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# OBESITY & CARDIOPULMONARY DISEASE

Farid N<sup>1</sup>, Rahman A<sup>2</sup>

Obesity is a component of metabolic syndrome which is considered to be a curse of civilization. It is equally prevalent in Bangladesh as in other parts of the world. Obesity is not a major risk factor for cardiovascular disease. But when it occurs in conjunction with Type-2 diabetes mellitus (T<sub>2</sub>DM) and hypertension it leads to Coronary Artery Disease. Low level of high density lipoprotein (HDL) is associated with obesity and particularly woman of menopausal age are at high risk<sup>1,2,3</sup>. In Bangladesh 70-80% older people suffer from hypertension and obesity has contribution to hypertension<sup>4</sup>.

Cardiovascular alterations in obesity are - increased blood volume & increased stroke output leading to increased cardiac output and then hypertension. Hypertension leads to hypertrophy of left ventricle and reduces left ventricular (LV) compliance (diastolic dysfunction) and as a result LV filling pressure (left atrial pressure) is increased<sup>2</sup>. Obesity also leads to severe hypoventilation, cyanosis, somnolence leading to secondary polycythemia (Pickwickian syndrome). The ultimate effect is pulmonary hypertension, right ventricular (RV) hypertrophy, reduced RV compliance, increased RV filling pressure and peripheral venous congestion. Extremely obese persons are dyspnoeic but orthopnoea and

paroxysmal nocturnal dyspnoea (PND) is uncommon. Obese persons perform less physical activities, take more rest than healthy persons and this leads to obesity like a vicious cycle. Ultimately there is less productivity of the the country<sup>2,5</sup>.

Electrocardiogram shows right atrial (RA) enlargement, right axis deviation, right ventricular hypertrophy and low QRS amplitude. X-ray chest PAV shows increased cardiothoracic ratio. All these are the primary investigations. Moreover, echocardiogram is much helpful in diagnosis and it shows RA and RV enlargement, RV and LV hypertrophy, LV diastolic and late systolic dysfunction.

To treat obesity substantial weight reduction is of prime importance. It reduces blood pressure and blood sugar level and increases high density cholesterol (HDL) level. Ultimately LV stroke volume, RV and LV filling pressure normalizes; hypoventilation and somnolence resolves. Treatment of heart failure with salt restriction, diuretic, ACE inhibitor and digoxin is also helpful.

Bangladesh is a developing country with poor economic status. It is tough to bear the financial cost load of drug treatment and surgery. So prevention of diseases is of prime importance. Our role will be to encourage our people to adopt lifestyle measures as part of prevention. This includes substantial weight reduction, to adopt healthy dietary measures, dietary salt restriction, increased physical activity and moderation of alcohol consumption.

It is better every person to be aware about adopting lifestyle measures preferably from adolescent life. This may prevent and control diseases like obesity, hypertension, T<sub>2</sub>DM & Pulmonary diseases. As a result the huge financial burden of treatment of individuals, family and country as a whole can be reduced<sup>6</sup>.

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# PATTERN, RISK FACTORS AND COMPLICATIONS OF CEREBRAL PALSY

Wahed M A

## Abstract:

**Background:** Cerebral Palsy (CP) is a term that describes a group of conditions. This causes movement disorder due to damage or faulty development in a part of the developing brain which usually occurs around birth process. The prevalence of CP is increasing day by day as many of the dying newborn babies survive due to improved or intensive care. It is an important cause of disability in under-five children with loss of working hours, mental and physical exertion as well as anxiety of the parents.

**Methodology:** A prospective and cross-sectional study was conducted on 400 children attending from 1.5.2009 to 31.12.2011 in Child Neurology Center of Prime Medical College Hospital. All the children were clinically diagnosed as Cerebral Palsy by using an International Guide and recorded in a previously prepared Interview Schedule. The samples were selected by non-random method. Available investigations were also done.

**Result:** The male and female ratio was 3:2 and average age was  $3 \pm 1.5$  years. Maximum numbers (88.0%) of cases were suffering from spastic type of Cerebral Palsy followed by ataxic type (5.0%). Perinatal asphyxia was a risk factor in 85.0% of cases and who had perinatal asphyxia 78.24% cases were delivered in home with untrained personnel. The other risk factors were low birth weight, Rh incompatibility, meningitis and toxoplasmosis. Epilepsy was the frequent associated complication (35.0%) followed by drooling (25.0%).

**Conclusion:** Perinatal asphyxia is the most common risk factor in CP and home delivery predisposes perinatal asphyxia. (*Prime med. j. V-2, No-1, P-3-7*)

**Key words:** Perinatal asphyxia, cerebral palsy, home delivery.

## Introduction:

Cerebral Palsy (CP) is a term that includes a heterogeneous group of neurological deficits. This causes movement disorder due to damage or faulty development in the brain which usually occurs around birth process<sup>1</sup>. The incidence of CP is 1-3/1000 live births and there has been no change in the prevalence over the last few decades rather it is increasing day by day as many of the dying newborn babies survive due to

improved perinatal care<sup>2</sup>. It is an important cause of disability in under-five children in our country with loss of working hours, mental and physical exertion as well as anxiety of the parents<sup>3,4</sup>.

There are two main risk factors of CP among many of them. The one is perinatal asphyxia and the other is LBW<sup>2,5,6</sup>. Both of these are very much common in neonatal/perinatal period in our country. Because 88% deliveries take place in home and among them only about 18% deliveries are conducted by trained birth attendants<sup>7</sup>. The maternal risk factors are usually not detected. As a result, there is difficult labor and newborn babies suffer from perinatal asphyxia. Again almost 70% child bearing women suffer from various types of

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malnutrition and give birth to LBW babies<sup>8</sup>. In a tertiary care hospital, two-third of all admitted cases of neonates were suffering from these two conditions which is an indirect magnitude of the above scenario<sup>9</sup>. But these risk factors of CP are modifiable and preventable by improving the socio-medical factors, maternal education, target based health care and political commitment.

There are various types of CP but the most common is spastic type. Here the muscles are rigid and stiff in one or more limbs and the child cannot walk, move, talk, eat or play like normal peers<sup>10</sup>. Then the parents seek medical advice. Paediatricians advise mothers for physiotherapy and occupational therapy. After attending several times, many of the children do not improve according to the expectation of parents, then the parents lose confidence to the therapy and they discontinue attending the therapy center. Again many of the mothers discontinue therapy due to inability to bear the cost of the treatment as this is still a costly therapy<sup>11</sup>. This attitude of parents poses the child to become more crippled. Moreover, many of the patients suffering from CP have associated problems like learning, hearing and visual problems as well as epilepsy<sup>2,10</sup>. In CP, most of the epilepsies are multidrug resistant and difficult to cure. Parents become economically exhausted by bearing the cost of the treatment.

In the northern region of Bangladesh, there was no center to address this problem in the past. So, this study was conducted to know the pattern, risk factors and complications of cerebral palsy in this region and to get a base line data for prevention of cerebral palsy.

### Materials and Methods

Child Neurology Center attached to Child Outpatient Department of Prime Medical College Hospital provides preventive and curative services to children suffering from various types of neurological diseases. This center maintains a register of CP. From 1<sup>st</sup> May 2009 to 31<sup>st</sup> December 2011 a total of 400 children suffering from CP attended this center. This descriptive and prospective study was conducted on these children. An Interview Schedule was prepared from the very beginning to record the patient's

information. This research instrument contained family history, socio-economic history and birth history. It also contained clinical examination, developmental assessment and investigations. A child having the criteria described by Aswal S *et al* was regarded as having CP<sup>12</sup>. A child not starting spontaneous respiration within 5 minutes of birth was regarded as having birth asphyxia<sup>13,14</sup>. Conventionally a baby having birth weight of < 2.5 kg was regarded as low birth weight and gestational age less than 37 completed weeks were regarded as preterm. As all the children came to the center for treatment and were agree to do all the investigations after counseling, a separate consent form was not fulfilled for ethical clearance but permission was taken from the authority of the hospital to conduct the study. Developmental assessment was done by modified Denver Developmental Screening Test. Computed Tomography scanning was done from the Radiology and Imaging Dept. of the Hospital. Routine and special investigations were done from the academic laboratories of the attached Medical College. Children having the complaints of visual defect were examined by an Ophthalmologist of the Hospital and hearing defects were examined from a nearby private audiological center. All the children are being followed up by personal contact with parents. All the children had mild to moderate mental retardation and this was not included in the analysis.

The results were presented by simple Tables and descriptive statistical analysis was done in appropriate cases.

### Results:

The male and female ratio was 3:2 and average age was 3±1.5 years. Maximum numbers (88.0%) of cases were suffering from spastic type of Cerebral Palsy followed by ataxic type (5.0%). Among spastics, 65% had quadriplegia. Perinatal asphyxia was a risk factor in 85.0% of cases and who had perinatal asphyxia 78.24% cases were delivered in home with untrained personnel. The other risk factors were low birth weight, Rh incompatibility, meningitis and toxoplasmosis. Epilepsy was the frequent associated complication (35.0%) followed by drooling (25.0%).

**Table-1:** Types of cerebral palsy (N=400)

Type	No (%)
Spastic	352 (88.0)
Ataxic	20 (5.0)
Athetoid	16 (4.0)
Mixed	12 (3.0)
<b>Total</b>	<b>400 (100.0)</b>

**Table-2:** Risk factors of cerebral palsy (N=400)

Factors	No (%)
Perinatal asphyxia	340 (85.0)
LBW	40 (10.0)
Meningitis	12 (3.0)
Severe jaundice	4 (1.0)
Undetermined	4 (1.0)
<b>Total</b>	<b>400 (100.0)</b>

**Table-3:** Place of deliveries (340)

Place	No (%)
Home	266 (78.24)
Upazilla and Dist Hospitals	40 (11.76)
District MCWC	28 (8.24)
Private clinics	6 (1.75)
<b>Total</b>	<b>340 (100.0)</b>

**Table-4:** Associated complications (N=400)

Complications	No (%)
Epilepsy	140 (35.0.0)
Drizzling	100 (25.0)
Deafness	20 (5.0)
Defective vision	20 (5.0)
Others	120 (30.0)
<b>Total</b>	<b>400 (100.0)</b>

## Discussion:

This study shows that 88.0% of the attending children at Child Neurology Center had spastic type of CP. This is the commonest type of CP ever studied<sup>14</sup>. Hoimond describes that three-fourths of

the cases of CP are spastic type which is consistent with the results of this study<sup>15</sup>. Several law agencies have also described that the commonest sign of CP they face are those with the spasticity of voluntary muscles<sup>16</sup>. Another study in a series of patients has shown that 83.3% children in that series had spastic type of CP<sup>17</sup>.

Perinatal asphyxia was the commonest risk factor (85%) in this series of children. In our country, almost 85.0% % deliveries take place in home and only 15% deliveries are conducted by trained birth attendants. The risk factors in mothers are usually not detected. As a result, there is difficult labor and newborn babies suffer form perinatal asphyxia. The home management of asphyxia is also primitive. This causes persistent hypoxic state leading to insult of the brain. In the neonatal ward of this hospital in 2009 the highest percentage (37.88%) of neonates were admitted with perinatal asphyxia which is a reflection of the scinerio<sup>18</sup>. One study<sup>19</sup> in UK has shown that only 2.0% of the children with CP had perinatal asphyxia which is in contrast to our finding. In another study<sup>20</sup> in UK only 10% of the children suffering from CP had perinatal asphyxia. This is probably due to the fact that ante-natal check up is mandatory in that country and the incidence of perinatal asphyxia is very low.

LBW was the second common risk factor of CP in this study. LBW is an important neonatal health problem in our country. Almost 70% child bearing women suffer from various types of malnutrition with other co-morbidities and give birth to LBW babies. LBW babies suffer from cerebral palsy, intellectual deficits and other short-term and long-term morbidities<sup>21</sup>. In UK in a series of patients, a retrospective study showed that about 22% children suffering from CP were LBW with delivery within 32-37<sup>th</sup> week<sup>22</sup>. In a series of studies in Europe, it has been shown that LBW was associated with 6 times increased risk of developing CP<sup>23</sup>. LBW with IUGR is also associated with increased risk of CP<sup>24</sup>.

Epilepsy was the commonest associated complication (35.0%) in this series of patients. This may seem a high prevalence but as many as 50% of children suffering from CP may have epilepsy<sup>25</sup>. Another study has shown that one-third of children

suffering from CP can develop epilepsy which is also in concordance with our study<sup>26</sup>. Even there may be high prevalence of epilepsy in CP and one retrospective study has the prevalence as high as 62.0% in Brazil<sup>27</sup>. One observation in our study was that epilepsy was present mostly in children with spastic CP which is in consistent with the finding of another study<sup>28,29</sup>.

### Conclusion:

Perinatal asphyxia and LBW are the two main risk factors leading to CP and home delivery is the main underlying factor. As case-control study is appropriate to determine a risk factor, further studies will be required.

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# INFANT FEEDING PRACTICES AMONG THE HORIZON COMMUNITY IN RANGPUR SADAR UPAZILA

Shirin AB<sup>1</sup>, Masuma J<sup>2</sup>, Bari M A<sup>3</sup>, Wahed M A<sup>4</sup>

## Abstract:

**Introduction:** Appropriate feeding practice is one of the fundamental importance for the survival, growth & development of infant. The WHO /UNICEF global strategy recommends exclusive breast feeding for the first 6 months of the life & then continue breast feeding with proper supplementary food up to 2 years. Horizons are one of the neglected communities in this aspect.

**Objective:** This study was carried out to observe the practices of infant feeding among the deprived group (Horizon) in Rangpur Sadar Upazila, Rangpur.

**Method:** This descriptive and cross-sectional study was carried out on 50 mothers having 1-3 years old children to see their infants' feeding practices. Information was collected by using a pre-tested semi-structured questionnaire. The purpose of this study was informed and written consent was taken from each respondent prior to data collection.

**Results:** Among the 50 respondents 20% were illiterate. 34% had primary and 32% secondary education. Of them 76% were housewives whereas 8% were engaged in good service and 12% in different NGOs. All respondents breast fed their babies for variable periods but 80% of the mothers gave their babies prelacteal foods. Only 10% fed for 1½ yrs and 90% for 2 yrs. None of the mothers completed exclusive breast feeding, 90% of the studied population breast feed their babies exclusively for 2 months & 10% for 5 months. Starting of complementary food was also inappropriate, 70% of the mothers started additional food at the age of 2 months, 10% at the age of 3-5 months & 20% at the age of 6 months. Only 46% of the respondents gave normal family foods, the others started with unhealthy foods as complimentary foods.

**Conclusion:** Though all mothers breast feed their babies they did not practice the proper breast feeding. So Horizon community need special attention and care for Child Nutrition and the development of the nation. (*Prime med. j. V-2, No-1, P-8 -11*)

**Keywords:** Horizon community, Infant feeding, Exclusive breast feeding, Prelacteal food.

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## Introduction:

After birth, the best food for a new born is mother's milk. It is known that almost all women could successfully breast feed their babies, if they were given proper guidance both before & after child birth. Breast milk provides the main source of nourishment in the first year of life<sup>1</sup>.

Under any circumstances, breast milk is the ideal for the infant and no other food is required upto 6 months after birth. When a baby is given only breast milk and not even a drop of water upto 6 months of age it is called an absolute or exclusive breast feeding (EBF). EBF for the first 6 months

followed by introduction of complementary foods on completion of 6 months is a rational regimen. If a baby is fed only with breast milk over a long period of time (e.g. 2 years) without giving any supplementary food, the baby becomes flabby and oedematous due to deficiency of protein and anaemia due to iron deficiency. Failure to breast feed the baby is nearly always due to some mistake committed because of lack of proper knowledge of nature's laws (physiology) of lactation. A child who is breast-fed has greater chances of survival than a child artificially fed. Prolonged breast feeding does protect the infant from early malnutrition and some infections.

When the standard of environmental sanitation is poor & education is low, the content of feeding bottle is likely to be a nutritionally poor as it is bacteriologically dangerous. It is therefore very important to advise the mothers to avoid feeding bottle<sup>2</sup>.

During the weaning process, children are exposed to the deleterious synergistic interaction of malnutrition and infection. Horizon communities in our country are engaged in cleaning the latrines, disposing excreta, cleaning of drains etc. Without their active support maintenance of sanitation may be disrupted. This horizon community is a neglected one. They are neglected by their neighbours and also by the higher class in the society. So the study was conducted to assess the pattern of feeding practice in this community.

### Methodology:

This cross-sectional descriptive type of study was conducted from 18th November - 30<sup>th</sup> November, 2008, in sadar hospital horizon colony, Pouroshova, a horizon colony of Rangpur.

A total 50 female respondents having 1-3yrs old babies were included in the study. Subjects were collected by Purposive Sampling. A semi structured questionnaire was used to collect data through face to face interview. Informed consent was taken from the respondent prior to data collection.

Key variable were duration of breast feeding, duration of exclusive breast feeding, practices of pre-lacteal food & timing of weaning food. Informed consent was taken from the respondents prior to data collection. Data were edited, processed & analyzed manually with the help of scientific calculator.

### Results:

Among the 50 respondents 90% breastfed their babies for 18-23 months & 10% for 12-17 months (Table-1). Ninety (90%) of the mothers exclusively breast fed their babies for 2 months & 10% for 5 months (Table-2). 70% of the studied population offered honey as pre-lacteal feeding, 20% cow's milk & 10% distilled water (Table-3). Regarding the nature of supplementary food 20% of the mothers gave suzi, 60% mothers gave soft rice & 20% gave fruit juice, soft-bread as supplementary food (Table-4).

46% of the mothers started normal family food to their babies by the age of 3 to 4 months, where as 35% at the age of 5 to 6 months & 20% at the age of 6 months & above age (Table-5).

**Table-1:** Duration of Breast Feeding (n=50)

Duration (in Month)	No of subject	%
12-17	05	10
18-23	45	90

n= Number of respondent

**Table-2:** Duration of Exclusive Breast Feeding (n=50)

Duration (in Month)	No of subject	%
0-2	45	90
3-5	05	10

n= Number of respondent

**Table-3:** Nature of pre-lacteal food offered (n=40)

Pre-lacteal food	No of subject	%
Honey	35	70
Cow milk	10	20
Distill Water	5	10
<b>Total</b>	<b>*50</b>	<b>100</b>

\*Multiple responses.

n= Number of respondent practices pre-lacteal food.

**Table-4:** Nature of upplementary/Additional food (n=50)

Additional food	No of subject	%
Sugi	10	20
Soft rice	30	60
Others( Fruit-juice soft bread)	10	20

n= Number of respondent

**Table-5:** Time of starting normal Family food (n=50)

Month	No of subject	%
3-4	23	46
5-6	17	34
6+above	10	20

n= Number of respondent

### Discussions

This study reveled that cent percent study subject breast feed their babies and knew about the colostrum and its benefits. But they did not follow the right way of breast feeding, only 10% mother breast fed their baby upto 2 years of age. Even exclusive breast feeding rules were not maintained, same percentages exclusively breast feed their babies for 5 months. As weaning food, family food must be offered to the baby which was only 20% at the age of 6 months in our study. In a case-control study on effect of micronutrients on morbidity & duration of Hospital stay in childhood pneumonia M.A.Wahed found EBF was 15% only & 50% of the studied populations were weaned in time<sup>3</sup>.

Still pre lacteal food such as honey, cow's milk and distil water freely practiced by the horizon community people, which was reveled in our study 80% responded were followed. Our study revealed that 20% mothers were illiterate and 76% were house wife. In our study EBF upto 3 to 5 months were 10% and pre-lacteal feeding practices were 80%. Absolute breastfeeding for 5-6 months followed by introduction of weaning foods on completion of 4 months is a rational regimen. Along with other foods, breastfeeding, even if in small quantities, should continue upto 2 years by which time the child should be ready to share family food. For a healthy baby, proper breast feeding, weaning food, educated mother and family income is essential<sup>4</sup>. The study of Liqian Qiu revealed that breastfeeding is the basis for

appropriate nutrition for infants and is strongly supported by the Ministry of Health in China. However, there are differences in infant feeding practices in different areas of the country. The aim of this study was to compare the infant feeding practices and the prevalence of determinants of initiation and continuing to breastfeed until six months of age in city, suburban and rural areas in Zhejiang Province. In that study more than 95% of mothers in each location initiated breastfeeding, exclusive breastfeeding rate was much lower in the city. By the sixth month very few mothers in both city and suburban area were exclusively breastfeeding (0.2% and 0.5% respectively), but in the rural area the rate was higher where 7.2% of mothers were still exclusively breastfeeding. Infant feeding practices are another part of the culture which has been influenced by economic development. In that study more than 96% of mothers were breastfeeding their infants at discharge from hospital.<sup>5</sup>

### Conclusion

Horizon community is a neglected one in the society. Without their active support sanitation maintenance may be disrupted. The study reveled that 20% responded were illiterate and 76% mother housewife. Though all mothers breast feed their baby, they did not practice the proper breast feeding. Only 20% mother were in right tract about exclusive breast feeding and weaning food practices. So Horizon community need special attention and care for Child Nutrition and the development of the nation.

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# HEALTH CARE SEEKING BEHAVIOUR AMONG THE RURAL PEOPLE OF POLASBARI UPAZILLA OF GAIBANDHA DISTRICT

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## Abstract:

The delivery of Primary Health Care (PHC) services to the rural masses is the main target of the government's present health policy. The UHC is working as the essential unit of PHC system. Utilization of health services is a complex behavioral phenomenon. This descriptive and cross-sectional study was carried out on 380 house holds during the period of 26<sup>th</sup> February to 1<sup>st</sup> March 2012 at the Palashbari Upazilla of Gaibandha District with the objective to determine the prevailing disease pattern and health care seeking behaviour in rural Bangladesh. Among the study people majority (44%) suffered from diarrhea, respiratory diseases (33%), fever and common cold (8%) and heart diseases (6%). Majority (71%) bought ORS from private shops. In addition to public health facilities, BRAC health centres was a preferable place for health service. EPI coverage were 92%, 66% used FP methods, 61% pregnant mother visited for ANC and majority 60% delivered at home. During referral 95% follow and used that. Majority (60%) death was due to aging process, during death time 54% kept at home. This study concluded that it is important a need based health care delivery system and actions should be taken to improve the overall scenerio to develop health system of rural Bangladesh. (*Prime med. j. V-2, No-1, P-12 -15*)

**Key words:** PHC, UHC, ORS, EPI, TB, BRAC, FP, ANC.

## Introduction:

Bangladesh, with an area of 1,47,570 sq.km, is inhabited by a population of 142.3 million and has one of the highest population densities in the world (964 persons per sq.km) Average annual growth rate is 1.34%. Sex ration is 100.3 which indicates

equal number of males and females. The adult literacy rate is 60%; and average life expectancy is 64 years. The majority of our population resides in rural areas (77%). There are 68,000 villages, 4,451 unions, 484 upazillas, 64 districts and 7 divisions<sup>1</sup>. So the morbidity, mortality and disease pattern will be different in our country than the prosperous ones. Thus information on the existing disease pattern and health seeking behaviour is essential to provide need based health care delivery to any population. This information is not always available in our country. Mainly hospital data are available for disease pattern. Community based study can only reflect the true picture of disease pattern in a given community and what are their preferences in seeking health services<sup>2</sup>.

The delivery of PHC services to the rural mass is the main target of the government's present health policy. The UHC is working as the essential unit of PHC system. Above the Upazila health complex in the hierarchical health structure are the secondary

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and tertiary level<sup>3</sup>. Despite the impressive improvement in health sector over last 25 years, much remains to be done in this sector. Quality and coverage of PHC are not expected. About half of the population is still out of the health care facilities. There are a lot of health problems in Bangladesh. The problem of communicable and nutritional diseases are common, Maternal and child health service is inadequate. Population explosion is a continuous hazard. Basic sanitation is at its lowest level with lack of safe water supply. Besides these, non communicable diseases like CHD, renal diseases, cancers, DM are increasing. People involvement is central to all aspects of human development of which health is one. According to the Alma-Ata conference in 1978, community participation was described as an essential component of PHC. Again health education and behaviour change communication (BCC) is also important as people's knowledge and an attitude is very essential for proper utilization of services<sup>4</sup>.

So, monitoring of health service practice (specially in rural area) should continue as renewed efforts to know their current condition and improve the health system thereby. This study may contribute in knowing the overall picture of health seeking practice of our rural people.

#### Method & Materials:

This descriptive and cross-sectional study was carried out on a total number of 380 subjects during the period of 26<sup>th</sup> February to 1<sup>st</sup> March 2012 at Jalingi and Amlagasi village of Mehedi Union of Pllashbari Upazilla of Gaibandha District. Sampling technique was purposive. Key variables were morbidity pattern & utilization of health care facilities. Data were collected by a semi-structured questionnaire through face to face interview of the respondent after taken informed consent. This study was carried out after approval of the institution, as a part of course curriculum of 2<sup>nd</sup> professional examination of Prime Medical College, Rangpur. Data were edited and entered into a master sheet. All the statistical analysis was performed by calculator.

Data on types of health care sought were obtained by asking the respondent about the nature and place of treatment measures undertaken. This

treatment places were subsequently grouped into six categories. The category 'home treatment' comprised traditional and modern forms of self-treatment such as analgesic and anti-pyretic tablets, ORS, antacids etc. which are commonly available in rural shops, and taken without prescription. 'Traditional methods' included treatment seeking within faith healing and traditional system of medicine, including, Kabiraji Hakimi & Homeopathy. 'Private Para-professional' category of treatment seeking consisted consultations with palli chikitsoks (village Practitioners), Medical Assistants & community health workers. The category 'qualified private practitioners' include graduate doctors, either Government service holder who practice outside office period or private practitioners. 'Government health facility' refers to all categories of health facilities run by government. 'Private hospitals' include NGO Hospitals, Private Clinics etc..

#### Result:

In our study population majority suffered from diarrhoeal diseases (44%), next were respiratory diseases (33%), heart diseases (6%), Fever & common cold (8%) (Table-1).

**Table No-1:** Common diseases among the study population. n=380

Type of Diseases	Frequency	%
Diarrhoeal disease	167	44
Respiratory disease	125	33
Fever and common cold	30	8
Heart diseases	23	6
Others	35	9
<b>Total</b>	<b>380</b>	<b>100</b>

n = Number of responden

Among 380 respondents 71% people bought ORS from privet shops, 18% made at home and only 11% got from govt. supply. Regarding second common problem respiratory diseases, 71% received treatment from government facilities and 29% from private places. Study revealed that only 4% were identified as TB patient which occuppies only 1.09% of the total population, of them 2(50%) were diagonosed and treated at BRAC centre, 1(25%) at clinic and 1(25%) by private

practitioners. 351(92%) had said that their children were under EPI coverage. & rest 8% unimmunized. Majority of the total population i.e. 66% take family planning method and 34% of the population takes no contraceptive methods at all. The study shows that, 61% of the female population visit for ANC and 40% pregnant women didn't visit for ANC. 156 women take Ante natal care 60% from public

health centers and 40% from private health centers. The numbers of delivery in the study area during last 5 years were 118. Among them majority 60% taken placed in home, 20% in public health centres, 20% in private health centres. Regarding utilization of referral system 95% took the facility and 5% stay at home (Table -2).

**Table-2: Health Care Seeking Practices among the study population (% of subjects) n=380**

Types of services	Home Treatment	Traditional Methods	Privite Para-professional	qualified Private Practioners	Govt. Health Facility	Private Hospitals
ORS	8.9	-	-	-	11	-
Resp. diseases	-	-	-	29	71	-
TB treatment	-	-	-	25	25	50
EPI	-	-	-	-	92	-
FP	-	-	-	-	66	34
ANC	-	-	-	-	60	40
Delivery	60	-	-	-	20	20
Referral system	5	-	-	-	95	-

n = Number of respondent

The number of **death** in last 1 year were 46 during that time majority 54% stay at home, 35% hospitalized, 8% admitted at clinic and 3 % at other places (**Table-3**).

**Table-3: Utilization of Health Care during death (last year) in the families of the study population. n=46**

Care During Death	Frequency	%
At home	25	54
Hospitalized	16	35
Private clinic	4	8
Other	1	3
<b>Total</b>	<b>46</b>	<b>100</b>

n = Number of death

### Discussion:

The study was aimed to describe the health care seeking practices in rural Bangladesh. Utilization of health services is a complex behavioral phenomenon. Use of health services is related to the availability, quality, cost of services as well as

to social structure, health habits and personal characteristics of the users<sup>2</sup>.

In this study the three most frequently reported diseases were diarrhoeal diseases, respiratory tract infections and fever. Ahmed *et al* found the same disease pattern in their study. Most of the villagers know about ORS. Our study shows that 89% of the subjects bought ORS from near by private shops & only 11% got from govt. health facilities. Most of the people of Bangladesh are aware the treatment of diarrhoea as diarrhoeal disease control programm (CDD) and IMCI Programm are continuing training programm for health care providers to educate the parents of children about the home management of diarrhoea. As shops are frequently available within a short distance from home, the parents prefer to buy ORS pakets from this shops instead of govt. hospitals to save the transport cost.

About 71% of patients to treatment from govt. hospitals and only 29% appeared to qualified doctors. Most of the the patients were children and

of low socioeconomic status. On the other hand parents perceived that treatment of children is a specialised matter and Govt. Hospitals are better place for their children. This is in contrast with the findings of the study conducted in Pakistan<sup>6</sup>.

Prevalence rate of TB was 1.09% which was correspondent to the TB prevalence rate in Bangladesh. The EPI coverage in our study population was nearly 92% which was almost similar to national EPI coverage<sup>7</sup>. Majority of the population that is 66% used different types of family planning methods. The study showed that 61% of the women visited for ANC. Among them 60% got the service from public health centres 40% from private centres. The results are higher than the perspective of rural Bangladesh. This may be due to the fact that this study area was visited previously by several groups of medical students as this area is a residential field side training (RFST) area of Rangpur Medical College. Probably those visits created awareness of mothers.

Sixty percent of the delivery took place at home, 20% at public health centres and 20% at private health centres. Percentage of home delivery in our study population was much lesser than the perspective of rural Bangladesh. It may be due to the health awareness of the area and availability of health facilities.

Regarding referral system 95% cases utilized the facilities from Upazilla health complex & district hospitals and 5% were kept at home. Out of 46 deaths last year 50% causes were due to aging process. And majority (54%) of death kept at home during their end of life time which need to improve by hospitalized, which was only 35% in our study finding.

### Conclusion:

Utilization of health care services is a complex behavior phenomenon. The study revealed that

among 380 households 44% suffered from diarrhea. Only 11% people are supplied ORS by Govt. Treatment facilities for TB shows 50% got treatment from BRCK. 92% children were under EPI coverage. Majority 60% delivery taken placed at home, 20% in public and 20% in private centre. The study concluded that it is important a need based health care delivery system of rural Bangladesh.

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# ASSESSMENT OF STUDENTS IN SURGERY

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## Abstract:

Old fashioned & traditional systems of assessing the medical students are no longer in vogue. Newer & newer assessment systems are being adopted. This is a continuous process to adopt the best ones suitable to the present needs. A sound knowledge is always expected from the students & the surgeons. This article provides a conceptual framework for and a brief update on commonly used and emerging methods of assessment in surgery. There are varied methods commonly employed to assess the medical students both at undergraduate & post-graduate levels. They are:

1. Written format - Long essay questions (LEQs) & its modifications, Short answered questions (SAQs) & Multiple Choice Questions (MCQs);
2. Practical/Clinical format - OSPE/OSCE, Patient Management Problems (PMPs), Long cases, Short cases;
3. Oral format - Traditional viva voce, structured oral examinations. All these formats are prevalent to assess the students in Bangladesh. (*Prime med. j. V-2, No-1, P-16 -23*)

**Key words:** Assessment, Students, Surgery.

## Introduction:

Perfect evaluation needs updating the standards from time to time. Evaluation tools help to detect the areas of weakness or strength. They are very important in our endeavors to develop & upgrade a particular aspect of learning so as to become a competent professional. To evaluate students' knowledge, we assess by written examination & to evaluate students' skill, we assess by practical examination.

"Assessment is the process of documenting knowledge, skills, attitude & beliefs, usually in the measurable terms<sup>1</sup>," Assessment may be (a)

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formative and summative, (b) objective & subjective, (c) criterion referenced & criterion non-referenced, (d) formal & informal. Formative assessments are commonly done throughout an academic course that is very much conducive to the learning process<sup>2</sup>. It guides future learning, provides reassurance, promotes reflection, and shapes values. Summative assessments are applied at the term-end of a course in an academic arena to assign the students a course grade<sup>3</sup>. Summative assessment thus makes an overall judgment about competence, fitness to practice or qualification for advancement to higher levels of responsibility<sup>4</sup>.

Evaluation & assessment go par excellence pari passu to awaken the teachers, learners & the guardians in the form of a feedback to strengthen skill & to augment knowledge<sup>5</sup>. Competence in medical science is "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individuals and communities being served." The Accreditation Council for Graduate Medical Education (ACGME) of the USA uses six interrelated domains of competence: medical knowledge, patient care,

professionalism, communication and interpersonal skills, practice-based learning and improvement, and system-based practice<sup>6</sup>. Competence is not an achievement but rather a habit of lifelong learning. Assessment plays an integral role in helping physicians identify and respond to their own learning needs. Ideally, the assessment of competence (what the student or physician is able to do) should provide insight into actual performance (what he or she does habitually when not observed), as well as the capacity to adapt to change, find and generate new knowledge, and improve overall performance<sup>7</sup>. Competence is contextual, reflecting the relationship between a student's abilities and the tasks he or she is required to perform in a particular situation in the real world. Common contextual factors include the practice setting, the local prevalence of disease, the nature of the patient's presenting symptoms, the patients' educational level, and other demographic characteristics of the patient and of the physician. Many aspects of competence, such as history taking and clinical reasoning, are also content-specific and not necessarily generalizable to all situations<sup>8</sup>. A student's clinical reasoning may appear to be competent in areas in which his or her base of knowledge is well organized and accessible, but may appear to be much less competent in unfamiliar territory<sup>7</sup>. However, some important skills (e.g., the ability to form therapeutic relationships) may be less dependent on content<sup>8</sup>. Competence is also developmental. Habits of mind and behavior and practical wisdom are gained through deliberate practice<sup>9</sup> and reflection on experience<sup>10,11,12</sup>. Students begin their training at an apprentice level, using abstract, rule-based formulas that are removed from actual practice. At higher levels, students apply these rules differentially to specific situations. During residency, trainees make judgments that reflect a holistic view of a situation and eventually take diagnostic shortcuts based on a deeper understanding of underlying principles. Experts are able to make rapid, context-based judgments in ambiguous real-life situations and have sufficient awareness of their own cognitive processes to articulate and explain how they recognize situations in which deliberation is essential. Development of competence in different contexts and content areas may proceed at different rates.

Context and developmental level also interact. Although all clinicians may perform at a lower level of competence when they are tired, distracted or annoyed, the competence of less experienced clinicians may be particularly susceptible to the influence of stress<sup>13,14</sup>.

### Goals & Purposes:

Evaluation & assessment have three main goals: to optimize the capabilities of all learners and practitioners by providing motivation and direction for future learning, to protect the public by identifying incompetent physicians, and to provide a basis for choosing applicants for advanced training.

Purposes of evaluation & assessment are (a) to grade the students as passed or failed etc., (b) to assure a standard of quality of knowledge, skill & service etc., (c) to encourage & augment students' learning process, (d) to improve the prevailing didactic methods, (e) to have a fruitful feedback amongst the disciples, the instructors & the guardians, (g) to identify the essential aspects of knowledge & skill, (h) to certify the disciples as well the instructors & so on. The evaluation & the assessment processes need to be reliable, valid & practicable in order to attain the desired goals & objectives of the course.

### Methods of Assessment

There are multiple instruments (methods) that are commonly used to assess the medical students both at undergraduate & post-graduate levels<sup>4</sup>. They are:

1. Written format- Long essay questions (LEQs) & its modifications, Short answered questions (SAQs), Multiple Choice questions (MCQs).
2. Practical/Clinical format- OSPE/OSCE, PMPs, Long cases, Short cases.
3. Oral format- Traditional viva voce, structured oral examination.

In Bangladesh, all these formats are in vogue to assess the students at undergraduate & post-graduate levels.

### Written Format

Essay type questions are the most commonly employed armamentarium to evaluate & assess the students. It has some positive impact & thence

still is being honored as a fruitful tool in many parts of the world in post-graduate examinations. The complex cognitive skills including analysis, synthesis, evaluation & the power of recall, comprehension, communication, organization & expression are well judged here. As essay type questions are very easy to construct, they continue to be used widely as a method of assessment in medical education<sup>5</sup>.

SAQs cover a wide range of contents including definition, explanation, management etc in simple & concise forms to assess the students' diverse requisite capability..

Now-a-days Multiple Choice Questions (MCQs) are the most widely used component of objective tests. They are reliable, valid & practicable. They can provide a large number of examination items that encompass many content areas, can be administered in a relatively short period, and can be graded by computer. These factors make the administration of the examination to large numbers of trainees straightforward. Standardized MCQs are fixed response tests. An MCQ usually consists of a base or stem followed by a series of 4 to 5 suggested answers for a question or completion of a statement. A wide range of formats are there for framing MCQs. Most MCQs test recall of knowledge. One can construct MCQs that check learning outcomes in the middle part to lower part of cognitive domain like application, comprehension, knowledge & to a lesser extent analysis<sup>2</sup>.

### **Objective Structured Examinations:**

The traditional clinical (comprising long cases, short cases and viva voce) examinations have substantial limitations in terms of reliability, validity. However strict objective assessment method is lacking in variation by different examiners.

The objective structured examinations have overcome some of these limitations. There are OSCEs/OSPEs. The OSCE was developed as an evaluation tool, in Dundee and Glasgow in the early 1975 by Dr. Harden and his colleagues<sup>1,10,11,12</sup>. Unlike that in the traditional method, in OSCE, there is standardization of tasks. It is very much appreciated by them. An Objective Structured Clinical Examination (OSCE) is a modern<sup>13</sup> type of examination often used in many

branches sciences & arts (e.g. medicine, surgery, midwifery, chiropractic, physical therapy, radiography, nursing, pharmacy, dentistry, engineering, law etc) & is designed to test clinical skill performance and competence in skills such as communication, clinical examination, medical procedures/prescription, exercise prescription, joint mobilization/manipulation techniques, radiographic positioning, radiographic image evaluation and interpretation of laboratory investigations, results, etc. Here is a definite improvement in terms of reliability, validity, feasibility, objectivity & practicability<sup>13</sup>. Thus the whole process is well defined, planned, objective, and structured with good amount of control over the variables like the quality of student, the type of patient, and the mood of the examiner. This has now become a fairer and reproducible method of student's evaluation. OSCEs comprise a series of stations (about 10 to 15) around which examinees rotate. Depending upon the nature of tasks, we can have following types of stations<sup>15,16,17</sup>.

1. Procedure Station: The student is expected to perform a decided task in front of an observer who observes the student while doing the task and gives marks as per the provided checklist
2. Response Station: The student is expected to respond to certain questions, either based on the previous procedure station or chosen separately to evaluate areas of knowledge, interpretation, problem solving etc.
3. Question stations are a type of Response stations, meant to test the knowledge part of the skills tested in prior stations.
4. Rest Station: These stations are meant to give a break to the students.
5. Critical Stations: These stations are the must pass stations as they are meant to judge the most important and critical component of students curriculum.
6. Couplet Station some of the stations can be linked to each other in an effort to evaluate a common objective requiring more time.
7. Feed back stations can also be included to provide immediate feedback to students on performance at previous station or this may be done separately.

8. Must pass/Guillotine station if any ensures a single station to decide everything.

An examinee is expected to undertake a well defined task at each station. The criteria on which one's performance is to be assessed are carefully defined prior to the onset of the examination. The length of time spent at each station is usually short. A wide range of tasks is here assessed<sup>14</sup>. If an examinee discovers that some components of competence are really tested they may pay less attention to other components than those he or she predicts are more likely to appear<sup>15</sup>. Spotting type of stations actually judge non-surgical skills<sup>16</sup>. So, stations have also been designed where real practical surgical (procedural & communicative) skills including ethics are also tested. It is a wrong idea to divide the stations into an idea of x-ray, specimen, instrument, question, splint, bandage, dressing etc.<sup>18,19</sup>. Individual components of an OSCE station are:

1. Written instruction to the patient,
2. Written instruction to the simulated patient,
3. Written instruction to the examiner,
4. Written instruction to the examinee,
5. A mark sheet,
6. Piloting the stations,
7. Answer key/check list,
8. Score sheet

As the name suggests, an OSCE is designed to be:

1. Objective - all candidates are assessed using exactly the same stations (although if real patients are used, their signs may vary slightly) with the same marking scheme. In an OSCE, candidates get marks for each step on the mark scheme that they perform correctly, which therefore makes the assessment of clinical skills more objective, rather than subjective (which is where the examiners decide whether or not the candidate fails based on their subjective assessment of their skills).
2. Structured - stations in OSCEs have a very planned specific task. Where simulated patients are used, detailed scripts are provided to ensure that the information that they give is the same to all candidates, including the emotions that the patient should use during the

consultation. Instructions are carefully written to ensure that the candidate is given a very planned specific task to complete. The OSCE is carefully structured (planned) to include parts from all elements of the curriculum as well as a wide range of skills.

3. A clinical examination - the OSCE is designed to apply clinical and theoretical knowledge (cognition). Where theoretical knowledge is required, for example, answering questions from the examiner at the end of the station, then the questions are standardized (structured & specific) and the candidate is only asked questions that are on the mark sheet and if they are asked any others then there will be no marks for them.

Checklist is the most important component of OSCE/OSPE. This contains the vital steps which we want the students to follow to accomplish the identified procedure to fulfill the set objective. Checklist should be complete with list of material required for that station, instructions to technical staff, with model answers and marks distribution. Each step in the checklist can be given differential marks depending upon the significance of that step over another. A checklist is to be prepared with consensus from other members of the department. Before subjecting students to the station it is good to review and validate the test by mock practice with PG residents or junior teachers. This makes sure that the task expected of the student can be accomplished within the time. Before examination, the students must be given clear and concise instructions<sup>19</sup>.

Marking in OSCEs is done by the examiner. Occasionally written stations, for example, writing a prescription chart, are used and these are marked like written examinations, again usually using a standardised mark sheet. One of the ways an OSCE is made objective is by having a detailed mark scheme and standard set of questions. For example, a station concerning the demonstration to a simulated patient on how to use a Metered Dose Inhaler (MDI) would award points for specific actions which are performed safely and accurately. The examiner can often vary the marks depending on how well the candidate performed the step. At the end of the mark sheet, the examiner often has

a small number of marks that they can use to weight the station depending on performance and if a simulated patient is used, then they are often asked to add marks depending on the candidates approach. At the end, the examiner is often asked to give a "global score". This is usually used as a subjective score based on the candidates overall performance, not taking into account how many marks the candidate scored. The examiner is usually asked to rate the candidate as excellent/good/pass/borderline/fail or sometimes as pass/borderline/fail. This is then used to determine the individual pass mark for the station.

Many centers in the world allocate each station an individual pass mark. The sum of the pass marks of all the stations determines the overall pass mark for the OSCE. Many centers also impose a minimum number of stations required to pass which ensures that a consistently poor performance is not compensated by a good performance on a small number of stations.

There are, however, criticisms that the OSCE stations can never be truly standardized and objective in the same way as a written exam. It has been known for different patients / actors to afford more assistance, and for different marking criteria to be applied. Finally, it is not uncommon at certain institutions for members of teaching staff be known to students (and vice versa) as the examiner. This familiarity does not necessarily affect the integrity of the examination process, although there is a deviation from anonymous marking. However, in OSCEs that use several circuits of the same stations the marking is repeatedly shown to be very consistent which supports the validity that the OSCE is a fair clinical examination. Examiners if not well versed with the process must also be clearly instructed about their role in observed stations. If standardized patient (may be volunteers or paid employee) are involved they must be properly trained and given clear and detailed instructions to maintain uniformity on their part. It is a good practice to observe standardized patients do their part in front of a clinician<sup>20</sup>.

### **Preparation for OSCE**

Preparing for OSCEs is very different from preparing for an examination on theory. In an

OSCE, clinical skills are tested rather than pure theoretical knowledge. It is essential to learn correct clinical methods, and then practice repeatedly until one perfects the methods. Marks are awarded for each step in the method. Hence, it is essential to dissect the method into its individual steps, learn the steps, and then learn to perform the steps in a sequence. Most universities have Clinical Skills Labs where students have the opportunity to practise clinical skills such as taking blood or mobilizing patients in a safe and controlled environment. It is often very helpful to practise in small groups with colleagues, setting a typical OSCE scenario and timing it with one person role playing a patient, one person doing the task and if possible, one person either observing and commenting on technique or even role playing the examiner using a sample mark sheet. Many OSCE textbooks have sample OSCE stations and mark sheets that can be helpful when studying in the manner. In doing this, the candidate is able to get a feel of running to time and working under pressure.

In many OSCEs, the stations are extended using data interpretation. For example, the candidate may have to take a brief history of chest pain and then interpret an electrocardiogram. It is also common to be asked for a differential diagnosis, to suggest which medical investigations the candidate would like to do or to suggest a management plan for the patient.

Thus OSCE is a form of multi-station examination where each student needs to answer all the stations. It can be used for assessment of all possible competencies that you want your students to acquire. It is one of the most versatile methods of assessment that nearly fulfills all the criteria of an ideal assessment method i.e. it is valid, reliable as well as feasible method.

### **Advantages of OSCE<sup>21,22</sup>:**

- The most commonly appreciated advantages of OSCE/OSPE is that it provides a opportunity to test a student's ability to integrate knowledge, clinical skills, as well as communication with the patient which is a must for any student aspiring to become a successful clinician.

- This method removes the subjectivity responsible for bias on the part of examiner simultaneously providing opportunity to provide one to one constructive feedback to students for improvement.
- All the students undertake similar station and are judged on common parameter thus permits uniform and reproducible level of assessment
- It provides opportunity to judge large number of skills covering most of the topics
- It provides an opportunity to know the overall approach of the student towards patients and his problems.
- The structure of examination is flexible and easily adaptable as per local needs to the subject and department.
- Overall a reliable, valid and reproducible method both for formative as well as summative evaluation.

#### **Limitation of OSCE<sup>21,22</sup>:**

Just like all methods OSCE/OSPE also has some limiting factors like-

- One of the limitations experienced in OSCE/OSPE is that this method requires extensive planning and preparation on the part of examiners.
- It is difficult without team effort and administrative support.
- It requires more labor, time and resources.
- Some people also feel that it breaks the clinical competence into fragments and we tend to evaluate our students in a fragmented manner.
- There is risk of observer fatigue.

#### **Patient Management Problems (PMPs):**

Commonly the assessment of an examinee has largely been traditionally concerned around a mere ability to recall isolated facts. Traditionally 80 p.c. of the questions in the medical examination required only recall of isolated facts, 15 p. c. required only interpretative skills, less than 5 p. c. required the use of problem solving skills & effective behavior was hardly tested at all. To counteract this, a number of simulation tests were introduced into the medical examinations. The best known of these is the Patient Management Problem (PMP), a pencil & paper test of clinical

problem solving skill which resembles a clinical situation. Patient Management Problems (PMPs) are exercises which simulate the decisions a good physician shall have to make in the diagnosis & treatment of patient illness<sup>20</sup>. The PMPs have got a unique role in teaching-learning process as because it is very intimate to practical problems which a practitioner will face in practice & has to master in the learning process.

#### **Oral Examination:**

Oral Examinations are said to be formidable even to the best prepared student, for the greatest fool may ask more than the wisest man can answer<sup>21</sup>. Traditional Oral Examination (TOE) is always threatening to the examinee & it'll not allow a free & fair way of judging the examinee as a whole. In the TOE system, there is always a chance of unfair means of relationship. Moreover, it is very much subject to variability, time & place variability, center & institute variability. In the TOE there is always a scope of suspicion amongst the examinees about their ill luck, which is not an acceptable judgement. The Oral Examination is utilized to probe deeply than an essay, an examinee's ability to meditate & to present more or less clearly his knowledge<sup>22</sup>. There are multiple factors such as examiner, environment, question sets, process of asking questions, feedbacks, objectivity of the examination etc. that influence over the whole evaluation & assessment process. By structuring the Oral Examination, it is possible to elicit from the examinees their cognitive abilities, problem solving, interpretative & decision making skills & assuring higher degree of validity & reliability. The answer of the structured questions should be written in answer sheets earlier & agreed by all examiners to avoid ambiguity & to ensure validity<sup>23</sup>.

#### **Conclusion:**

Considering all the challenges, current assessment practices would be enhanced if the principles are kept clearly in mind. The content, format and frequency of assessment, as well as the timing and format of feedback should follow from the specific goals of the medical education program. The various domains of competence should be assessed in an integrated, coherent, and

longitudinal fashion with the use of multiple methods and provision of frequent and constructive feedback. Educators should be mindful of the impact of assessment on learning, the potential unintended effects of assessment, the limitations of each method (including cost), and the prevailing culture of the program or institution in which the assessment is occurring. Assessment is entering every phase of professional development. It is now used during the medical school application process,<sup>20</sup> at the start of residency training<sup>21</sup> and as part of the "maintenance of certification" requirements that several medical boards have adopted<sup>24</sup>. Multiple methods of assessment implemented longitudinally can provide the data that are needed to assess trainees' learning needs and to identify and remediate suboptimal performance by clinicians. Decisions about whether to use formative or summative assessment formats, how frequently assessments should be made, and what standards should be in place remain challenging. Educators also face the challenge of developing tools for the assessment of qualities such as professionalism, teamwork, and expertise that have been difficult to define and quantify. Assessment thus as a whole has got a vital role over the teaching & learning processes. The assessment strategy needs to be standardized & individualized in accordance to the practical needs of surgery. Avoiding the traditional systems of examination, we must undertake practical competency based assessment without delay at all possible levels. A central quality assuring authority needs to be set for uniform, impartial & perfect assessment all over the region or country concerned. Each medical institute should institute a quality assessment plan to overcome all inevitable problems under the active leadership of an academic co-ordinator.

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# GIANT VESICAL CALCULUS WITH RIGHT HEMIPARESIS WITH SPEECH AND HEARING LOSS- A CASE REPORT

Mallik A U, Sarker A A<sup>2</sup>, Ehsan K M A<sup>3</sup>

## Abstract:

A vesical calculus is common but giant calculus is rare in modern medical practice. It is usually secondary to bladder outflow obstruction or migration of small calculi from kidney to bladder via ureter and gradually grown up there. These patients present with recurrent urinary tract infection, hematuria, retention of urine or incontinence. The aim of this study was to report a rare case of giant vesical calculus with incontinence of urine, of a male patient having right hemiparesis with hearing and speech disturbance. He had a history of cerebrovascular accident 4 years back. The patient underwent cystolithotomy and the giant calculus measured about 10.3x7 cm, had a dry weight of 490g. After 10<sup>th</sup> post operative period the patient transferred to physiotherapy department for treatment of paralysis.

**Conclusion:** Occurrence of a giant vesical calculus weighing 490 g in an elderly hemiparetic male, is a rare finding now a day. (*Prime med. j. V-2, No-1, P-24 -27*)

**Key words:** Giant calculus, Incontinence, Cerebrovascular accident, Cystolithotomy.

## Introduction:

Giant vesical calculus is very rare in modern practice, accounting for 5% of all urinary calculi<sup>1,2</sup>. Females are less affected than male. Ninety percent of bladder calculi are affected in male.<sup>3,4,5</sup> Usually it is the manifestation of an underlying pathologic condition, including voiding dysfunction or a foreign body. Voiding dysfunction may be due to a urethral stricture, benign prostatic hyperplasia, bladder neck contracture, or flaccid or spastic neurogenic bladder, all of which result in static urine. Foreign bodies such as Foley catheters and

forgotten double-J ureteral catheters can serve as nidi for stones.<sup>4,5</sup> Patients present with irritative voiding symptoms, intermittent urinary stream, urinary tract infections, hematuria or pelvic pain.<sup>6</sup> Herein, we report a case of giant vesical calculus of an elderly male who developed hemiparesis with incontinence of urine and stoned removed by cystolithotomy.

## Case report:

A 95-year-old male presented with 4 years history of urge incontinence. There was no history of passing stones or symptoms suggestive of renal calculi. He had a history of cerebrovascular accident 4 years back followed by right hemiparesis, speech and hearing disturbance, later on developed incontinence of urine. For which several investigations and treatment underwent for paralysis but not for incontinence of urine. On clinical examination, the stone was not palpable as he was well built. Vital parameter was normal except high blood pressure. Hb was 10.2gm/dl, blood urea and serum creatinine was within normal limit. Urine routine examination was normal. USG

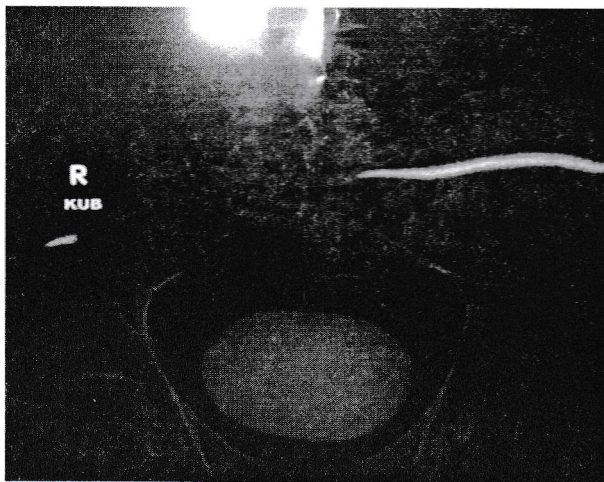
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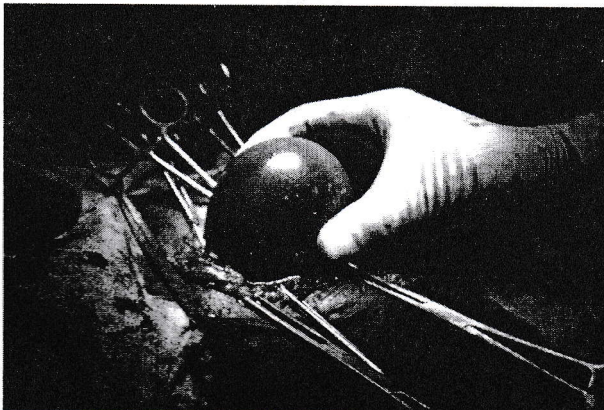
of abdomen showed a large echogenic oval shaped structure suspecting giant vesical calculus inside urinary bladder, showing no evidence of hydronephrotic change in kidney. A plain radiograph of the KUB region revealed a large oval shaped smooth surfaced radio-opaque shadow in pelvis (Fig.-1)

**Fig.-1 :** A plain x-ray showing oval shaped radiopaque shadow in pelvis suspecting bladder calculus. (Size 10.3 x7cm).



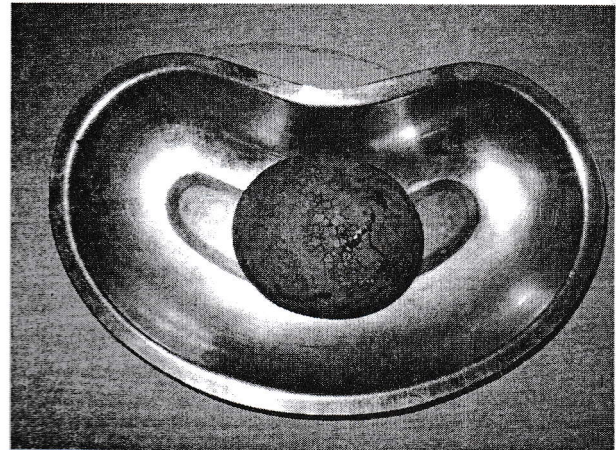
X-ray of chest revealed cardiomegally. Surgery was underwent with a lower midline incision and bladder wall was opened extraperitoneally. When delivering the giant calculus with difficulty, the incision on the bladder wall was extended. A giant calculus was removed (Fig.-2).

**Fig.-2:** A large brown color stone being extracted from the urinary bladder



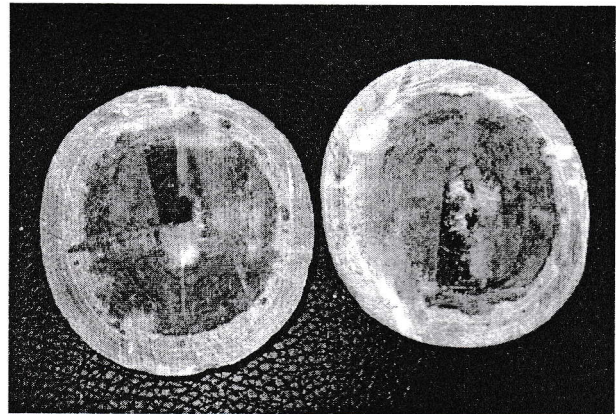
The weight of the calculus was 490g and size was 10.3x7 cm (Fig.-3 ).

**Fig.-3:** Specimen of large stone weighing 400g with smooth surface



Post operative period was uneventful. Cut section shows in Fig-4.

**Fig.-4:** Cut section of the giant calculus showing different layers of deposited materials.



**Discussion:** Giant vesical calculus weighing more than 490 g is rare entity<sup>1</sup>. Few reports are available in literature regarding giant vesical calculus probably because of technical advances of diagnostic modalities. The largest recorded calculus weighing 6294 g was reported by Arthure in 1953. The calculus reported by Randall (1921) weighted 1914 g, that of Powers and Matflered (1952) 1410 g and Dorsey (1952) 455 g that of Aslam (2010) 1125g<sup>7,8</sup>. It is thought that a giant

vesical calculus develops from the nidus of the infected material or from a single ureteric calculus with progressive layer-wise deposition of calcified matrix. Thus each of the factors described above may mutually contribute to the formation of a calculus<sup>9</sup>. Also, studies have shown that infection may not be the inciting factor in stone formation, but may play a major role in future stone crystallization<sup>4</sup>. Our case of 490 g in weight is the largest urinary bladder calculus, so far our knowledge, reported in Bangladesh, until the present time.

The cause of formation of a giant vesical calculus, in our case was not clear. Cut section showed that there was layer-wise deposition of calcified matrix. The patient had a history of cerebrovascular accident, after that patient developed right-sided hemiplegia with incontinence of urine. In normal subjects when bladder become full, it places pressure on nearby nerves to signal the brain that it is time to urinate. After cerebrovascular accident, this process may not work properly and the ability to sense the need to go and the ability to control the muscles until reaching the bathroom may be hindered, according to the National Institute of Neurological Disorders and Stroke. After a stroke, there may be difficulty initiating contraction of the bladder completely, and then incontinence of urine may develop as was in our patient<sup>10</sup>. Patient family also stated that occasionally the patient had been suffering urge incontinence before right hemiplegia developed. So, we are not sure whether the patient had small bladder calculus before stroke and later on developed in size producing a giant one. Both hypothesis may be the cause for the development of giant vesical calculus. The majority of bladder calculi are radiopaque and detected by plain radiograph. Other investigations which can show bladder calculi are ultrasound, CT-scan, magnetic resonance imaging and intravenous urogram but contrast-enhanced CT is the investigation of choice as it has remarkable sensitivity in detecting urinary tract stones, including uric acid stones. It can reveal the concentric nature of stones. Our case was diagnosed by x-ray and USG only.

Various surgical modalities are available for vesical calculi which include open surgical removal, extracorporeal fragmentation and endoscopic

crushing followed by extraction of pieces. For giant stones open surgery has been recommended as the best modality because whole bladder is occupied by calculus<sup>11</sup>. The urinary symptoms which develops is due to UTI secondary to vesical calculi. In this patient, urine microscopic examination showed no pyuria or hematuria, probably patient took antibiotics before attending to hospital.

**Conclusion:** Our giant vesical calculus is a rare entity. Such type of calculus in an elderly male patient is very rare in modern medical practice, we want to say that giant vesical calculus should be removed by open surgery.

**Achnolowedgement:** We are grateful to Mr Ruhul Amin and Mr Mowar, OT assistant for helping in surgery.

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## College News

### List of Topics of Integrated Teaching Presented

Sl.	Name of Topics	Name of Department	Date of Presentation
1	Thyroid function & its disorders	Physiology	28.04.10
2	Postoperative fluid therapy	Surgery	06.10.10
3	Childhood immunization update	Paediatrics	27.10.10
4	Anthrax	Community medicine	03.11.10
5	Hypertension	Medicine	10.11.10
6	Rational use of Drug	Pharmacology	17.11.10
7	Staphylococcal infections	Microbiology	08.12.10
8	Streptococcal infections	Microbiology	15.12.10
9	Granulomatous inflammation & Granulomas	Pathology	22.10.10
10	TB	Community Medicine	29.12.10
11	Cell Injury	Pathology	05.01.2011
12	Chromosome	Anatomy	09.02.2011
13	Childhood Cancer	Paediatrics	23.02.2011
14	Fate of RBC and Jaundice	Physiology	02.03.2011
15	Lipid Profile	Biochemistry	23.03.2011
16	Wound and Wound Repair	Pathology	13.04.2011
17	Death due to acute Organophosphorus poisoning cases in Rangpur Division	Forensic Medicine	22.06.2011
18	RFST (Residential Field Site Training) Program	Community Medicine	10.08.2011
19	Pregnancy with Diabetes	Gynae & Obs.	28.09.2011
20	Pre-anaesthetic Assessment for Premedication	Anaesthesiology	21.10.2011
21	Physiotherapy Management of Knee Osteoarthritis	Physiotherapy	26.10.2011
22	Shock Management and Infection Control	Microbiology	16.11.2011

## **External Examiners in Different Professional Examinations**

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Professor, Department of Anatomy  
Rangpur Medical College, Rangpur

**Prof. Nazmul Haque**

Professor, Department of Physiology  
Northern International Medical College, Dhaka

**Dr. Wadud Mostofa**

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**Dr. Rashedul Haque Rahel**

Assistant Professor, Department of Biochemistry  
Rangpur Medical College, Rangpur

## List of New Students 4th Batch (Session : 2011-12)

- |                              |                                |
|------------------------------|--------------------------------|
| 1. Korobi Mohonta            | 31. Debsree Pal                |
| 2. Azmin Nahar Linda         | 32. Moushumi Shohani Lizi      |
| 3. Sandeep Kumar Roy         | 33. Md. Abir Hasan Bilash      |
| 4. Fatema Tuj Johora         | 34. Shekh Md. Mohaiminul Islam |
| 5. Sabrina Nasrin            | 35. Dipok Roy                  |
| 6. Md. Mehedi Hasan          | 36. Shubhra Bormon             |
| 7. Nowshin Rashid            | 37. Most. Rakiba Nasrin        |
| 8. Md. Shahiduzzaman Sujon   | 38. Most. Samira Zahan         |
| 9. Md. Khaled Saifullah      | 39. Afjana Sharmin Rani        |
| 10. Md. Abdus Sattar         | 40. Md. Asadul Habib Kazal     |
| 11. Md. Sharifuzzaman        | 41. Mohammad Ali               |
| 12. Sharmin Sultana Pinki    | 42. Wahiduzzaman               |
| 13. Md. Nazmul Hossain       | 43. Proma Nibedita (Billu)     |
| 14. Md. Al-Imran             | 44. Md. Nazmul Hossain         |
| 15. Khairun Sadikah          | 45. Md. Arnab Sarker           |
| 16. Riman Islam              | 46. Md. Nagib Farhana Diptee   |
| 17. Farah Farzana            | 47. Akhi Afroz                 |
| 18. Afsana Hossain           | 48. Nazmin Naz                 |
| 19. Tawhida Akter (Tithi)    | 49. Aramana Jebin Kanta        |
| 20. Most. Afrida Islam       | 50. Mohammad Latifur Rahman    |
| 21. Most. Armin Akter Ani    | 51. Jerina Akhter              |
| 22. Md. Raziul Islam         | 52. Sanjida Akter Sabur        |
| 23. Aratul Akter             | 53. T. M. Abdullah Al-Mamun    |
| 24. Most. Mahfifa Akter Movi | 54. Sifat Sobnam Mou           |
| 25. Most. Hasina Begum Tumpa | 55. Mourin Hossain             |
| 26. Rukhsana Akter           | 56. Md. Mahmudul Hasan         |
| 27. Zinat Rahman             | 57. Shushmita Mondol Tanni     |
| 28. Ovishek Adhikari         | 58. Md. Tofiqul Islam          |
| 29. Shushmita Roy            | 59. Md. Abdullah-Al-Loman      |
| 30. Md. Iqbal Humayun Razib  | 60. Akila Anjum                |

## **List of New Students**

### **4th Batch (Session : 2011-12)**

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 61. Tania Rahman                     | 81. Abida Aanjum                |
| 62. Most. Afsana Afroz Asha          | 82. Nilufar Yasmin Shithil      |
| 63. Shamima Nasreen Taposy           | 83. Md. Masum Mehbub            |
| 64. Md. Saidur Rahman                | 84. Umme Rayhana                |
| 65. Md. Golam Rabbani                | 85. Linia Farin Ditscha         |
| 66. Abida Binte Mahbub               | 86. Lam-Eya Meem                |
| 67. Joynal Abedin                    | 87. Most. Tasmin Jannat Anamika |
| 68. Md. Mohsin Hossain               | 88. Md. Amirul Islam            |
| 69. Hasnat Tanjila Himu              | 89. Tanjum Hossain tinni        |
| 70. Md. Mazharul Islam               | 90. Urmila Bhattacharia         |
| 71. Shah Sifat-E-Azam                | 91. Jannatul Fatema Meem        |
| 72. Md. Abdul Momin                  | 92. Naim Us Shafi               |
| 73. Rukaia Firdaus                   | 93. Md. Redwanul Islam          |
| 74. Md. Niamul Solayman              | 94. Aisha Jaman Gulshan         |
| 75. Rafsan Rafat Bin Rahmot (Angkon) | 95. Fatematuj Johora            |
| 76. Tara Mostfiz                     | 96. Hamira Haidar               |
| 77. Deboki Roy Tumpa                 | 97. Md. Rezwanul Kabir          |
| 78. Mithun Roy                       | 98. Aisha Siddiqa Papia         |
| 79. Nazneen Nahar                    | 99. Sharira Shubha Arthi        |
| 80. Jakia Jannat                     | 100. Kaniz Fetema               |

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- ❖ Selection of the reviewed and accepted manuscripts intended for publication in a particular issue will be decided by Editorial Board.
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**Manuscript Organization:****Typing**

- ❖ Double spaced throughout with Justified and 2.5 cm margins in the left and top.
- ❖ Font type is Times New Roman with size 12.
- ❖ Printed on a good quality A4 80 gm on one side of paper.
- ❖ Manuscript should have uniform style, correct journal format, carefully proofread for grammar, spelling and punctuation.

**Manuscript format**

In general, original article should be divided into following sections: Title page, Abstract Text, Tables with titles and foot notes, alternatively Graph with title and Illustrations with legends. Each of the sections is to start on a separate page. Pages should be numbered consecutively beginning from the abstract.

**Title page:**

- ❖ Title of the article (Not exceeding 60 characters).
- ❖ Names of all authors with their designation and institutional affiliations Name of the department and institute where the study was undertaken
- ❖ Name of the corresponding author with contact address, telephone number, Email address.
- ❖ Disclosure of conflict of interest (if any).
- ❖ Disclosure of sources of funding or sponsor

**Abstract:**

- ❖ Structured with headings (Background, Objectives, Methods with statistical analysis, Result & Conclusion).
- ❖ Authors name should not be given.
- ❖ Preferably within 250 words.
- ❖ Avoid abbreviations in the title and abstract except standard abbreviation.
- ❖ A non structured abstract is suggested for review article and case report.

**Text:**

- ❖ Text should be arranged into Introduction, Materials & Methods, Results, Discussions, Acknowledgement & References (IMRDAR).

**Introduction:**

- ❖ Statement of the problem with a short discussion of its importance and significance.
- ❖ Review of the literature related to the problem with pertinent reference.
- ❖ Objectives/ hypothesis/ benefits expected stated in 1-2 paragraph.

**Materials & Methods:**

- ❖ Study type, place and time.
- ❖ Description of study variables.
- ❖ Description of study subjects and grouping.
- ❖ Selection criteria
- ❖ Approval of the study involving human subjects by ethical review committee and description of the ethical aspects in such study
- ❖ Description of procedure, methods, apparatus, drugs or chemicals as applicable.
- ❖ Description of statistical procedure with enough detail to enable a knowledge able reader with access to the original data to verify the reported results

**Results:**

- ❖ Present result in logical sequence in text, table and illustration with most important finding first.
- ❖ Describe without comment.
- ❖ Restrict number of table and figure needed to support assessment of paper.
- ❖ Do not duplicate data in table and figure.

**Table:**

- ❖ Simple self explanatory with brief title, not duplicate in text.
- ❖ Each table should be numbered in Romans and printed in separate page.
- ❖ Do not use internal horizontal and vertical rules.
- ❖ Uses o9f many tables are not encouraged.

**Illustration:**

- ❖ All illustrations must be numbered consecutively in English numerals as they appear in the text.
- ❖ Submit print photograph of each Illustration along with its electronic file.
- ❖ Figure number, title of manuscript, name of the corresponding author and arrow indicating top should be written on a sticky label affixed on the back of each photograph.
- ❖ Scanned picture, graph, chart with title and figure number should be printed on separate page and its original data presentation file should be inserted in the CD along with text.

**Legend:**

- ❖ Must be typed in a separate sheet of paper.
- ❖ Photomicrograph should indicate the magnification, internal scale and the method of staining.
- ❖ All drugs should be mentioned in their generic form. The commercial name may be used in parenthesis

**Acknowledgement:**

- ❖ Individuals, Institutions, Sponsors, Organizations of bodies can be acknowledged in the article for their contribution or financial or any form of assistance to the work.

**References:**

- ❖ For reference, use author number style (Vancouver) which is based on an ANSI standard adapted by the National Library of medicine (NLM).
- ❖ References should be numbered consecutively in the order on which they are first mentioned in the text.
- ❖ Identify references in the text, tables and legends by English numerals in superscript.
- ❖ All citations to electronic references should be presented in numbered references following the text.

**The titles of the journals should be abbreviated as**

- ❖ Coding to the style used in Index Medicus.
- ❖ Write names of 6 authors followed by et al, if authors number is more than six.
- ❖ The reference list is also checked by the editorial staff or reviewer. So, it is the responsibility of author to provide accurate information.

**Standard journal article:****Example:**

Khalil M, Chowdhury MAI, Rahman H, Mannan S, Sultana SZ, Rahman MM, et al Splenic Mass and its relation to age, sex and height of the individual in Bangladeshi People. J Bangladesh Soc Physiol 2008;3(1):71-78.

**Journal article with organization as author:**

American diabetes Association. Diabetes Update. Nursing, 2003 Nov; Suppl: 19-20.

**Journal article with multiple organization as author:**

American Dietetic association; Dietitians of Canada; Position of Dietetic association and Dietitians of Canada Nutrition and Women's health. J Am Diet Assoc 2004 Jun; 104(6): 948-1001.

**Journal article with Governmental body as author:**

National Institute on Drug Abuse (US); Caribbean Epidemiology Centre; Pan American Health Organization; World Health Organization. Building a collaborative research agenda: drug abuse and HIV/AIDS in the Caribbean 2002-2004. West Indian Med J. 2004 Nov; 53 suppl 4: 1-78.

**Standard book with initials for authors:**

Eyre HJ, Lange DP, Morris LB. Informed decisions: the complete book of cancer diagnosis, treatment and recovery 2nd ed. Atlanta: American Cancer Society; 2002.768p.

**Contributed chapter of a book:**

Rojko JL, Hardy WD. Feline leukemia virus and other retroviruses. In: Sherding RG, editor. The cat: diseases and clinical management. New York: Churchill Livingstone; 1989. p 229-332

**Conference Proceedings:**

Pacak K, Aguilera G, Sabban, E, Kvetnansky R, editors. Stress: current neuroendocrine and genetic approaches. 8th symposium on Catecholamines and Other Neurotransmitters in stress: 2003 Jun 28-July 3; Smolenice Castle (place of conference), Slovakia. New York (place of publication): New York Academy of Sciences (publisher); 2004 Jun. 590 p.

**Scientific and Technical Reports:**

Page E, Harney JM. Health hazard evaluation report. Cincinnati (OH) (Place of publication: National Institute for Occupational Safety and Health) (US)(Publisher); 2001 Feb.24p (Total number of pages). Report No: HETA2000-0139-2824.

**Dissertation & Thesis:****Entire Reference**

Kempner JL. Aching heads. making medicine gender and legitimacy in headache (title) [dissertation] [Philadelphia] University of Pennsylvania; 2004.271p.

Alam M. Study of Heart Rate Variability in Adolescent Athletes [M Phil Thesis]. [Dhaka]: Bangabandhu Sheikh Mujib Medical University; 2008. 178p.

**Part of Dissertation & Thesis:**

Mackowski MP. Human factors: aerospace medicine and the origins of manned space flight in the United States [dissertation]. [Tempe (AZ)]:Arizona State University;2002 May. Part 2, Space medicine;p. 188-377.

Alam M. heart Rate Variability in Adolescent Athletes[M Phil thesis]. [Dhaka(Bangladesh)]: Bangabandhu Medical University;2008 July. Appendix (Name of the part 4(Number of the part),Classification of Physical Activity Intensity (Title of the part).p.7 (Location of the part).

**Standard journal article on the Internet:**

Kaul S, Diamond GA. Good enough: a primer on the analysis and interpretation of noninferiority trials. *Ann Intern Med* [Internet]. 2006 July 4 [cited 2007 Jan 4];145(1):662-9. Available from:<http://www.annals.org/cgi/reprint/145/1/62.pdf>

**Journal article on the Internet with organization (s) as author:**

National Osteoporosis Foundation of South Africa. Use of generic alendronate in treatment of osteoporosis. *S Afr Med J* [Internet].2006Aug[cited 2007 Jan 9];9(8):696-7.Available from:<http://blues.sabinet.co.za/WebZ/Authorize?>

**Journal article on the Internet with governmental body as author**

Centers for Disease Control and Prevention (US), National center for HIV/AIDS, Hepatitis, STD, and detention and control of tuberculosis in correctional and detention facilities: recommendations from CDC. Endorsed by the Advisory Council for the elimination of tuberculosis, the national Commission of Correctional Health Care and the American correctional Association. *MMWR R Rep* [Internet].2006 July 7[cited2007Jan9];55(RR-9):1-44. Available from:<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5509a1.htm>

**Journal article on the Internet with no author:**

Prevention strategies for asthma-secondary prevention.*CMAJ* [Internet]2005 Sept[cited2007Jan5]; 173(6Suppl):S25-7.Available from:[http://www.cmaj.ca/cgi/content/full/173/6\\_suppl/S25](http://www.cmaj.ca/cgi/content/full/173/6_suppl/S25)

**Journal article on the Internet without standard volume, issue or article number:**

Jacobs JL, Lee MT, Lindberg M, Kamin C. Problem based learning, multimedia paucity of behavioral issue learning. *Med Educ. Online* [Internet].2005[cited2005]: [5p]. Available from:<http://www.med-ed-online.org/pdf/10000006.pdf>

## FORWARDING LETTER FOR SUBMISSION TO PRIME MEDICAL JOURNAL

To  
The Editor-In-Chief  
Prime Medical Journal  
Prime Medical College, Rangpur

Date .....

Sub: Submission of manuscript

Dear Sir,

We are submitting our manuscript entitled, .....by

- 1).....
- 2).....
- 3).....
- 4).....
- 5).....

for publication in your journal. This article has not been published or submitted for publication elsewhere.

We believe that this article may be of value to medical professionals engaged in Biochemistry/Internal medicine/  
Surgery/Gynae/..... We are submitting 2 copies of manuscript along with an electronic version  
(CD).

We, therefore, hope that you would be kind enough to consider our manuscript for publication in your journal as  
Original/Review article/Case Report.

Thanks and best regards

- 1).....
- 2).....
- 3).....
- 4).....
- 5).....

\*Corresponding author

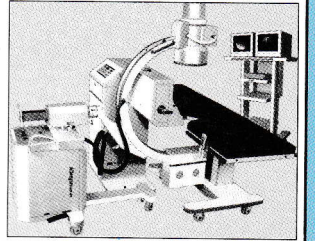


প্রাইম মেডিকেল কলেজ হাসপাতাল, রংপুর  
(৭৫০ শয্যা বিশিষ্ট পূর্ণাঙ্গ  
বেসরকারী মেডিকেল কলেজ হাসপাতাল)

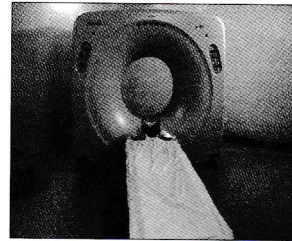
হাসপাতাল ভবনের একাংশ



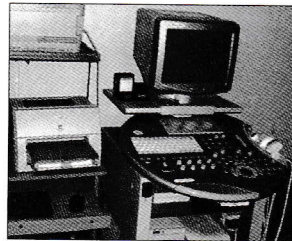
ভিডিও এন্ডোস্কপি



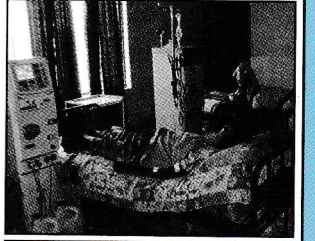
স্টোনক্রাশ



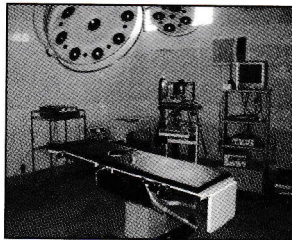
স্পাইরাল সিটি স্ক্যান



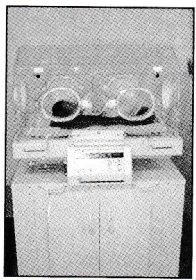
ডিজিটাল 4-D কালার ডপলার



ডায়ালাইসিস সেন্টার



অপারেশন থিয়েটার - ৭



নিওনেটাল আইসিইউ

## হাসপাতালের বিভাগ সমূহ

- ❖ মেডিসিন বিভাগ
- ❖ সার্জারী বিভাগ
- ❖ স্ত্রীরোগ ও প্রসূতি বিভাগ
- ❖ শিশু ও নবজাতক বিভাগ
- ❖ অর্থোপেডিক্স বিভাগ
- ❖ চক্ষু বিভাগ
- ❖ নাক, কান ও গলা বিভাগ
- ❖ ইউরোলজি বিভাগ
- ❖ হৃদরোগ বিভাগ
- ❖ নিউরোলজি বিভাগ
- ❖ ক্যান্সার বিভাগ
- ❖ ডায়াবেটিক সেন্টার
- ❖ শিশুসার্জারী বিভাগ
- ❖ রিহ্যাবিলিটেশন সেন্টার
- ❖ ফিজিওথেরাপী সেন্টার
- ❖ দন্ত বিভাগ

## প্রাইম ডায়ালাইসিস সেন্টার

সম্পূর্ণ নতুন ৬ টি জাপানী টরে মেশিনের সমন্বয়ে ডায়ালাইসিস সেন্টারে  
২৪ ঘন্টা ডায়ালাইসিস করার সু-ব্যবস্থা

## প্রাইম সিসিইউ

হৃদরোগীদের সু-চিকিৎসার জন্য অত্যাধুনিক যন্ত্রপাতি ও বিশেষজ্ঞ  
চিকিৎসকবৃন্দের সমন্বয়ে “প্রাইম সিসিইউ” সিসিইউ এর সার্বিক  
তত্ত্বাবধানে রয়েছেন অধ্যাপক ডাঃ নওয়াজেস ফরিদ, বিভাগীয় প্রধান,  
হৃদরোগ বিভাগ, প্রাইম মেডিকেল কলেজ ও হাসপাতাল, রংপুর।

## প্রাইম আইসিইউ

উত্তরবঙ্গে এই প্রথম আইসিইউ। মূর্ম্ব রোগী, জটিল অপারেশন পরবর্তী  
নিবিড় পরিচর্যা ও সু-চিকিৎসার জন্য অত্যাধুনিক যন্ত্রপাতি ও বিশেষজ্ঞ  
চিকিৎসকবৃন্দের সমন্বয়ে “প্রাইম আইসিইউ”

## প্রাইম স্টোনক্রাশ সেন্টার

উত্তরবঙ্গে এই প্রথম কোনপ্রকার অপারেশন ও কাটা-ছেঁড়া ছাড়া  
ব্যথামুক্তভাবে কিডনীর পাথর অপসারণের সু-ব্যবস্থা।

## নবজাতক নিবিড় পরিচর্যা কেন্দ্র

নবজাতক শিশুদের নিবিড় পরিচর্যা ও জন্ম পরবর্তী জটিলতার চিকিৎসার  
জন্য সার্বক্ষণিক নিওনেটাল আইসিইউ।

২৪ ঘন্টা সকল এ্যাম্বুলেন্স ও প্রকার পরীক্ষা-নিরীক্ষার সু-ব্যবস্থা

## সর্বাধুনিক প্রযুক্তির সেবাসমূহ

- ❖ সিটি স্ক্যান
- ❖ ভিডিও এন্ডোস্কোপ
- ❖ ডিজিটাল 4-D কালার ডপলার
- ❖ ডিজিটাল ইকোকর্ডিওগ্রাম
- ❖ ডিজিটাল আল্ট্রাসোনোগ্রাম
- ❖ ডিজিটাল এক্স-রে
- ❖ স্পেশালাইজড প্যাথলজি
- ❖ সাইটোলজি ও বায়োপসি



**প্রাইম মেডিকেল কলেজ হাসপাতাল, রংপুর**

পীরজাবাদ, বদরগঞ্জ রোড, রংপুর (কেন্দ্রীয় বাস টার্মিনালের অর্থ কিলোমিটার পশ্চিমে)

ফোন : ০৫২১-৬১২৯০, ৬১২৯১, মোবাইল : ০১৭৩০০৩৩১১০, ০১৭১৮৫৩২৪৩৮, ০১৭১৯২০৮৭৪৭