motivated to translate good knowledge and attitudes into improved practice. Yet their acquired knowledge and experiences seem to be quite satisfactory along with misconception in few aspects of dengue spread and management regard. More emphasis must be given to educational campaigns for mosquito control practice among them. This study findings provide an appropriate format to evaluate existing problems and develop effective strategies for health behavioral change regarding this communicable disease.

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Knowledge, Awareness and Practice of Complementary Feeding Among Mothers in Some Selected Villages of Cumilla

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Abstract

Background: Improving infant and young child feeding practices plays critical role in health and development of children and impact child survival. Complementary feeding is the introduction of semisolid or solid food in infant who is on breast feeding, when mother's milk is no longer enough to meet the nutritional needs. **Objectives:** Aim of the study was to assess the knowledge, attitude and practices regarding complementary feeding among mothers. **Methods:** This cross-sectional study was conducted among 317 mothers with children between 6 to 24 months of age using a self-administered questionnaire in some selected villages in Chandina, Cumilla from November, 2017 to April, 2018. **Results:** The results of present study showed that the mothers had efficient knowledge about complementary feeding (93.06%), most of them got information from health workers (31.53%) and told about rice as complementary food (18%). Around ninety percent mothers continued breast milk together with complementary feeding and more than fifty percent gave rice for 3 times as complementary food. More than eighty percent respondents used 250 ml/Small bowl for feeding and around ninety percent mothers gave 250 ml /Small bowl food as complementary food. In concern to breast feeding, around eighty percent respondents continued breast feeding till now and more than seventy percent told it would be continued up to 2 years while rest of the respondent stopped breast feeding due to unavailability of breast milk. **Conclusion:** The knowledge, attitude and practices of mothers regarding complementary feeding is defective. Therefore, there is a need to educate mothers to ensure better growth and development of our children and to prevent malnutrition.

Keywords: Complementary feeding,

Introduction

The complementary feeding period from 6 to 24 months is a major part of the first 1,000 days of life. The complementary feeding period provides a window of opportunity for preventing malnutrition, including stunting, wasting,

overweight, and obesity. Furthermore, it has been estimated that about 100,000 deaths in children younger than 5 years due to under nutrition could be saved each year if complementary feeding was appropriate. The 6–24 months of age window is also very important for longterm health. Inappropriate feeding can affect growth, organ development, and metabolism, which can have longterm programming effects on development and health¹. Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The transition from exclusive breastfeeding to family foods referred to as complementary feeding, typically covers the period from 6 - 24 months of age, even though breastfeeding may continue to two years of age and beyond. This is a critical period of growth during which nutrient deficiencies and illnesses contribute globally to higher rates of under nutrition among children under five years of age.² It should be adequate, meaning that the complementary foods should be given in amounts, frequency, consistency and using a variety of foods to cover the

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nutritional needs of the growing child while maintaining breastfeeding. Foods should be prepared and given in a safe manner, meaning that measures are taken to minimize the risk of contamination with pathogens. And they should be given in a way that is appropriate, meaning that foods are of appropriate texture for the age of the child and applying responsive feeding following the principles of psycho-social care. WHO recommends that infants start receiving complementary foods at 6 months of age in addition to breast milk, initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and 12-24 months with additional nutritious snacks offered 1-2 times per day, as desired.³ If complementary foods are not introduced around the age of 6 months, or if they are given inappropriately, an infant's growth may falter.⁴ Malnutrition is estimated to be an 'underlying cause' of about 60% of childhood deaths in Bangladesh. This attribution as an 'underlying cause' hides the observation that, if malnutrition had been corrected, the child would not have died. In developing countries, weight gain of children commonly falters between 3 and 15 months of age. From 15 months onward, no further deterioration has been observed. One of the primary explanations for poor growth of the child during this period is an insufficient or inappropriate dietary intake. To meet their physiological requirements, infants aged above six months require high-quality complementary foods in addition to breast milk. In 1998, the WHO and UNICEF jointly published a document which defines complementary feeding as giving additional food when breast milk foods or nutritive liquids that are given to young children during this period are defined as complementary foods. After six months, insufficient food is given from the standpoint of energy, protein, and micronutrients. Furthermore, the most common feeding behaviour is not optimal for intake by the infant. Complementary feeding generally starts too early or too late, and foods that are offered are often inappropriate.⁵ It is well recognized that the period from birth to two years of age is the "critical window" for the promotion of optimal growth, health, and development. Insufficient quantities and inadequate quality of complementary foods, poor child-feeding practices and high rates of infections have a detrimental impact on health and growth in these important years. An estimated six per cent or six hundred thousand under-five deaths can be prevented by ensuring optimal complementary feeding. Improved feeding of children less than two years of age is particularly important because they experience rapid growth and development, are vulnerable to

illness and there is evidence that feeding practices are poor in most developing countries. Continued breastfeeding beyond six months should be accompanied by consumption of nutritionally adequate, safe and appropriate complementary foods that help to meet nutritional requirements when breast milk is no longer sufficient. Inappropriate complementary feeding practices lead to development of many cases of diarrhea, severe acute respiratory infections, septicemia, oral thrush, allergic disorders which ultimately lead the children to high risk of morbidity and mortality.⁶ UNICEF (2004) estimates that 48% of children under 5 years of age living in Bangladesh are malnourished. Many other countries in South Asia, Sub-Saharan Africa and Latin America grapple with a similar problem of malnutrition, which has long term effects on physical and mental health. Children are particularly vulnerable from the age of 6 months, when they begin to require foods additional to breast milk.⁷ 5.6 million children under age five died in 2016, 15 000 every day.⁸ The best way to help a baby's digestive system to get used to solid foods is by introducing the foods gradually and one new food at a time so that if the infant has had any allergy, it can be stopped easily. Starting new foods is a critical step for the baby and it usually takes some time for infants to get used to this new way of eating. It is important to note that good complementary foods should be rich in energy, protein and micronutrients (especially iron, zinc, calcium, vitamin A, vitamin C and folate) and should be clean and safe (free from pathogens, chemicals, toxins, bones or hard bits) to ensure the proper growth and development of the child.⁹

Methodology

It was a descriptive type of cross sectional study which was conducted from November, 2017 to April, 2018. The study was carried out in some selected villages in Chandina, Cumilla. Study population were mothers with children between 6 to 24 months of age. Purposive sampling was done. Sample size was 317. The number was identified on the basis of assumption. Pretested questionnaire was used for data collection which includes information regards to complementary feeding. After introductory conversation and obtaining consent from the respondent the relevant data were collected by face to face interview using close and open ended questionnaire. Data were recorded in the questionnaires. All filled up data were verified for its consistency. The data were then compiled and tabulated manually according to key variable in master sheet. Then finally data were analyzed in computer.

Results

Table 1: Socio-demographic characteristics of the respondents (n=317)

Characteristics	Group	Number	%
Age (years)	≤ 18	31	9.77
	19-23	130	41.01
	24-28	95	29.96
	29-33	43	13.56
	34-38	16	5.05
	≥ 39	2	0.63
Child by age (months)	6-8	66	20.82
	9-11	46	14.51
	12-23	204	64.36
	Others	1	0.32
Gender	Male		48.58
	Female		51.42
Educational qualifications	Illiterate	4	1.26
	Non-institutional		
	Education	16	5.05
	Class I-V	52	16.40
	Class VI-X	152	47.95
	SSC/Equivalent	49	15.46
	HSC/Equivalent	29	9.15
Occupation (Father)	Graduate/Equivalent	11	3.47
	Post Graduate/Equivalent	4	1.26
	Working Abroad	77	24.29
	Farmer	48	15.14
Occupation (Mother)	Service holder	51	16.09
	Business	58	18.29
	Others	83	26.18
	Housewife	308	97.16
Family members	Farmer	3	0.95
	Service holder	3	0.95
	Business	3	0.95
Types of family	2-4 person	98	30.91
	5-7 person	156	49.21
	More than 8 person	63	19.87
Types of family	Nuclear family	127	40.06
	Joint family	163	51.42
	Extended types of family	27	8.52

Type of residence	Pacca house	54	17.03
	Semi pacca house	92	29.02
	Kacha house	171	53.94
Source of drinking water	Water Pump	13	4.1
	Tube well	301	94.95
	Well	3	0.9463
Types of water purification	Do nothing	281	88.64
	Boiling	22	6.94
	Use Filter	13	4.10
	Others	1	0.31
Type of Latrine	Water seal latrine	73	23.03
	Sanitary latrine but not water seal	224	70.66
	Non-Sanitary	15	4.73
	Others	05	1.57

Table 2: Distribution of the respondents according to their knowledge about complementary feeding (n=317)

Knowledge about complementary feeding	Number	%
Yes	295	93.06
No	22	6.94
Total	317	100%

Figure 1: Distribution of the respondents according to source of knowledge about complementary feeding (n=295)

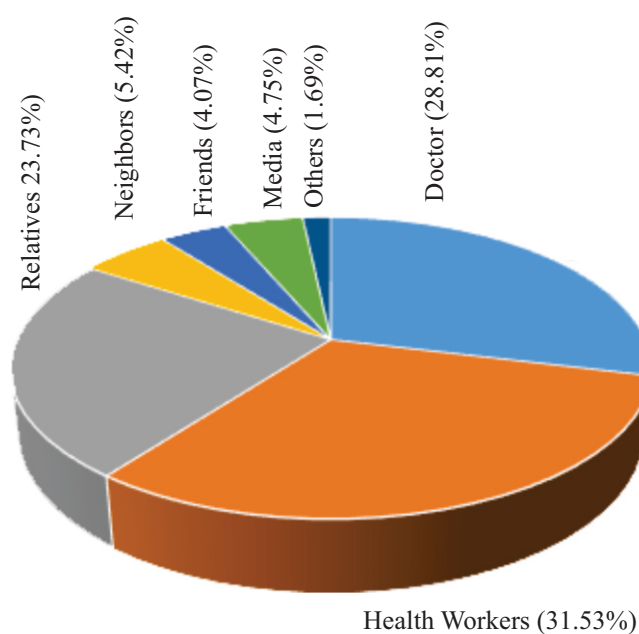


Table 3: Distribution of the respondents according to their knowledge about the items of complementary food

Knowledge about the items of complementary food	Number	%
Rice	236	18.00
Pulse	207	15.79
Vegetables	215	16.40
Fish/Meat/Egg	211	16.10
Milk (powder cow's)	122	9.31
Breast milk	117	8.92
Fruits	117	8.92
Snacks	53	4.04
Others	33	2.52
Total		100

Multiple answers

Table 4: Distribution of the respondents according to those who continue breast milk together with complementary feeding (n=317)

Those who continue breast milk together with complementary feeding	Number	%
Yes	285	89.90
No	34	10.72
Total	317	100

Table 5: Distribution of the respondents according to the types of complementary food given to their child

Types of complementary food given to their child	Number	%
Rice	224	22.13
Pulse	193	19.07
Vegetables	195	19.27
Fish /Meat/Egg	200	19.76
Snacks without milk	99	9.78
Snacks with milk	79	7.81
Others	22	2.17
Total		100

Multiple answers

Table 6: Distribution of the respondents according to the numbers of times of complementary food given (n=285)

Numbers of times complementary food given	Number	%
3 Times	156	54.74
4 Times	65	22.81
5 Times	5	1.75
More than 5 Times	27	9.47
Others	32	11.23
Total	285	100

Table 7: Distribution of the respondents according to the types of pot used for complementary feeding (n=285)

Types of pot used for complementary feeding	Number	%
250 ml/Small bowl	242	84.91
500ml/Large bowl	8	2.81
Plate	25	8.77
Both	3	1.05
Others	7	2.46
Total	285	100

Table 8: Distribution of the respondents according to the amount of food given as complementary food (n=285)

Amount of food given as complementary food	Number	%
250 ml /Small bowl	252	88.42
500 ml/large bowl	16	5.61
700 ml bowl	6	2.11
Others	11	3.86
Total	285	100

Table 9: Distribution of the respondents according to their knowledge about why complementary feeding is not given together with breast milk (n=34).

Knowledge about why complementary feeding is not given together with breast milk	Number	%
Have no knowledge about complementary feeding	5	14.71
Because of giving artificial food like milk powder, serelac	3	8.82
Because of giving rice powder, suji, barli etc.	3	8.82
Early complementary feeding may cause distended abdomen of child	0	0
Others	23	67.65
Total	34	100

Table 10: Distribution of the respondents according to those who continue breast feeding till now (n=317)

Those who continue breast feeding till now	Number	%
Yes	278	87.70
No	39	12.30
Total	317	100

Table 11: Distribution of the respondents according to the duration of breast feeding would be continued (n=278)

Duration of breast feeding would be continued	Number	%
Till breast milk is available	41	14.75
2 years	200	71.94
3 years	17	6.12
No idea	9	3.24
Others	11	3.96
Total	278	100

Table 12: Distribution of the respondents according to the reasons that they did not continue breast feeding (n=39)

Reasons that they did not continue breast feeding	Number	%
Unavailability of breast milk	13	33.33
Giving cow's milk	3	7.69
Giving powdered milk	6	15.38
Others	17	43.59
Total	39	100

Discussion

During first six months of life breast milk should be fed alone and must remain the first food for infants. From then onwards it should be complemented with other sources of nutrition until at least 2 years of age. There is very little documented information on complementary foods and practices of the infants and young children in Bangladesh. There is increased risk of episodes of gastrointestinal infections that remain the principal justification against the introduction of complementary food stuff before the sixth months of life. Moreover, complementary foods are introduced much earlier than the recommended age of six months, often even in the first month of life. Absorption of breast milk iron altered with early introduction of cereals and particularly vegetables, while iron deficiency anemia noted when late weaning started. Complementary feeding started late in developing countries. In this study we sought to establish the knowledge about complementary feeding and its source, items of complementary food, types of complementary food given,

the number of times of complementary food should be given, types of pot are used, amount of food as complementary food and various other aspects related to the subject. The general characteristics of the respondents in the study revealed that most of them were in 19-23 age groups (41.01%) and in concern to age of their child most of them were in 12-23 age groups (64.36%) where Female (51.42%) followed by Male (48.58%). Similar finding was observed in Kanti Children's Hospital, Nepal by Chapagain RH et.al.¹⁰ Regarding educational level of the respondents, most of the respondents were in Class VI-X 152 (47.95%), followed by Class I-V52 (16.40%), SSC/Equivalent 49 (15.46%), HSC/Equivalent 29 (9.15%), Non-institutional Education 16 (5.05%), Graduate/Equivalent 11 (3.47%), Illiterate and Post Graduate/Equivalent 04 (1.26%). In concern of occupation of the respondents (father), most of the respondents were others group 83 (26.18%), then followed by working abroad 77(24.29%), business 58 (18.29%),service holder 51 (12.32%) and farmer 48 (15.14%).According to occupation of the respondents, most of the respondents were housewife308 (97.16%)then followed by farmer, service holder and business 03 (0.95%). These results are in agreement with Kujur A. et al.¹¹ majority i.e. 230 (91.3%) were housewives. According to the number of Family member of the respondents most of them were in 5-7 person group (49.21%), followed by 2-4 person group (30.91%) and more than 8 person group (19.87%). In concern to the types of family most of them hailed from joint family 163 (51.42%), followed by nuclear family127 (40.06%) and extended types of family 27 (8.52%). According to the type of residence most of them lived in kacha house 171 (53.94%), followed by semi pacca house 92 (29.02%) and 54pacca house (17.03%).According to the Source of water for drinking purpose most the respondents collected water from tube well 301 (94.95%) then followed by water pump 13 (4.1%) and well 03 (0.9463%). For drinking purpose most the respondents did nothing 281 (88.64%), followed by boiling 22 (6.94%), used filter 13 (4.10%) and others 01 (0.31%).According to the type of Latrine most of the respondents used Sanitary latrine but not water seal 224 (70.66%) followed by Water seal latrine73 (23.03%), Non-Sanitary15 (4.73%) and others 05 (1.57%). According to their knowledge about complementary feeding, most the respondents had high level of knowledge on complementary feeding 295 (93.06%), similar findings were observed by Nancy V. et al.¹² More than half of the mothers (66.7%) had high level of knowledge on complementary feeding and not

agree with Sethi RK et al.¹³ 13 mother's knowledge regarding timing of complementary feeding is inadequate and practices are inappropriate and not agree with Mohsin SS et al.¹⁴ According to the source of knowledge about complementary feeding, most the respondents knew about complementary feeding from health workers 93 (31.53%) then followed by doctor 85 (28.81%), relatives 70 (23.73%), neighbor 16 (5.42%), media (Radio, Television) 01 (0.34%), friends 12 (4.07%) and others 05 (1.69%). Similar findings were observed by Shukure R.¹⁵ that out of the mothers who heard about complementary feeding, one hundred (62.5%) of women obtained the information from the health institution and half of them 86 (52.5%) got the information from health extension workers. According to the knowledge about items of complementary food, most the respondents knew about complementary food item as rice 236 (18.00%) then followed by vegetables 215 (16.40%), fish/meat/egg 211 (16.10%), pulse 207 (15.79%), milk powder/ cow's 122 (9.31%), fruits 117 (8.92%), snacks 53 (4.04%) and others 33 (2.52%). According to those who continued breast milk together with complementary feeding, most the respondents Continue breast milk together with complementary feeding 285 (89.90%) and 34 (10.72%) did not Continue breast milk together with complementary feeding. These results were in agreement with Mohsin SS et al.¹⁴ majority of mothers 130 (94.2%) continued to breast feed their children after starting complementary feeding, and not agree with Chowdhury MRK et al.¹⁶ According to the types of complementary food given to their child, most the respondents gave Rice 224 (22.13%) then followed by Fish/Meat/Egg 200 (19.76%), Vegetables 195 (19.27%), Pulse 193 (19.07%), Snacks without milk 99 (9.78%), Snacks with milk 79 (7.81%) and Others 22 (2.17%). According to the numbers of times of complementary food given, most the respondents gave 3 times 156 (54.74%), followed by 4 times 65 (22.81%), Others 32 (11.23%), more than 5 Times 27 (9.47%) and 5 times (1.75%). According to the types of pot used for complementary feeding, most the respondents used 250 ml/Small bowl 242 (84.91%), followed by Plate 25 (8.77%), 500ml/Large bowl 8 (2.81%) others (2.46%), and both 3 (1.05%). According to the amount of food given as complementary food, most the respondents gave 250 ml /Small bowl 252 (7.81%), followed by 500 ml/large bowl 16 (5.61%), Others 11 (3.86%) and 700 ml bowl 6 (2.11%). According to their Knowledge about why complementary feeding is not given together with breast milk most the respondents were in others group 23 (67.65%), then they told

they have no knowledge about complementary feeding 5 (14.71%), giving artificial food like milk powder, serelac and giving rice powder, suji, barli etc. 3 (8.82%). According to those who continue breast feeding till now, most the respondents continue breast feeding till now 278 (87.70%) and 39 (12.30%) did not continued breast feeding till now. According to the duration of breast feeding would be continue, most of the respondent told 2 years 200 (71.94%), then followed by till breast milk is available 41 (14.75%), 3 years 17 (6.11%), others 11 (3.95%) and no idea 9 (3.24%). The two main causes to stop breast feeding, one was others causes 17 (43.59%) and second cause was unavailability of breast milk 13 (33.33%) which is also confirmed by Shaker NZ et al.¹⁷ and Abdul Ameer et al.¹⁸ they found that nearly 35% believed that breast milk was not enough for their infants.

Conclusion

This cross sectional study was done to assess the level of knowledge, awareness and practice of Complementary Feeding among mothers in some selected villages of Cumilla. Our study reveals that mother's knowledge regarding complementary feeding was adequate and practices were inappropriate. Majority of them were not aware of the current recommendations. Correct information and guidelines about complementary feeding is not reaching the target population. False beliefs, customs and attitude of the mother tend to wean the child late. Mean age of complementary feeding is delayed due to improper information and child not accepting complementary foods. Poor breastfeeding and inappropriate complementary feeding practices are the principal proximate causes of malnutrition during the first two years of life. Hence it is essential that accurate information, education and training should be given to mothers and caregivers about appropriate timing of initiating complementary feeding, complementary foods, preparation and practices to prevent malnutrition and improve the health status of children.

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Characteristics of Childhood diabetes Patients Attending in Outpatient Department of BIRDEM

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Abstract

Introduction: Diabetes mellitus is one of the major health problem around the world. It is not considered as a single disease entity. Diabetes is now seen as a heterogeneous group of disease, characterized by a state of chronic hyperglycemia resulting from a diversity of etiologies, environmental and genetic factors acting jointly. The underlying cause of diabetes is the defective production or action of insulin, a hormone that control glucose, fat and amino acid metabolism, characteristically, diabetes is a long term disease with variable clinical manifestations and progression. **Objective:** To find out the selective characteristics of childhood diabetes mellitus patients attending in outpatient department of BIRDEM and to identify socio-demographic characteristics, type of childhood diabetes, age of onset, and family history of diabetes among the respondents. **Material and Methods:** This descriptive cross-sectional study was conducted at outpatient department of BIRDEM from August 2019 to November 2019. A total of 119 cases were selected through purposive type of sampling. Semi-structured questionnaire was used for data collection. **Results:** Mean age of the childhood diabetes patients was 13.29 ± 3.77 years and ranged from 2 to 18 years. Age of onset of diabetes between 11-15 years of age was 46.2% cases and 6-10 years in 30.3% cases. Out of total 119 patients 100(84.0%) cases were T1DM, 12(10.1%) Fibrocalculus Pancreatic Diabetes (FCPD), 3(2.5%) T2DM and 4(3.4%) other type of diabetes. Among 119 childhood diabetes cases 56(47.1%) had diabetes in family. Of the 119 patients 57(47.9%) were underweight and 7(5.9%) overweight. **Conclusion:** In this study childhood diabetes patients attending the outpatient department of BIRDEM were mainly type 1 variety. The reported patients mostly from low income group with positive family history in a large number of cases. Girls were found to be more than the boys which may not be the actual scenario among the general population.

Key-words: Childhood, Diabetes, Outpatient department,

Introduction

Diabetes mellitus is a group of metabolic disorders characterized by a high blood sugar level over a prolonged period of time¹. The effects of diabetes mellitus include long term damage, dysfunction and failure of various organs. Diabetes mellitus may present with characteristics symptoms such as thirst, polyuria, blurring of hyperosmolar state which may lead to stupor, coma and in absence of effective treatment, death. Often symptoms are not severe, or may be absent, and consequently hyperglycemia sufficient to cause pathological and functional changes may be present for

a long time before the diagnosis is made. The long term effects of diabetes mellitus include progressive development of the specific complications of retinopathy with potential blindness, nephropathy that may lead to renal failure and nephropathy with risk of foot ulcers, amputation and features of autonomic dysfunction, including sexual dysfunction. People with diabetes are at increased risk of cardiovascular, peripheral vascular and cerebrovascular disease². Etiologically diabetes mellitus is broadly classified as Type-1 diabetes, Type-2 diabetes, other specific types and Gestational diabetes mellitus³. Type 1 diabetes previously called insulin dependent diabetes mellitus (IDDM). Type 1 diabetes develop when the bodies immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulate blood glucose. This form of diabetes usually strikes children and young adults. Type 1 diabetes may account for 5-10% of all diagnosed cases of diabetes. Risk factors for Type 1 diabetes include, autoimmune, genetic and environmental factors.⁴ Type 2

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diabetes mellitus was previously called non-insulin dependent diabetes mellitus (NIDDM) or adult onset diabetes. Type- 2 diabetes may account for about 90-95% of all diagnosed cases of diabetes. It is usually begins as insulin resistance, a disorder in which the cells do not use insulin properly. Type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, Impaired glucose tolerance, Physical inactivity and race or ethnicity. Type- 2 diabetes being increasingly diagnosed in children and adolescents⁵. Gestational diabetes is a form of glucose intolerance that is diagnosed in some women during pregnancy. Gestational diabetes occurs more frequently among Africans, American, Latino American, and American Indians. It is also more common among the obese and women with family history of diabetes. Other specific type of diabetes results from specific genetic conditions, surgery, drugs, malnutrition, infections and other illness. Such type of diabetes may account for 1-5% of all diagnosed cases of diabetes. Diabetes is now emerging as a major public health problem specially among children. But once it was thought to be uncommon in least developed and developing countries of the world. Diabetes mellitus is now considered as a major and rapidly growing health problem in all age group and in all the countries of the world irrespective of their socio-economic condition. Diabetes is now commonest endocrine disorder among children in Bangladesh which is a lifelong condition with a number of complications like growth failure and delayed puberty. The life threatening 'ketoacidosis' is being experienced by almost all the children suffering from Type 1 diabetes which is leading cause of death in these patients.^{6,7} The most common endocrine and metabolic conditions in childhood is Type 1 DM, the incidence of which is rapidly increasing especially among the younger children.⁷ Type 2 diabetes was formerly considered as a disease of adults but now it is major concern about new aspect of the epidemic-the appearance of type 2 diabetes in children, teenagers and adolescents in all the countries whether poor or rich. This is certainly an emerging public health problem of significant proportions.⁸ Bangladesh is among the top ten diabetes prevalent countries in the world⁹. Much is known about diabetes in adult but very little is known about childhood diabetes. Childhood diabetes patients suffer more from short and long term complications than those who develop the disease late in life. More ever the treatment cost is very high in childhood diabetes. The only cost effective intervention is to reduce the incidence of the disease by identifying the modifiable risk factors of the

disease and to develop a sound health care delivery system, not only to prevent complications but also to maintain a socially and economically productive life for childhood diabetes patients in Bangladesh.

Materials and Methods

The descriptive cross-sectional study was carried out in the outpatient department of BIRDEM hospital, Dhaka from August 2019 to November 2019. This place was selected because patients with diabetes come to this hospital from all over Bangladesh. Patients are referred from peripheral diabetic centers, hospital and general practitioners. A total of 119 cases were selected through purposive type of sampling. All patients with diabetes mellitus up to 18 years of age attending child outpatient department of BIRDEM were selected as study population. Patients with age over 18 years were not selected. Severely ill patients were excluded. Those who are unwillingly to participate in the study were excluded. Data were collected by face to face interview, with the help of structured questionnaire. Confidentiality was duly ensured to all participants and informed consent was obtained. Institutional permission from the appropriate authority was obtained before starting the study. After collection data was scrutinized, edited and verified for its consistency. Data were processed and analyzed by computer software SPSS version 18.0 and expressed in frequency, percentage and mean \pm SD, chi-square test was done to see the association.

Results

Patients socio-demographic information presented in Table-1. Mean age of the childhood diabetes patients was 13.29 ± 3.77 years and ranged from 2 to 18 years. Out of 119 respondents, maximum 39.5% respondents were in 16-18 years age group and 57.1% were female. Highest (37.8%) number of respondents, Father of respondents (24.4%) and mother of respondents (31.9%) were educated at the level of class I-V. Majority 69.7% respondents were student. The occupation of father of the patients was service and farmer (28.6% each). Mother of most patients (86.6%) was housewife. Majority of the family (50.4%) had monthly income within the range Tk5001-10000 and of the respondents 51.1% lived in kaccha house. Age of onset of diabetes between 11-15 years of age was 46.2% cases and 6-10 years in 30.3% cases. Out of total 119 patients 100(84.0%) cases were T1DM, 12(10.1%) Fibrocalculus Pancreatic

Diabetes (FCPD), 3(2.5%)T2DM and 4(3.4%) other type of diabetes. Among 119 childhood diabetes cases 56(47.1%)had diabetes in family. Of the 119 patients 57(47.9%) were underweight and 7(5.9%) overweight.

Table 1: Distribution of respondents by Age, Sex and educational status.

Age group (years)	Male n(%)	Female n(%)	Total
2-5	4(3.4%)	0	4(3.4%)
6-10	5(4.2%)	18(15.1%)	23(19.3%)
11-15	17(14.3%)	28(23.5%)	45(37.8%)
16-18	25(21.0%)	22(18.5%)	47(39.5%)
Total	51(42.9%)	68(57.1%)	119(100.0%)
Level of education	Patient	Father of Patient	Mother of patient
Illiterate	13(10.9%)	25(21.0%)	32(26.9%)
Class I-V	45(37.8%)	29(24.3%)	38(31.9%)
Class VI-X	44(37.0%)	27(22.7%)	26(21.8%)
SSC	15(12.6%)	14(11.8)	12(10.1%)
HSC	2(1.7%)	9(7.6%)	8(6.7%)
Graduation and above	0	15(12.6%)	3(2.5%)
Total	119(100.0%)	119(100.0%)	119(100.0%)

Table 2: Distribution of respondents by socio-demographic variables.

Occupation of Patient	Frequency	Percentage
Student	83	69.7
Unemployed	21	17.6
Business	2	1.7
Agriculture work	3	2.5
Others	10	8.4
Total	119	100.0
Occupation(Father of Patient)		
Service	34	28.6
Business	26	21.8
Unemployed	5	4.2
Farmer	34	28.6
Day labourer	11	9.2
Others	9	7.6
Total	119	100.0
Occupation(Mother of Patient)		
House wife	103	86.6
Service	16	13.4
Total	119	100.0

Monthly family income		
<5000	32	27.0
5001-10000	60	50.4
10001-15000	16	13.4
>15000	11	9.2
Total	119	100.0
Type of accommodation		
Pacca	27	22.7
Semi-Pacca	30	25.2
Kaccha	62	52.1
Total	119	100.0

Table 3: Distribution of respondents by type and duration of diabetes.

Type of Diabetes	Male n(%)	Female n(%)	Total
Type 1 DM	45(37.9%)	55(46.2%)	100(84.0%)
Type 2 DM	1(0.8%)	2(1.7%)	3(2.5%)
FCPD	4(3.4%)	8(6.7%)	12(10.1%)
Others	1(0.8%)	3(2.5%)	4(3.4%)
Total	51(42.9%)	68(57.1)	119(100.0%)
Duration of Diabetes			
1 month to 3 years	27(22.6%)	51(42.9%)	78(65.5%)
4-6 years	19(16.0%)	12(10.1%)	31(26.1%)
7-12 years	5(4.2%)	5(4.2%)	10(8.4%)
Total	51(42.8%)	68(57.2)	119(100.0%)

Table 4: Association between Type of Diabetes with Family history, BMI and age of onset of DM.

Family history	T 1DM	T 2DM	FCPD	Others	Total
Positive	50(42.0%)	2(1.7%)	1(0.8%)	3(2.5%)	56(47.1%)
Negative	50(42.0%)	1(0.8%)	11(9.2%)	1(0.8%)	63(52.9%)
Total	100(84%)	3(2.5%)	12(10%)	4(3.3%)	119(100%)
$X^2=9.287df=3P=.025$					
BMI					
Up to18.50	47(39.5%)	1(0.8%)	5(4.2%)	4(3.4%)	57(47.9%)
18.50-24.99	49(41.2%)	0	6(5.0%)	0	55(46.2%)
25.00-29.99	4(3.4%)	1(0.8%)	0	0	5(4.2%)
30.00-39.99	1(0.8%)	1(0.8%)	0	0	2(1.7%)
Total	101(84.9%)	3(2.4%)	11(9.2%)	4(3.4)	119(100%)
$X^2=31.560df=9P=.001$					
Age of onset					
2m-5 years	16(13.4%)	0	0	2(1.7%)	18(15.1%)
6-10 years	35(29.5%)	0	0	1(0.8%)	36(30.3%)
11-15 years	40(33.6%)	2(1.7%)	12(10.1%)	1(0.8%)	55(46.2%)
16-17 years	9(7.6%)	1(0.8%)	0	0	10(8.4%)
Total	100(84.1%)	3(2.5%)	12(10.1%)	4(3.3%)	119(100%)
$X^2=22.042df=9P=.009$					

Discussion

This was a descriptive cross-sectional study. A total of 119 respondents were selected purposively. This study was conducted to determine the characteristics of childhood diabetes mellitus among the patients attending in outpatient department of BIRDEM, Dhaka. Respondents were childhood diabetes patients (0-18 years). In this study mean age of the patients was 13.29 ± 3.77 years. Among 119 respondents 77.3% were in the age above 10 years. This finding is consistent with previous study at BIRDEM by Kabir¹⁰ where it was found to be 81.6% of the same age group. In the present study it was revealed that out of 119 respondents 42.9% were male and 57.1% were female. It is generally accepted that boys and girls are equally affected. In a study conducted by Habeb et al¹¹, where he found higher incidence in girls than in boys (33.0 vs 22.2). But pediatric diabetologist in BIRDEM opined that actual prevalence of DM in childhood might not be similar. The sex variation might be non-significant or male children might be predominant sufferer. The cause of the study finding may be due to male children are not reporting for review regularly as they are engaged in different type of occupation. It was evident from the study that 77.3% of the respondents were living in poor condition (kaccha and semi-pacca living accommodation), 68.1% of their father have pre SSC education, 80.7% mother pre SSC education, 77.4% family monthly income up to Tk 10000. Considering these socio-economic factors it was evident that more than 75% of the patients come from poor socio-economic background, which is similar to the finding of the study conducted by Christau et al¹² in Denmark. Another study conducted by Blom et al¹⁷ in Sweden where he found increased risk of T1DM is associated with low maternal education. In this study it was depicted that out of 119 respondents 84.0% were T1DM, 10.1% Fibrocalculus pancreatic diabetes (FCPD) and 2.5% were T2DM cases, which is dissimilar to the study conducted by Zimmet P et al,¹³ where he found incidence of childhood T2DM is alarmingly increasing in many countries in the world. Another study conducted by Sayeed et al¹⁴, where he found the prevalence of T2DM and IGT was 1.5% and 3.4% respectively in non-obese children in Bangladesh. In this study it was shown that 13.4% patients with T1DM developed the disease before 5 years of age. It was followed by 29.4% in 6-10 years and 33.6% in the age group of 11-15 years. It also shown that 2.5% cases of T2DM developed disease at the age above 10 years and 10.1% cases of FCPD developed the disease between 11-15 years of age.

This finding is similar to the study conducted by Hasan et al¹⁵, where he found that the incidence of DM in 10-14 years of age group was three times higher than that in 0-4 years age group. No case of FCPD was found below 10 years of age, which is consistent to the study conducted by Joner et al¹⁶ in Norway, where they found the peak incidence of onset at 12 years for girls and 12-14 years for boys. Present study revealed that family history of DM was found 47.9% cases and rests were negative. Among 100 T1DM patients 42.0% had positive family history. In case of T2DM, out of 3 cases 2 had positive family history and in case of FCPD, 1 had positive family history out of 12 (10.0%) cases. which is nearly consistent to the finding of the study conducted by Blom et al¹⁷ in Sweden, where found that positive family history of DM increase the relative risk of T1DM.

Conclusion

Childhood diabetes patients attending in outpatient department of BIRDEM were mainly of type 1 variety with age onset mostly in the early second decade. Large number of patient had positive family history of diabetes mellitus. The childhood diabetic patients are mostly coming from low income group. Girls were found to be more than the boys which may not be the actual scenario among the general population. Appropriate measures need to be undertaken to identify the risk factors to prevent the disease.

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Prevalence of Refractive Errors among Students Attending in Eye OPD, CMH, Cumilla

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Abstract

Background: Childhood visual impairment due to refractive errors is a significant but avoidable problem. Schools are best forum for implanting health education for children and for early detection of ocular morbidity. This study was undertaken to assess the prevalence of refractive errors among students. **Materials and method:** The study was a cross sectional study among students attending the eye OPD of CMH, Cumilla. A total number of 649 students studying from class one to twelve standards were examined for defective vision using Snellens chart and refraction were done. **Results:** A total of 649 students were examined. Out of 649 students 337 were boys and 312 were girls. The prevalence of refractive error was found to be 12.48%. The prevalence of myopia, hypermetropia and astigmatism in study subjects was 67.90%, 11.11%, 20.99% respectively. The prevalence of refractive error was found to be 11.11%, 27.16%, 43.21.5%, 18.52% in one to three, four to six, seven to nine, ten to twelve standard students respectively. **Conclusion:** Refractive error is one of the leading causes of treatable blindness in school age children. So there is a need to have regular and simple vision testing in school children so that corrective measures may be recommended at the earliest possible. Cost effective strategies are required to eliminate this easily treatable cause of vision impairment.

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

Introduction

As we know eyes are one of the most important organs in the human body and vision is one of the most wonderful gifts. But often many people neglect the importance of eye care and do not pay proper attention towards eye care¹. Normally, the lens focuses light rays directly on the retina, resulting in clear vision: this is called as refraction². A refractive error may be

defined as a state in which the optical system of the no accommodating eye fails to bring parallel rays of light to focus on the retina³. They include: nearsightedness (myopia), farsightedness (hyperopia) and astigmatism (astigmatismus). Myopia is a refractive anomaly in which the refractive power is too strong or the length of the eye is too large for the existing power of refraction, so that parallel light rays coming from infinity, after refraction through a dioptric apparatus of the eye without the use of accommodation, cut in front of the retina, where image of the observed object is created. In contrast to myopia, in hyperopia the refractive power is too weak or the length of the eye is too small, so that the image of the observed objects is created behind the retina. Astigmatism is the occurrence of unequal refraction in one and the same eye⁴. Major concerns of the study are amblyopia (blurring of vision due to defocusing). Refractive amblyopia are anisometric amblyopia, ametropic amblyopia and meridional amblyopia. Correction of amblyopia in time is vital. Sensitive period of amblyopia correction is 7-8 years of life in strabismic amblyopia but in refractive amblyopia it may be longer upto teens of life. Detection and treatment of amblyopia is important aim of school sight-seeing program.

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After teens amblyopia treatment is not satisfactory⁵. Children are born with an immature visual system; therefore they need clear-focused images for normal visual development to occur. Refractive error is one of the most common causes of visual impairment in children⁶⁻¹⁰. Childhood visual impairment due to refractive errors is one of the most common problems among school-age children and is the second leading cause for treatable blindness. Uncorrected refractive error is one of the most common causes of blindness around the world. About 80% of blindness is treatable or preventable. Refractive errors are one of the common causes of this treatable blindness. Globally, the major causes of blindness are cataract, uncorrected refractive errors and glaucoma and their prevalence are 33%, 43% and 2% respectively. Global estimation indicates that 122.5 million people suffer visual impairment due to uncorrected refractive errors. An estimated 19 million children are visually impaired worldwide of which 12 million are due to refractive errors which could be easily corrected¹¹⁻¹⁶. Child vision is essential for successful learning in school. When the vision suffers, pupil's routine school work and day today activities also get affected. Vision problems were common among school students. The students are not mature enough to point out the deficiency at the early stage or the parents have no idea on developing vision problem. Children who have vision problems could not concentrate on studies or on any other extracurricular or recreational activities². Reduced vision may affect academic performance, choice of occupation and socio-economic status in adult life¹⁷. Bangladesh is one of the most densely populated countries in the world and is the 7th most populous nation with 41% being children under the age of 18 years. There were approximately 75 million children between 0 to 8 years old in Bangladesh. Refractive error was the major cause of childhood visual impairment in Bangladesh. It was a serious barrier to children's development and directly resulted in decreased attendance at school¹⁸.

The purpose of this study was to gather information on the refractive errors among school children of different age group, to find out the frequency of various types of refractive errors and to explore the percentage of refractive error in boys and girls.

Materials and Methods

A cross sectional study was conducted during November 2013- July 2015 among students attending the eye OPD of CMH, Cumilla. The sample size was 649. A detailed history

was taken from all the students including family history, current problems, past problems and treatment. The students then underwent a preliminary ocular examination. An internally illuminated Snellen's chart was used at 6 meter distance for assessment of uncorrected, presenting and best corrected visual acuity (VA). Extraocular movements and cover test were performed using torch light, and convergence was tested using royal airforce (RAF) rule. All the children with defective vision ($VA \leq 6/12$) were selected for detailed ocular examination including VA both for distance and near, objective refraction with autorefractometer followed by streak retinoscopy under cyclopentolate 1% eye drops, stereopsis, anterior segment, and fundus examination. Examination was performed by a single refractionist and ophthalmologist to maintain informity. The parents of all children were informed about the nature of the study and a written consent was obtained. The patients with history of prior ocular surgery or any ocular disease contributing to the diminished VA, manifest strabismus and pathological myopia were excluded from the study. The children with any type of refractive errors on post mydriatic examination were further evaluated according to the type of refractive error. A spherical equivalent of -0.5 diopter (D) or more was defined as myopia, +1D or more was defined as hypermetropia, and a cylinder refraction greater than 0.75D was considered as astigmatism. The data was compiled in Microsoft (MS) Excel work sheet and analyzed. The descriptive statistics- All qualitative variables are presented as frequency and percentages.

Results

Table 1: Sex distribution of students

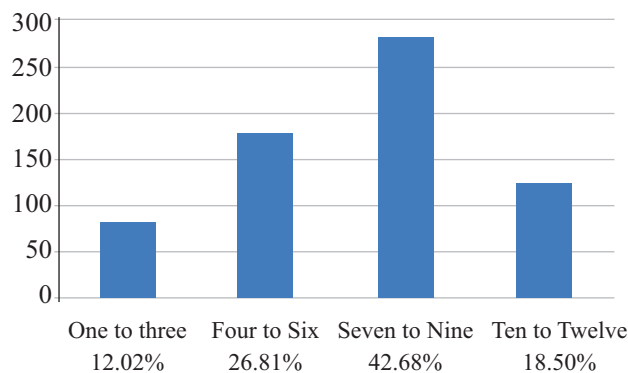
Sex	n (%)
Male	337(51.93%)
Female	312(48.07%)
Total	649(100%)

Table 2: Distribution of students by age

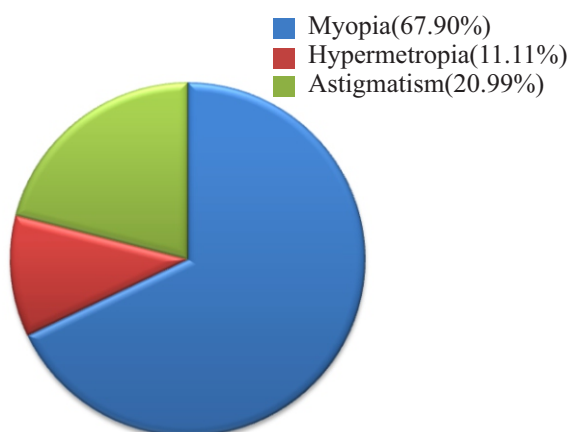
Age (Years)	n(%)
5-10	118 (18.18%)
11-15	373 (57.47%)
16-20	158 (24.35%)
Total	649(100%)

Table 3: Distribution of students by religion

Religion	n(%)
Muslim	578 (89.06%)
Hindu	71 (10.93%)
Total	649(100%)

Figure 1: Distribution of students by their Class**Table 4:** Prevalence of refractive error

Number of students Examined	Number of students with refractive error	% of Prevalence
649	81	12.48

Figure 2: Types of refractive error**Table 5:** Prevalence of types of refractive error by age

Age (years)	Types of refractive error			n (%)
	Myopia n(%)	Hypermetropia n(%)	Astigmatism n(%)	
5-10	6 (10.9%)	4 (44.44%)	4 (23.53%)	14 (17.28%)
11-15	36 (65.45%)	3 (33.33%)	9 (52.94%)	48 (59.26%)
16-20	13 (23.64%)	2 (22.22%)	4 (23.53%)	19 (23.46%)
Total	55 (100%)	9 (100%)	17 (100%)	81 (100%)

Table 6: Prevalence of types of refractive error by their class

Class	Types of refractive error			n (%)
	Myopia n(%)	Hypermetropia n(%)	Astigmatism n(%)	
One to Three	5 (9.09%)	3 (33.33%)	1 (5.88%)	9 (11.11%)
Four to Six	16 (29.09%)	2 (22.22%)	4 (23.53%)	22 (27.16%)
Seven to Nine	24 (43.64%)	2 (22.22%)	9 (52.94%)	35 (43.21.5%)
Ten to Twelve	10 (18.18%)	2 (22.22%)	3 (17.65%)	15 (18.52%)
Total	55 (100%)	10 (100%)	17 (100%)	81 (100%)

Discussion

Refractive error was shown to be the leading cause of visual impairment among schoolchildren as reported in numerous studies. But many young children with such a condition are asymptomatic. Visual screening can be useful for detecting asymptomatic visual problems, however compliance with spectacle wearing may be very low for many reasons, such as forgetting to wear glasses, concern about appearance, or not feeling that glasses are needed¹⁹. A total of 649 students between 5 and 20 years of age were included in the study. Out of these, 337 (51.93%) were males and 312(48.07%) were females. Most of them were 11-15 year age group with majority of them Muslim 578 (89.06%) and seven to nine class students 277(42.68%).

The prevalence of refractive error in this study population was 12.48%, similar to prevalence observed by Fahd Abdullah Al Wadaani²⁰ in Saudi Arabia (13.7%), Umamaheswari Kannan²¹ in India (12%), Md. Anwarul Kader²² in North West Zone of Bangladesh (9.2%) and not agree with Nebiyat K²³ (4.0%), Jafer Kadir²⁴ in Ethiopia (3.5%). Among all types of refractive errors, myopia was the most prevalent, and the prevalence of myopia rapidly increased with the children's age. In our study the single most common refractive error was myopia followed by astigmatism and hypermetropia was least common of all types of refractive errors. The prevalence of myopia, hyperopia, and astigmatism was 55 (67.90%), 9 (11.11%), and 17 (20.99%) respectively. Our results were comparable with the study conducted by Jung Un Jang²⁵ in South Korea

on school children. They found that the commonest refractive error among school children was myopia (46.5%), followed by astigmatism (9.4%) and then hyperopia (6.2%). A study done by Chethana Warad²⁶ in Davangere taluk and Davangere city was not comparable with or study, where they found myopia was 82.67% followed by hypermetropia 9.3%, astigmatism 7.9%. Myopia and astigmatism was more in age groups 11-15 years (65.45%, 52.94%) whereas hypermetropia was more in the younger age group of 5-10 years (44.44%). These observations were similar to the one made by Pavithra et al in Bangalore²⁷, Ore et al²⁸ in Israel and Karavadi Sri Sai Vidusha²⁹ in India. Refractive error by their class Myopia and astigmatism was more in class Seven to Nine (43.64%, 52.94%) whereas hypermetropia was more in class one to three (33.33%).

Conclusion

Refractive error among children is a common problem and needs to be assessed regularly for early intervention. Visual impairment from uncorrected refractive errors can have immediate and long-term consequences in children and adults such as lost educational and employment opportunities, lost economic gain for individuals, families and societies and impaired quality of life. Various factors are responsible for refractive errors like lack of awareness and recognition of the problem at personal and family level, excessive use of laptops, TV viewing and computers or mobiles. The present study indicates that the school age represents high risk group for refractive errors.

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Pelvic Aggressive Angiomyxoma

Islam ADMS¹

Abstract

Aggressive Angiomyxoma (AAM) is a rare locally aggressive tumours, mostly occurs in pelvic perineal region. This case was a female patient of 50 years old, presented with a vulval mass for duration of 02 years. FNAC revealed benign mesenchymal growth. Surgical excision was done. Histopathology confirmed the diagnosis of AAM.

Key words: Pelvic, Angiomyxoma.

Introduction

Abdomino-pelvic soft tissue tumours are common but pelvic retro-perineal soft tissue tumours are rare¹. Aggressive Angiomyxoma (AAM) is a rare locally aggressive soft tissue tumour, which primarily occurs in the pelvic-perineal regions². The incidence in females is significantly higher than in males (6:1)³. In 1863, Virchow first classified myxomata as a distinct type of soft tissue tumour⁴. In 1983, Steepa and Rosai named this tumour "Aggressive Angiomyxoma" for the first time⁵. To date, less than 400 cases have been

micturition. Her pain sensation was increasing for last 01 month. She has no history of fever, weight loss, redness, dysmenorrhea, or bleeding. On local examination, there was a swelling at left vulvo-perineal region about 10 cm x 6 cm with positive cough impulse. FNAC revealed benign mesenchymal growth. MRI of abdomen showed, mixed lesion at left pelvic wall (12.5 cm x 10.5 cm x 19 cm) with extension into vulvo-perineal region causing compression over urinary bladder. Tumour markers like CA 125, CEA or alpha-fetoprotein were within normal limit. The patient underwent surgical excision. The histopathologic examination of the resected mass confirmed the diagnosis of AAM.

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described, mostly in the form of small case series or isolated case reports. Diagnosis more often than not, is at histological examination following surgical resection. Surgical excision is usually the first line of treatment⁶.

Case Report

Fifty years old lady having history of left vulval mass for last 02 years. The swelling was slowly growing causing dragging sensation. For last 03 months patient developed features of pelvic fullness in the form of difficulties in defecation and

Discussion

The AAM mainly occurs on the vagina, vulva, pelvic cavity, perineum, hips, and crissum in reproductive female aging from 30 to 40 years old. Occasionally, AAM may occur in men. The morbidity rate of male versus female is about 1:6⁷. AAM is aggressive due to its nature of local infiltration and recurrence⁹. The rate of AAM relapse varies from 35% to 72%¹⁰. The AAM diameter ranges from 2 to 60cm with an average of 12.7cm¹¹. AAM may or may not have envelope and present in a spherical or leaf-like shape. AAM is either soft or hard, or possesses a finger-like protrusion to neighboring tissues in some cases. In HE staining, the tumor cells are spindle or star-shaped, among in the mucus interstitial background with unclear boundaries. A large number of blood vessels are disordered and scattered randomly in AAM. Blood vessels with a middle size have thickened walls and do not appear to be in an anastomosis. There is no reticular vascular formation. The diameter and

thickness of vascular tube range from fine arteries to larger arteries. The eosinophilic spindle cells are often tightly or loosely bunched around blood vessels¹². The AAM predominantly occurs in the perineal and pelvic regions, which leads to a possible misdiagnosis as Bartholin gland cyst or hernia¹³. Moreover, AAM is also difficult to distinguish from angiomyofibroblastoma due to similar morphology^{14,15}. Therefore, the diagnosis of AAM should be based on both clinical features and histologic pathologies. The tumor marker CEA, CA125, or CA199 is normal in the complete blood count, which is consistent with the previous finding¹⁶. In this case, the Hsp90 level was elevated, consistent with the role of Hsp90 playing an essential role in cancer and being also correlated with poor prognosis in cancer¹⁷⁻¹⁹. To some extent, it seems that AAM possesses potentially malignant or a tendency of regrowth. At gene expression level, AAM has a positive expression of vimentin, SMA, MSA, desmin, CD34, F8, ER, PR,²⁰ and negative expression for S-100, CK, and CD68^{21,22}. This suggests that AAM is characterized by differentiation into fibroblasts and muscle fibroblasts. The surgical removal of the tumor is the main treatment for AAM. Drug therapy, such as GnRH agonists, possesses therapeutic effect such as shrinking AAM or retarding its recurrence as an adjunct therapy in some cases. Since ERs or PRs are commonly positive in AAM, targeting ERs or PRs may be used as a potential therapeutic target²³⁻²⁵. Other treatment method such as vascular embolism (ER and PR positive) may be used as adjuvant therapy, while radiotherapy and chemotherapy have an undefined and limited role. Given that its characteristics of aggression and relapse, appropriate management and long-term follow-up are necessary. In conclusion, in this case, AAM is a locally benign and aggressive mesenchymal entity and the surgical removal of the solid mass cures the AMM without a sign of recurrence during 12-month follow-up. A long-term surveillance is further required for this treated patient with AAM.⁴⁵



Figure 1: Pre operative image

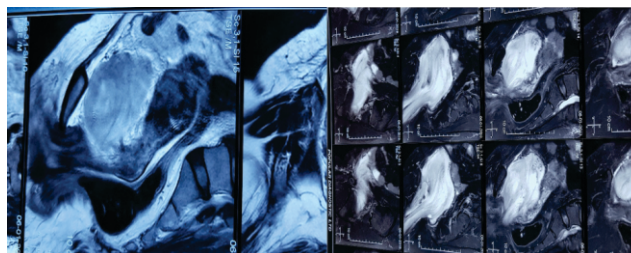


Figure 2: MRI of the lesion

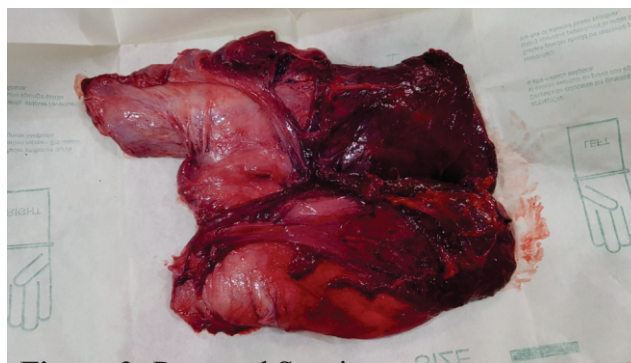


Figure 3: Resected Specimen

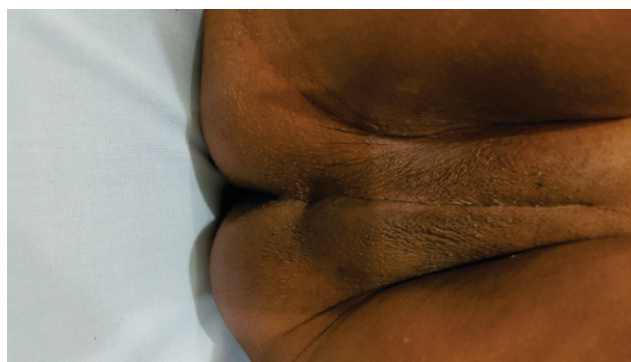


Figure 4: Post operative image

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As principal investigator Dr

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European standard esomeprazole

Abridged Prescribing Information

Composition: Exium[®] 20 Capsule: Each capsule contains esomeprazole 20 mg as esomeprazole magnesium trihydrate USP in enteric coated pellets, Exium[®] 40 Capsule: Each capsule contains esomeprazole 40 mg as esomeprazole magnesium trihydrate USP in enteric coated pellets, Exium[®] 40 IV Injection: Each vial contains Esomeprazole 40 mg (as Esomeprazole Sodium INN lyophilized sterile powder) and each ampoule contains 5 ml of 0.9% Sodium Chloride BP for intravenous Injection, Exium[®] MUPS 20 Tablet: Each MUPS tablet contains gastro resistant Multiple Unit Pellet System as Esomeprazole Magnesium Trihydrate USP equivalent to Esomeprazole 20 mg, Exium[®] MUPS 40 Tablet: Each MUPS tablet contains gastro resistant Multiple Unit Pellet System as Esomeprazole Magnesium Trihydrate USP equivalent to Esomeprazole 40 mg. Properties and effects: Esomeprazole is a proton pump inhibitor that suppresses gastric acid secretion by specific inhibition of the H⁺/K⁺-ATPase, the 'Proton Pump' of the gastric parietal cell. The plasma elimination half-life of esomeprazole is approximately 1–1.5 hours. Dosage & Administration: Healing of Erosive Esophagitis: 20 mg or 40 mg Once Daily for 4-8 Weeks. Maintenance of Healing of Erosive Esophagitis: 20 mg Once Daily (Clinical studies did not extend 6 months). Symptomatic GERD: 20 mg Once Daily for 4 Weeks. If symptoms do not resolve completely after 4 weeks, an additional 4 weeks of treatment may be considered. Helicobacter Pylori eradication: Triple Therapy to reduce the risk of Duodenal Ulcer recurrence- Esomeprazole 40 mg Once Daily for 10 days, Amoxicillin 1000 mg twice daily for 10 days, Clarithromycin 500 mg twice daily for 10 days. Acid related Dyspepsia: 20-40 mg once daily for 2-4 weeks according to response, Duodenal ulcer: 20 mg once daily for 2-4 weeks. Gastric ulcer: 20-40 mg once daily for 4-8 weeks. Contraindication: Esomeprazole is contraindicated in-patient with known hypersensitivity to any of the formulation. Pregnancy: There are no adequate and well-controlled studies in pregnant women. Animal studies have revealed no teratogenic effects. Nursing Mothers: Breast-feeding should therefore be discontinued if the use of esomeprazole is considered essential. Undesirable effects: The most frequently occurring adverse events reported with Esomeprazole include headache, diarrhea, nausea, flatulence, abdominal pain, constipation and dry mouth. Storage: Store in a cool & dry place below 25° C, protect from light. Keep out of reach of children. Packs: Exium[®] 20 Capsule: Each pack contains 100 capsules (10 x 10's), Exium[®] 40 Capsule: Each pack contains 60 capsules (10 x 6's), Exium[®] 40 mg IV Injection: Each box contains 1 vial of lyophilized Esomeprazole 40 mg and 1 ampoule of 5 ml 0.9% Sodium Chloride BP injection for intravenous injection, Exium[®] MUPS 20 Tablet: Each box contains 56 (8x7's) MUPS tablets in Alu-Alu blister pack, Exium[®] MUPS 40 Tablet: Each box contains 28 (4x7's) MUPS tablets in Alu-Alu blister pack, Exium[®] 20 capsule, Exium[®] 40 capsule, Exium[®] MUPS 20 Tablet & Exium[®] MUPS 40 Tablet are manufactured by Radiant Pharmaceuticals Limited, Tongi, Gazipur, Bangladesh, Exium[®] 40 IV Injection is manufactured by Radiant Pharmaceuticals Limited at Popular Pharmaceuticals Ltd., Circulated with the prior approval of Licensing Authority (Drugs).

Ref : Data on File.

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PHARMACEUTICALS

Radiant Pharmaceuticals Limited
22/1, Dhanmondi, Rd 2, Dhaka 1205, Tel: 9612481-6

Coralcal-D[®]

calcium & vitamin D₃

500 mg Coral Calcium
& 200 IU Vitamin D₃

Coralcal-DX[®]

calcium & vitamin D₃

600 mg Coral Calcium
& 400 IU Vitamin D₃



Naturally balanced
Calcium supplement

Easy to Swallow Tablet

Abridged Prescribing Information

Presentation : Coralcal-D[®] Each tablet contains Calcium Carbonate USP 1250 mg equivalent to 500 mg of elemental Calcium and Vitamin D₃ 200 IU as Cholecalciferol USP, Coralcal-DX[®] Each tablet contains Calcium Carbonate USP 1500 mg equivalent to 600 mg of elemental Calcium and Vitamin D₃ 400 IU as Cholecalciferol USP. Indications : Coralcal-D[®] & Coralcal-DX[®] is indicated for the treatment & prevention of osteoporosis, osteomalacia, tetany, hypoparathyroidism, disorders of osteogenesis. Dosage : One tablet once or twice daily with plenty of water or as directed by the physician. Taking in full stomach ensures better absorption, Contraindications : Hypersensitivity to any of the components, hypocalcaemia resulting from overdose of Vitamin D₃, hyperparathyroidism, bone metastases, severe renal insufficiency, severe hypercalcaemia, renal calculi etc. Side effects : Flatulence, diarrhoea, constipation, upper GI discomfort etc. are rare manifestation. Hyper-calcaemia due to prolong use has rarely been reported. Drug Interactions : Tetracycline & fluoride preparations, thiazide diuretics, phenytoin, barbiturates, glucocorticoids, Packs : Coralcal-D[®] tablet: Each box contains 60 tablets & Coralcal-DX[®] tablet: Each box contains 40 tablets, Manufactured by Radiant Pharmaceuticals Limited, Tongi, Gazipur, Bangladesh, Circulated with the prior approval of Licensing Authority (Drugs).

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CamlosartTM

Amlodipine + Olmesartan Tablet



The perfect combination to
manage uncontrolled hypertension

- Ensures greater control of uncontrolled hypertension
- Reduces the risk of ischemic heart disease & stroke mortality

Bisocor[®]

Bisoprolol Fumarate Tablet



The trusted β_1 - blocker

- Ensures controlled blood pressure in smokers
- No effect on glucose metabolism

Since 1958



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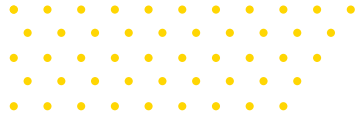
Heart for LifeTM



MaXpro[®] MUPS 20

Esomeprazole Magnesium USP

The Premium
Esomeprazole



Manufactured through
**GERMAN-TECH
FETTE COMPRESSION
MACHINE**
along with AWC

*AWC=Automatic Weight Controller



Model : 3200i,
Origin : Germany
Special Features :
Automatic Weight Controller (AWC)
& Metal detector



Ensures

Dose uniformity in each & every tablet
No chance of weight variation
Free from contamination

DOSAGES & ADMINISTRATION

Indication	Dose	Frequency
Gastroesophageal reflux disease (GERD)		
Erosive Esophagitis	40 mg	Once daily for 4 weeks
Maintenance therapy of healing of Erosive Esophagitis	20 mg	Once daily
Stomach ulcer caused by NSAIDs	20 mg	Once daily for 4 to 8 weeks
H. Pylori eradication (Esomeprazole MUPS tablet with Amoxicillin and Clarithromycin)	20 mg	Twice daily for 7 days
Zollinger-Ellison syndrome	40 mg to 80 mg	Twice daily

Esomeprazole MUPS Tablet is not recommended for the children under 12 years of age.



Further information is available on request from

Renata Limited
Corporate Headquarters
Plot # 1, Milk Vita Road, Section # 7 Mirpur, Dhaka-1216, Bangladesh

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