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CONTENTS

EDITORIAL

Childhood Anxiety disorder

KG Mostafa

Worries, fears and misery often cluster together alongside substantial grievances as a rule, given the impressive cross-over, youngsters and adolescents with socially incapacitating fears, worries or misery were traditionally 'lumped' into a relatively broad-band category of emotional disorders of childhood. In the course of the last 15-20 years the 'splitters' have been more persuasive depicting the enormous number of specific anxiety and depressive disorders included in ICD-10 and DSM-IV. This attempt to increase diagnostic precision has its drawbacks. Some individuals have difficulties that do not quite match any set of operationalized diagnostic criteria, while others with broad-band symptomatology qualify for several labels simultaneously. Around 4-8% of children and adolescents have clinically significant anxiety disorders that cause substantial distress or interfere markedly with everyday life. This makes tension problems the second commonest gathering of mental issues among children and adolescents. Second only to disruptive behavioral disorders and ahead of ADHD and depressive disorders. For every child or adolescent with an anxiety disorder there are several others in the community with multiple fears worries but who do not get classified having The bunching of uneasin issues in families might refl hereditary impacts as well as. T impacts of sex and age pervasiveness differ starting with tension problem then onto the ne Causation Anxiety disorders run families: affected parents are m likely to have affected children a vice versa. Twin studies sugg moderate heritability but the patt does not point to different genes each anxiety disorder. Instead, what inherited seems to be a br vulnerability to many anxiety disord (though post-traumatic stress disor and obsessive compulsive disor seem to be special cases). An inheri vulnerability to a broad range anxiety disorders may extend e further encompassing depression irritability as well. Shared gen liability to depression and generali anxiety disorder is one indication particularly close links between th two disorders that are someti jointly described as 'distress disord The bunching of uneasiness issues families might reflect heredit impacts as well as parent-to-c transmission through learning

modelling. Catastrophic but rare life events are clearly relevant to post-traumatic stress disorder. Other anxiety disorders can also be related to adverse life events, including relatively common experiences such as permanently breaking up with a best friend going through a period of financial hardship as a result of parental unemployment, or experiencing parental separation and divorce. Youngsters and teenagers might adapt to a solitary such occasion, however create a passionate disorder when exposed to several such events in combination or rapid succession emphasising the importance of thinking about the cumulative impact of life experiences. Many theories suggest that anxiety is due to experiencing threat (while depression is due to experiencing loss). According to Bowlby's influential formulation based on attachment theory, anxiety, and particularly separation anxiety, often arises from threatened or actual separations from key attachment figures (for example. when parents punish their children by threatening to send them away). Psychodynamic theories formulate the threat in terms of intrapsychic conflicts. Classical conditioning can potentially explain the way in which previously neutral stimuli can, by association with a frightening experience, become fear-evoking in themselves. Operant conditioning theory predicts subsequent avoidance of these stimuli (thereby blocking the opportunity for natural exposure and the extinction of the fear). Temperament also seems relevant.

Original Article

Breast feeding practice immediately after birth: A study in a tertiary care hospital, Dhaka, Bangladesh

AM Hossain[1], S Anwar[2], A H Molla[3], SN Hasnat[4], A Akhter[5], MS Rahman[6], M Marufuzzaman[7], SR Parvin[8]

ABSTRACT:

Human milk is a bioactive fluid that evolves from colostrum to mature milk as the infant matures. Breast milk is the unique source of nutrition that plays an important role in the growth, development and survival of infants. There is still a lack of knowledge in newborn care and particularly about the appropriate interventions including breastfeeding management. The aim of this study is to identify the socio-demographic profile of the mothers and their relation with the time of initiation of breastfeeding. It was a cross-sectional study conducted in the Post natal ward of Gynae and Obs Department, Dhaka Medical College, Dhaka from April 2008- September 2008. A total of 390 newborn babies of 0-7 day's age old were selected purposively. Data were collected from mothers of the selected babies by structured questionnaire. Among the total 390 mothers 121 (31%) started breastfeeding in the first hour of delivery, 231 (59.2 %) started within 12 hours, 30 (7.7 %) within 24 hours and 8 (2.1 %) within 48 hours. Prelacteal feeding was given to 118 (30.3 %) babies and the form of prelacteal feeding were misry water (33.9 %), artificial milk (30.5 %), honey (18.6%), plain water (12.7 %) and cow's milk (4.2%). Colostrum and exclusive breastfeeding was given to 379 (97.2%) and 276 (70.8%) babies respectively. Exclusive breastfeeding was given significantly more ($p<0.05$) in the group where birth spacing was > 2 years. Significantly higher number of mother with no education gave breastfeeding within one hour ($p < 0.05$). 93.8 % mothers were housewife and 6.2 % were service holder. Ante-natal check-up was given in 77.4 % of mothers. Medical problem was present in 12.6 % of mothers. Significantly less number of mother with medical problem gave colostrum to their babies ($p<0.05$). Maternal fever was present in 34.4 % mothers. Prelacteal feeding was given more and exclusive breastfeeding were given less to babies mothers with maternal fever ($p<0.05$). 33.6 % babies were born by vaginal delivery, 3.1 % by instrumental delivery, and 63.3 % by C/S. Significantly higher number of mothers with vaginal delivery gave breast feeding within one hour of delivery and exclusive breastfeeding than instrumental or C/S deliveries ($p < 0.05$). Labour was prolonged in 29.5 % of delivery. Less number of mothers had prolonged labour started breastfeeding within 1st hour and gave colostrum ($p< 0.05$). The present study had 3.6 % newborn with birth weight < 2kg, 79% with 2-3 kg and 17.4 % with > 3 kg. Significantly more number of low birth weight babies were given breastfeeding within 1 hour, colostrum, exclusive breastfeeding and less number of babies were given prelacteal feeding than other babies ($p<0.05$). Male babies was 49.7% and female babies 50.3 % significantly less number of babies male babies were given colostrum than female babies ($p<0.05$). The study concludes that 31% mothers started breastfeeding their babies within 1 hour of deliveries, 59.2% started within 1- 12 hours of birth, 7.7% within 12-24 hours and 2.1% within 24-48 hours. Colostrum was given by 97.2%, prelacteal feeding by 30.3% and exclusive breastfeeding by 70.8 % of mothers.

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Introduction

Human milk, in addition to its numerous nutrients that make it an ideal food source for the growing term infant, is a bioactive fluid that evolves from colostrum to mature milk as the infant matures. This bioactive fluid contains numerous factors and live cells that, in concert, promote the growth and well-being of the breastfeeding infant. Current research reveals that commercial formula clearly cannot replicate all of the valuable properties that are inherent in human milk. [1] Breast milk is the unique source of nutrition that plays an important role in the growth, development and survival of infants. The benefits of breastfeeding are well established. Breastfeeding is promoted internationally as the preferred method of feeding infants up to 6 months and continued up to two years with the addition of home cooked food. In Bangladesh, only 14 per cent of infants were exclusively breastfed up to 3 months. [2] There are estimated 4 million neonatal deaths worldwide each year. Moreover it is estimated to account for 40% of under-five deaths and two-thirds of infant's deaths. A vast majority of these deaths occur in developing countries where essential newborn care has not been developed properly. The essential newborn care includes cleanliness, thermal protection, early and exclusive breastfeeding, and initiation of breathing (resuscitation), eye care, and immunization, management of newborn illness and care of preterm and or low birth weight infant. [3] Breast milk is thought to be the best form of nutrition for neonates and infants. The properties of human milk facilitate the transition of life from in utero to exterior. This dynamic fluid provides a diverse array of bioactive substances to the developing infant critical periods of brain, immune, and guts development. [1] Clinicians can play a crucial role in a mother's decision to breastfeed and can facilitate her success in lactation. Wagner, Graham, Hope (2006) stated that the mother makes her decision regarding breastfeeding prior to delivery in more than 90% of cases; therefore, her choice of infant nutrition should be discussed at the starting of the second trimester and continue as part of an ongoing dialogue during each obstetric visit. [1] Breast-milk is not just a food for babies. It is a living fluid, which protects a baby against infections. For the first year or so of life, a baby's immune system is not fully developed and cannot fight infections as well as an older child's or adults. So a baby needs to be protected by his mother. Exclusive breastfeeding practice for six months is not so hopeful in South East Asia region and also our country.

Exclusive breastfeeding rate upto 6 months in India is 37%, in Nepal 69%, in Srilanka 54%, in Maldives 10%, in Myanmar 11 %, in Indonesia 42% and in Thailand only 4%. [6] There is no improvement in exclusive breastfeeding rate over the last few years in Bangladesh. It was 46% in 2004 and 43% in 2007. Among children less than two months 64% are being exclusively breastfed and remaining are being given water, other milk and liquids along with breast milk. On the other hand 91 % children age 20-23 months are still receiving breast milk. [4] Khanam et al (2007) showed that only 16.4% infant's mother initiated breastfeeding within 1 hour of birth, 69.1% within 24 hours and 14.5% after 24 hours. [11] Talukder (1996) described that great erosion in the practice of breastfeeding was recorded at the time the campaign for the protection, promotion

and support of breastfeeding was just beginning in 1989. Colostrum, by tradition, is largely discarded in Bangladesh and prelacteal feeds are given to all newborn babies. Initiation of breastfeeding by most mothers takes place on the 3rd or 4th day; exclusive breastfeeding for 6 months is almost non-existent and there is high prevalence of bottle feeding even in the villages in the country. Unethical marketing of formula feed is prevailing widely in the market and health care providers often prescribe them. Complementary feeding practices are unsatisfactory. There is withdrawal of breast-feeding during illness, especially during diarrhoea and ARI; and there is poor nutrition of mothers. All these factors suggest that, there are improper breast-feeding practices in Bangladesh. [5] Any fluid other than breast milk given first time to a newborn is defined as pre-lacteal feeding. 13 Pre-lacteal feeds are given under the belief that they act as laxatives, cleansing agents or dehydrating agents or as a means of clearing meconium. Unfortunately mothers are not aware that pre-lacteals could be a source of contamination too. A study in India observed that the pre-lacteals included plain water (48.3%), jaggery with ghee/oil (46.2%), sugar water (28.2%), gripe water (24.1%), jaggery water (20.7%), omum (ajwain) water (6.8%), milk (5.4%), honey (2%), tea (.7%), omum (ajwain) with ghee/oil (.3%).[13] Data were collected on 473 infants aged less than 2 years during April- August 1995 from 14 villages of Matlab thana of Bangladesh. Only 7% of the infants were given breast milk as a first meal. Honey (56%), mustard oil (31 %) and water with sugar (4%) were found as the most frequently used pre-lacteal liquid. Surprisingly, 9% of infants did not receive any food within 24 hours of birth. In most instances, grandmothers (44%) initiate the feeding followed by a dai (traditiona birth attendant) (25%). This study confirms that exclusive breast-feeding wa almost non-existent in rural Bangladesh [5] In most instances poor quality liquid are given to a newborn that increase th risk of introducing early infections. [5] I Bangladesh, immediate breastfeeding wa not traditionally practiced, and exclusiv breastfeeding was virtually nonexistent Mothers tended to discard colostrum (firs milk), substituting prelacteal feeds such a sugar water, honey, or oil instead of breas milk as the first feed for all newbor babies. Initiation of breastfeeding by mos mothers took place on the third or fourt day. In the event of illness, mothers woul cease breastfeeding. Complementar feeding practices were also unsatisfactory consisting of bulky, energy-thin feeds with weaning occurring either too early o too late. Such was the state of affairs i Bangladesh in 1979, when the Worl Health Organization (WHO) and UNICE held a meeting in Geneva for the first tim to emphasize the importance o breastfeeding-the first in a series o important initiatives to address this issu and other child health and nutritio concerns. Before 1980, there was hardl any discussion within the medica profession in Bangladesh of th importance of breastfeeding, let alone of public health intervention to promote i But the leadership of global agencies o this important issue had a significa impact on breastfeeding policy an practice in Bangladesh. This case study describes the origins of the breastfeedin movement in Bangladesh, the governmen of Bangladesh's support for the initiativ and the partnership that was establishe among the health professions, Unite Nations (UN) agencies, bilateral agencie

and the World Bank to change breastfeeding practices. The introduction of breastfeeding contributed to better health and nutritional status among the nation's children within a decade. [8]

Methodology and Materials

A cross sectional descriptive study conducted in the Department of Gynae and Obs (postnatal ward) Dhaka Medical College Hospital, Dhaka during April 2008 – September 2008. All healthy term newborn babies 0-7 day's age born at Dhaka Medical College Hospital, and admitted in postnatal word during the study period were selected as a study subjects. Considering inclusion criteria, we selected 379 study subjects. At the onset of selection of cases, a detailed history of mother about antenatal, natal &postnatal period, history and physical examination of newborn were performed. Neonate who fulfilled the inclusion criteria were enrolled in this study. With prior consent and after explaining the purpose and procedure of the study to the parents, data were collected and recorded in the preformed data collection sheet. All the clinical and laboratory data collected were checked visually and edited meticulously. The data were then entered into the computer based software. SPSS for windows version 12 (Statistical Package for Social Study) were used for analysis of data. Result was presented as frequency, percentage, means (±SD). Comparison was done by chi-square test for qualitative data. Bar diagram, pie chart was constructed as necessary for easy visual impression. Written informed consent was taken from each mother. Anonymity and confidentiality were strictly warranted.

Sample size was calculated

Sample size: n=Z2.pq/d2

Where, n = the desired sample size.

z = the standard normal deviate set at 1.96 which corresponds to the 95 % confidence level.

p = the prevalence (40%=0.40)

q = 1 – p. =0.60

d = the degree of accuracy desired (absolute precision), set at 5% i.e. 0.05.

So, n=368

Inclusion criteria: i) all healthy term neonate of healthy mother ii) Age 0 to 7 days iii) Irrespective of mode of delivery

Exclusion criteria: i) Sick neonate-suffering from perinatal asphyxia, septicemia, birth trauma, convulsion, preterm very low birth weight (PVLBW) baby. ii) Newborn with congenital anomaly iii) Baby of Very Sick mother-Suffering from Eclamsia, PPH, Chronic illness (Congenital Heart disease, cor-pulmonale, Bronchial Asthma), psychosis.

Results

Result was presented as frequency, percentage, means (±SD). Comparison was done by chi-square test for qualitative data. Relation between occupation of mother and initiation of breast feeding, ante-natal checkup prolonged rupture of membrane, feeding problem, multi-pregnancies and whether prelacteal feeding, colostrum and exclusive breast feeding had no positive association.

Table-I: Distribution of new born by education and feeding practice

Whether colostrum given	Frequency	Percent
Yes	379	97.2
No	11	2.8
Total	390	100.0
Types of prelacteal feeding	Frequency	Percent
Honey	22	18.6
Misry Water	40	33.9
Plain Water	15	12.7
Cow's Milk	5	4.2
Artificial Milk	36	30.5
Total	118	100.0

Table shows almost all of the newborns (97.2%) were given colostrum and only a few were not given (2.8%). is misry water (33.9%) and closely followed by formul milk (30.5%). Other forms of prelacteal feedings were honey (18.6%), plain water (12.7%), and cow's milk (4.2%).

Table 2: Distribution of mothers by mode of delivery with association with selected conditions (n=379)

Mode of delivery	Frequency				
Vaginal Delivery	131				
Forcep delivery	12				
C/S	247				
Total	390				
	Mode of delivery				
	Vaginal delivery	C/S	Chi-square value	df	P value
Breast feeding started at	1 hour 78	41	86.140	6	.000
	12 hrs 43	181			
	24 hrs 5	22			
	48 hrs 5	3			
Prelacteal feeding given	Yes 30	84	5.060	2	.080
	No 101	163			
Colostrum given	Yes 126	241	.961	2	.619
	No 5	6			
Exclusive breast feeding given	Yes 104	162	8.828	2	.012
	No 27	85			

Table shows that 63.3% of the babies were delivered by C/S, 33.6% by vaginal delivery and only 3.1% by Forcep delivery. We also observed that significantly more number of mothers who had vaginal gave breast feeding in 1st hour ($p<0.05$). Exclusive breastfeeding was given by significantly more number of mothers who had vaginal delivery ($p<0.05$). However the mode of delivery did not affect significantly in giving prelacteal feeding and colostrum ($p>0.05$)

Discussion

The aim of the present study was to observe the practice of initiation of breast feeding just after birth among infan hospital setting. It was also intend determine the percentage of mother start breast feeding within one hou birth, the prevalence of prelacteal fe and identify the sociodemographic p of mother. Among the 390 participan our study 121 (31%) started breastfe in the first hour of delivery, 231 (59 started breast feeding within 12 hour (7.7%) within 24 hours and 8 (2 within 48 hours. More than two- (69.7%) of the participants did not prelacteal feeding to her baby and (30.3%) gave it. More than two-thir the newborn (70.8%) was given excl breast feeding and 29.2% were not g Almost all of the newborns (97.2%) given colostrum and only a few wer (2.8%). This observation was support Haider et al. They found that a tot 25% of the mothers failed to breast exclusively despite having been couns The author explained the causes of failure in breastfeeding, such dominating grandmothers, lack financial support by their husbands much housework, or disinterest. [5] findings of our study are not support the statement of our studies. [2 Talukder stated that colostrum, tradition, is largely discarded Bangladesh; prelacteal feeds are giv all newborn babies; initiation breastfeeding by most mother takes on the 3rd or 4th day; excl breastfeeding for 5 months is al non-existent. [5] The difference bet the findings of Talukder and our fin may be due to the fact that we took regarding exclusive breastfeeding for the days mothers remained admitted the hospital, whereas Talukder state situation of whole breastfeeding pe Another study described that only 1

of children suffering from ARI and diarrhoea were exclusively breastfed, 50.3% were never exclusively breastfed. They also stated that the prevalence of prelacteal feeding in Bangladesh was 66.6%.19 Giasuddin and Kabir noted that the duration of exclusive breast-feeding in Bangladesh is short. They included 5068 mother-child pairs in their study and demonstrated that median duration of full breast-feeding was 3.67 months and 69.9 per cent women gave supplementary food to their babies before reaching six months of age. They concluded that women with higher education, high economic level, lower birth interval and delivery assisted by health personnel had lower duration of breast-feeding. [2] Female children were breastfed for periods about 5 months shorter than male children. Children born to urban mothers were breastfed for shorter durations than children born to rural mothers of all age groups. The difference in finding of these two observations explains the positive change in attitude of mothers towards exclusive breastfeeding to their newborns. In Bangladesh the most prevalent form of prelacteal feeding is misry water (33.9%) and closely followed by artificial milk (30.5%). Other forms of prelacteal feedings are honey (18.6%), plain water (12.7%), and cow's milk (4.2%). In most instances poor quality liquids are given to a newborn that increase the risk of introducing early infections. Prelacteal feeding differs from country to country. In India the prelacteal feedings are plain water (48.3%), jaggery with ghee/oil (46.2%), sugar water (28.2%), gripe water (24.1%), jaggery water (20.7%), omum (ajwain) water (6.8%), milk (5.4%), honey (2%), tea (.7%), omum (ajwain) with ghee/oil (.3%). Prelacteal feeds are given under the belief that they act as laxatives, cleansing agents or dehydrating agents or as a means of clearing meconium. Unfortunately they are not aware that pre-lacteals could be a source of contamination too. Multiparous mothers were somewhat more (56.2%) than primi mothers (43.8%) among the participants. The present study also shows that birth weight of newborn significantly affects the exclusive breastfeeding. This finding is consistent with Narayan Nataraj and Bawa. They found in India that primigravida status mother and low birth weight infants adversely affect breastfeeding. [7] Although the age of the mother did not affect significantly, mothers' education level was significantly related with breastfeeding in the present study. Our finding is supported by Ahamed (1986) who described that 98% of Bangladesh mothers breastfeed their children from birth and the mean duration of breastfeeding was 27.3 months. Duration of breastfeeding was positively related with the age of women. The duration of breastfeeding decreased with the increase of education of the mother. The author suspected that further decline in the duration of breastfeeding would increase levels of fertility and infant and child mortality. Edmond et al also supported that early initiation of breastfeeding saves more neonatal lives. [10]

Conclusion

The study concludes that 31% mothers started breastfeeding their babies within 1 hour of deliveries, 59.2% started within 1-12 hours of birth, 7.7% within 12-24 hours and 2.1% within 24-48 hours. Colostrum was given by 97.2%, prelacteal feeding by 30.3% and exclusive breastfeeding by 70.8 % of mothers. Significantly higher number of mother

with no education gave breastfeeding within 1 hour. Mothers with vaginal delivery and without prolonged labour gavc breastfeeding earlier and continued exclusive breastfeeding. More babies with low birth weight were given colostrum and brcastfeeding earlicr and exclusively.

References

1) Wagner CL, Graham EM, Hope WW 2006. Human Milk and Lactation. Available at:http:// as. medscape. com /js.ng /Params. richmedia. Medscape. eMedicine Specialties , Neonatology..Accesss on 12/01/2009.

2) Giashuddin MS& Kabir M. Duration of breast-feeding in Bangladesh. Indian J Med Res 2004;119:267-272.

3) Khan MH, Khan FR, Noman N, Hashmi G, Gul S, Ali A et al. Essential Newborn Care Practice in Hospital Versus Home Deliveries. Journal of Medical Sciences 2006; 4:7-9.

4) 11. Khanam W, Haque MA, Rahman N, Khatoon S, Hannan A. Cognitive development of exclusively breastfed and non-exclusively breastfed infants and young children in selected rural community. Bangladesh J Child Health 2007;31:1-7.

5) 12. Talukder MQK. Protection, promotion and support of breastfeeding in Bangladesh. Regional health 1996;1:18-24.

6) 13. Goyle A, Jain P, Vyas S, Sa Shekhawat N. Colostrum and pre feeding practices followed by fami pavement and road side se settlements. Indian J Prev Soc Med 35 (1):58-62.

7) 16. Ahamed MM. Breast-feed Bangladesh. J Biosoc Sci. 198(18(4):425-34.

8) 19. Mihrshahi S, Ichikawa N, M, Oddy W, Rose Ampon R, Dibl et al. Prevalence of Exclusive Breastfeeding in Bang and Its Association with Diarrhoe Acute Respiratory Infection: Results of the Multiple Indicator (Survey 2003; Journal of I Population and Nutrition 2007; 26(– 204.

9) 20. Briend A, Wojtyniak B, Ro MGM. Breast feeding, nutritional and child survival in rural Bangl British Medical J 1988;296:879-881.

10) 21. Shaikh U and Chant Reflections on the American Acad Pediatrics' 2005 Policy Statement o "Breastfeeding and the Use of I Milk". J Human Lact 2

Original Article

Primary Health Care service at the Upazila level in Bangladesh

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ABSTRACT:
Introduction: Health care services based on primary health services. Health is wealth without primary health care development the quality of our life style is impossible. Our national economic and social development depends on health care sector. This research deals with reality of primary health care at upazila level in Bangladesh. ***Objective:*** To assess the level of primary health care service at the upazila level in Bangladesh. ***Materials and method:*** This descriptive cross sectional study was carried out among the people residing in Kaligonj Upazila, Satkhira. Study subjects were selected by Convenience type of non-probability sampling. Semi-structured questionnaire was used and face to face interview was conducted. A Total of 167 participants, age more than 18 years, were included in this study. ***Results:*** The study showed that majority of the participants i.e. 87.4% received health service from upazila health complex. Most of them were satisfied with health related service, provided from hospital. In this study, 26.6% participants who attended Upazila health complex Kaligonj, Satkhira were highly satisfied, 66.4% were average satisfied and 7.0% not satisfied with health care services. ***Conclusion:*** The health care delivered at this center can be improved further by monitoring the delivery of quality care by ongoing basis and continually making small changes as per need so as to improve the individual processes.

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Introduction

Bangladesh is a developing country of SEAR region. More than 70 percent of Bangladesh's population and 77 percent of its workforce lives in rural areas. Rural population refers to people living in rural areas as defined by national statistical offices Rural people represent major proportion of population of Bangladesh. As majority of people live in the rural areas, the economic and national development of country depends on economic improvement and social lifestyle of rural people through increase production, equitable distribution of resources and empowerment[1]. But unfortunately health of the rural people is not addressed well due to various factors. Most of the poor and marginalized people are residing in rural areas where educational facilities, health care facilities and income generating facilities are

scarce. The prevalence of period specific sickness and economic condition predictably hold an inverse relationship in rural area. Episodes of illnesses are reported to be higher for poor people due to their living conditions and nutritional status. The concept of social justice strongly informed the concept of PHC. The implications of the PHCA were recognized, even at the time of the Alma Ata Declaration , to be far-reaching if the strategy were to be properly applied: the principles would have to be translated into changes not merely in the health sector but also in other social and economic sectors [2].

Despite progress in primary health care (PHC) since the Alma Ata Declaration in 1978, challenges to the provision of primary health care in Bangladesh still remain. Although the Government takes lead responsibility for national policy, planning and decision making for all health care and is – through the Ministry of Health and Family Welfare (MoHFW) – the major health service provider, a PHC structure is still non-existent in rural areas. The health system is pluralistic and weak in terms of cross-sectoral operation. Government PHC services are administered in rural areas through the 'Upazila health complex', which consists of three tiers: at sub-district level (the Upazila level), the union level, and the ward or community level. These three lower tiers of the health system are intended to reach Bangladesh's estimated 105 million people living in rural areas, and provide an upward referral system towards more specialized treatment. Every Upazila complex is required to provide the same suite of services, with their budget allocation based on patient bed numbers in their health facilities, rather than local needs at the community level, including usage and geographical particularities. T lack of unity between two distir branches of health services within t MoHFW – the Directorate General Health Services (DGHS) and t Directorate General of Family Planni (DGFP) – causes a number of proble within the public health system [3].

Some gaps have been filled by a growi private sector, including through the use unregulated pharmacies as a first point access, and by direct use of tertia facilities by patients. There have be some initiatives aimed at delivering PH services through public–priva partnerships, most notably through t Urban Primary Health Care Project, whi started in 1998 with funding from t Asian Development Bank and is curren in its third phase.

Materials & Methods:

This descriptive cross sectional study w conducted among 167 adult populati who reside in Kaligonj Upazila, Satkhi during the period of January February,2020. By convenience sampli technique, 167 adult population fr Kaligonj Upazila were included in th study. After taking verbal consent da were collected by face to face interview using semi-structured questionnai Ethics was maintained strictly at differe stages of this study. After data collecti data were checked thoroughly for a inconsistency and incompleteness. Th analysis done by using SPSS softwa Descriptive statistics were presented frequency, percentage in table and graph

Results:

Regarding age, majority i.e. 100 (59.9 of the participants were in the age gro 30-59 years followed by 41 (24.6%) we in the age group 18-29 years and the re 26 (15.6%) were in the age group 60-

years. In this study, majority of the participants i.e 158 (94.6%) were muslim and the rest 9 (5.4%) were hindu. Out of 164 participants, majority i.e. 59 (35.3%) participants had secondary education while 34 (20.40%) had primary, 21 (12.6%) had illiterate, 15(9.0%) had S.S.C, 14 (8.4%) had H.S.C, 14 (8.4%) had graduation & above and rest 10 (6.0%) had informal education level. In respect of occupation of the participants, majority i.e. 73 (43.7%) were housewife, followed by 36 (21.6%) were engaged in business, 34(20.4%) were day laborer, 18 (10.8%) were service holder and the rest 6 (3.6%) were retired. In this study, majority i.e. 131 (78.4%) participants had monthly income within the range of TK. 5000-15000 followed by 17 (10.2%) had income within TK.16000-25000, 12 (7.2%) had income 36000-50000 and rest 7 (4.2%) had income within 26000-35000 TK. Regarding family type, 110 (65.9%) family were nuclear type and the rest 57 (34.1%) were joint type of family. In this study, 71 (42.5%) participants lived in pucca, 57 (34.10%) lived in semi-pucca and the rest 39 (23.40%) lived in kancha house. Out of 167 participants,125 (74.9%) drink supplied pipe water, 27 (16.2%) drink tube well and the rest 15 (9.0%) drink surface water.Regarding sanitary latrine, most of the participants i.e. 164 (98.20%) used sanitary latrine and only 3 (1.8%) used hanging latrine.In this study, 146 (87.40%) participants received health service and 21 (12.60%) not received health service from UHC.

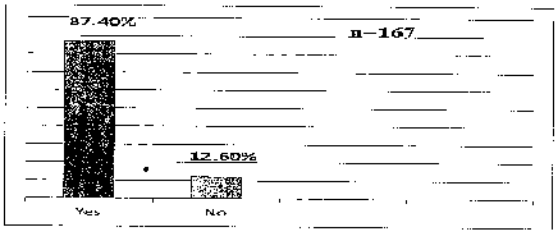

Figure-1 : Receiving Health Services

Out of 146 participants, 130 (89.0%) had medical and 16 (11.0%) had surgical treatment. In this study, 105 (71.9%) participants had problem and 41 (28.10%) had no problem during coming UHC. In this study, 115 (78.8%) received necessary drug and 31 (21.20%) not received necessary drug from UHC. Out of 146 participants, 95 (66.4%) were average satisfied, 38 (26.6%) were highly satisfied and the rest 10 (7.0%) were not satisfied about health service of UHC.

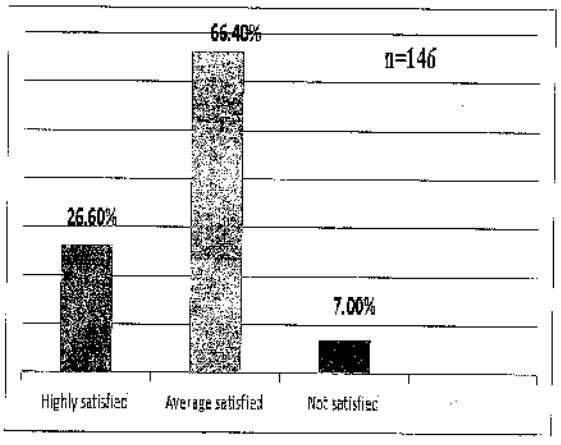

Figure-2 : Satifaction Level with Health Services

Discussion:

The purpose of this study was to assess the level of primary health care system at upazila level in Bangladesh. The study showed that majority of the participants 87.4% received health service from upazila health complex. Most of them were satisfied with environment i.e. seating arrangement, of the hospital. In this study, 26.6% participants who attended Upazila health complex Kaligonj, Satkhira were highly satisfied, 66.4 % were average satisfied and 7.0% not satisfied with health care services. A study conducted in Srinagar, India reported that6.7% patients were poorly satisfied with hospital services[4].

In present study, 78.8% participants were satisfied with necessary drug, supplied

from hospital. A similar study done in Chandigarh showed that 69% patients were satisfied with necessary drug, supplied from hospital [5]. Another study done in Islamabad, Pakistan observed that 70.5% patients were satisfied with supplied necessary drug from hospital[6] and study done in Madhya Pradesh India also found 65% patients satisfied with necessary drug [7].

Regarding socio-demographic conditions, In the present study majority of the participants were 30-59 years (59.9%) age group. Majority of the participants i.e. 78.4% family income were 5000-15000 taka. In current study, most of the participants i.e 94.6% were muslim.

In this study, about all of the participants i.e. 98.2% use sanitary latrines. Regarding drinking water, 74.9% drink supplied pipe water, 16.2% drink tube well water and 9.0% drink surface water.

Conclusion:

Health care service is most important factor of human life. Bangladesh has gradually improved health care status of people, especially in rural areas where more than 85 percent of the people are living and underserved and underprivileged groups. The study focused on the level of primary health care at upazila level of Bangladesh including the extent of expectations and how much they actually enjoy or reality. So, the Government also tries to motive the people to use the existing health facilities, but most of the people are not willing to use modern health care facilities due to the ignorance and traditional mentality of rural people. This study also demonstrates the need to pay urgent attention to process of service delivery for qual improvement in the rural health syst and thus may help achieve the policy g of health for all.

References:

1.Andaleeb SS. Service Qual Perceptions and Patient Satisfaction: Study of Hospitals in Developi Countries. Soc Sci Med. 200 52(9):1359-70.

2.Verma A, Sarma RK. Evaluation of Exit Proformas in Use at Special Wards Public Sector Tertiary Care Cent Journal of Academy of Hospi Administration. 2000;12(1):1-6.

3. Sreenivas T, Prasad G. Pati Satisfaction - A Comparative Stu Journal of Academy of Hospi Administration. 2003;15(2):7-12.

4.Kumar R. Medical Documentation Patient Satisfaction Document. Journal Academy of Hospital Administrati 2003;15(1):1-6.

5.Bhattacharya A, Menon P, Koushal Rao KLN. Study of Patient Satisfaction a Tertiary Referral Hospital. Journal Academy of Hospital Administrati 2003;15(1):1-6

6. Brijender S, Sarma RK, Sharma D Vijender S, Sanjay A, Deepa Assessment of Hospital Services Consumers: A Study from NDDT AIIMS, Ghaziabad. Medico Legal Upda 2005;5(1):1-3.

7.Kulkarni MV, Dasgupta S, Deoke A Nayse. Study of Satisfaction of Patie Admitted in a Tertiary Care Hospital Nagpur. National Journal of Commun Medicine. 2011;2(1):37-39.

Original Article

Respiratory Distress in Newborn; Etiology, Clinical Aspect and Immediate Outcome

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ABSTRACT:
Introduction: Respiratory distress is a common problem during the newborn period. It occurs inapproximately 6.7% of newborn and is responsible for about 20% of neonatal mortality. ***Objective:*** The aim of this study was to determine the etiology, clinical aspect and immediate outcome of respiratory distress in newborn. ***Methodology:*** This study was a cross sectional type of descriptive one, conducted at Paediatricdepartment of Rajshahi Medical College Hospital from January 2013 to December2014. A total of 100 newborns having respiratory distress were enrolled by purposive sampling technique who fulfilled the selection criteria. ***Results :*** There were 57 male and 43 female patients. The etiology of respiratory distress in studied cases was perinatal asphyxia (PNA) 36%, transient tachypnoea of newborn (TTN) 28%, septicemia 11%, respiratory distress syndrome (RDS) 9%. meconium aspiration syndrome (MAS) 6%, congenital pneumonia 5%, congenital heart disease 3% and congenital diaphragmatic hernia 2%. Case fatality rate was 32% of which 46.9% (15) due to PNA, 18.8% (6) due to RDS, 15.6% (5) due to septicemia, 12.5% (4) due to MAS and 6.2% (2) due to congenital pneumonia. Disease specific fatality ratio was high in respiratory distress syndrome (66.7%), meconium aspiration syndrome (66.7%) septicemia (45.5%) and perinatal asphyxia (41.7%). ***Conclusion:*** Prematurity, mode of delivery and lack of antenatal care significantly associated with increased morbidity and mortality. Without modern support respiratory distress in newborn carries high mortality.

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Introduction

Respiratory distress is a common problem during the newborn period. It occurs in approximately 6.7% of newborn and is responsible for about 20% of neonatal mortality (Kumar and Bhat, 1996). About 30% of hospital admission in the neonatal period is due to respiratory distress (Mathur et al., 2002). A neonate showing one or more of the following signs for more than two hours considered to have respiratory distress- I) Respiratory rate& gt; 60/m, II) Grunting, III) Intercostal or subcostal retraction, IV) Cyanosis.

It is a heterogeneous group of illness with varying etiology, clinical course and

outcome.

Incidence rates for respiratory disorders is strongly related to gestational age with high rates in the very immature infants, a remarkable fall between 35-36 and 37-38 weeks of gestation and a small but not statistically significant increase after 42 weeks. The spectrum of respiratory distress in neonates includes transient tachypnea of newborn, respiratory distress syndrome, meconium aspiration syndrome, congenital pneumonia, septicemia, congenital heart disease, perinatal asphyxia, persistent pulmonary hypertension, air leaks, laryngo or broncho malacia, neurological causes leading to hyperventilation like seizures, metabolic causes etc. Among the surgical causes trachea-oesophageal fistula, congenital diaphragmatic hernia, choanal atresia, congenital lobar emphysema, cystic adenomatoid malformation are common (Kumar and Bhatnagar, 2005).

Transient tachypnea of the newborn is the most common cause of neonatal respiratory distress, constituting 30-40 percent of cases was found in some study (Zaazou et al., 2011; Kumar and Bhat, 1996; Haque et al., 2013). It is a benign condition, occurs when residual 2 pulmonary fluid remains in fetal lung tissue after delivery. Term or near term delivery, caesarean section delivery, infant of diabetic mother and male sex are the risk factors for transient tachypnoea

In a study in SSMC, Mitford Hospital in our country found perinatal asphyxia as the highest cause of respiratory distress (Nessa et al., 2011). Perinatal asphyxia is still a major cause of morbidity and mortality among the newborns in developing countries. It is common in the babies of the mother who had not received proper antenatal care, maternal anaemia, primipara, obstructed labour, maternal systemic disease, meconium stained l (Ekta et al., 2013).

Respiratory distress syndrome (occurs most commonly in pr newborn due to reduced surfactant. I with RDS typically present within th several hours of life, often immed after delivery. Risk factor for includes pre-term delivery, PNA, di mother, second twin, th malformation. Clinically, infants marked respiratory distress. Mortalit is high (Reuter et al., 2014).

Meconium aspiration syndrome is common at advanced gestation, with of cases born beyond 40weeks. Ri MAS is significantly greater i presence of obstructed labour, distress and low Apgar score (Darga et al., 2006).

Bacterial infection and pneumoni other possible causes of ne respiratory distress. Pneumonia and has various manifestations often p coexistent. Risk factors are maternal prior delivery, prolong ruptur membrane, foul smelling liquor, repe vaginal examination, pre-term, low weight and perinatal asphyxia. Pneu was found as most common cau respiratory distress in some study (M et al., 2002). 3

The case fatality rate is high among with respiratory distress synd meconium aspiration synd septicemia and perinatal asphyxia (Z et al., 2011;).

Treatment of neonatal respiratory d can be supportive and disease specifi includes oxygen, surfactant, nut mechanical ventilation, and antib Because respiratory distress i newborn may be a pote life-threatening condition, physicia expected to assess and manage af

infants promptly. The key to successful management of the infant who has respiratory distress is based on the ability to obtain a complete maternal and newborn history, perform a thorough physical examination, recognize the common respiratory disorders, differentiate among various diagnostic entities, and identify those that are life-threatening (Haeny Aly, 2004). Changing perinatal practice has had a profound effect on the frequency of respiratory distress and older epidemiological studies may no longer reflect the current picture. So this study has been undertaken to investigate the etiology, clinical aspect and immediate outcome of neonate with respiratory distress in Rajshahi Medical College Hospital.

Methods & Materials

The study was hospital based cross-sectional type of descriptive Study.Indoor patient, Pediatric department, Rajshahi medical College Hospital.All neonates admitted in pediatric ward of Rajshahi Medical College Hospital with respiratory distress fulfilling the selection criteria constituted study population from January 2013 to December 2014

Results

There were 57 male and 43 female patients. The etiology of respiratory distress in studied cases was perinatal asphyxia (PNA) 36%, transient tachypnoea of newborn (TTN) 28%, septicemia 11%, respiratory distress syndrome (RDS) 9%, meconium aspiration syndrome (MAS) 6%, congenital pneumonia 5%, congenital heart disease 3% and congenital diaphragmatic hernia 2%. Case fatality rate was 32% of which 46.9% (15) due to PNA, 18.8% (6) due to RDS, 15.6% (5) due to septicemia, 12.5% (4) due to MAS and 6.2% (2) due to congenital pneumonia. Disease specific fatality ratio was high in respiratory distress syndrome (66.7%), meconium aspiration syndrome (66.7%), septicemia (45.5%) and perinatal asphyxia (41.7%).

Discussion

Respiratory distress, the most common cause for which baby needs intensive care support and death rate is 2-4 times more in this group of patients than those requires admission without respiratory distress.

Present study included 100 neonate admitted due to respiratory distress during the study period and the most common causes of respiratory distress found were Perinatal asphyxia, TTN, Septicemia, RDS, MAS, Congenital Pneumonia, Congenital Heart Disease and Congenital Diaphragmatic Hernia.

Perinatal asphyxia was the commonest (36%) cause of respiratory distress in my study. Pre-term and term baby were almost equally affected. Nessa et al., (2011) found 52% newborn had respiratory distress who had perinatal asphyxia which was much higher than my study but on the contrary, many other study showed low incidence of perinatal asphyxia (Haque et al.,2013; Mathur et al., 2002; Dutta et al.,2011; Zaazou et al., 2011). Oswyn et al., (2000) reported that the incidence of perinatal asphyxia in resource poor countries is high (5-10/1000 live births). The true community incidence of perinatal asphyxia in resource poor countries is poorly estimated and understood.Perinatal asphyxia continues to be a major cause of neonatal mortality in developingcountries and developed countries alike, the incidence is much higher in developing countries. (Mishra et al., 1994). In my

study 33.3% of cases presented with severe form of respiratory distress and 44.4% cases presented with mild form of respiratory distress. The mortality rate of perinatal asphyxia was 41.7%. Misra et al., (1994) found 37.5% mortality among asphyxiated baby. In my study, most causes of TTN were full term and near term. There was male predominance with a ratio of 1.8:1. Similarly, Raweling and Smith, (1984) found that male sex and macrosomia had been associated with increased risk of TTN. By studying the predisposing factors, I found that caesarean section was the most common factor associated with development of TTN in neonates as 64.3% of cases in my study were delivered by CS.

Milner et al., (1978) noted that infants born by elective CS had much higher incidence of development of TTN. They attributed this mainly to that these infants had higher volumes of interstitial and alveolar fluid compared with those born vaginally.

Other factors as premature rupture of membrane, maternal hypertension, twins had a much decreasing role in precipitating the occurrence of TTN.

In my study most cases of TTN (64.3%) presented with mild degree of respiratory distress, 25% of cases presented with moderate degree of respiratory distress and 10.3% presented 63 with severe degree of respiratory distress. 78.6% had fair air entry on both lungs. Bland R. including the use of CPAP or mechanical ventilation.

Neonatal sepsis is an important and common cause of neonatal morbidity and mortality (Neonatal morbidity and mortality report, Indian Pediatrics 1997; Aurangzeb and Hameed, 2003). I found septicemia as the third common (11%) cause of respiratory distress in this study. Majority (72.76%) of them were p and 54.5% were low birth wt. result was found in different Majority of cases of septicemi related to PROM and antepartum Mortality outcome of the cases in study was 45.5% Respiratory syndrome (RDS) was the fourth c cause of respiratory distress in my s constituted 9% of cases. All of the pre-term. 55.4% were low birth wt. Severe respiratory distress was th common clinical presentation of R my study (66.7%). Ground appearance was the most c radiological finding in cases with R occurred in 55.6% of all cases o while a fine reticulation was the most common radio-logical find occurred in 33.6% of all cases.

The mortality rate of cases with R my study was 66.7%. A much mortality rate (39.5%) was fou Zaazou et al., (2011). Dani et al., found 24% and Kumar et al., (1996) 57.1% mortality in their study. Th mortality rate in my study co attributed to many factors; the important of them was lack of ve support and surfactant repla therapy in our unit.

Meconium aspiration syndrome was found 6% cases of respiratory in my study. 60% were term ba cases (100%) had meconium stained at birth. 66.7% presented with respiratory distress. Patchy inf coarse irregular streaking pneumothorax were the X-Ray findi

In developing countries with availability of prenatal care, and home births are common the incide meconium aspiration syndrome is t to be higher than in industrialized w

Mortality rate of MAS patients in my study was 66.7% which was much higher than other study. Zaazou et al., (2011) found 19% and Kumar et al., (1996) found 21.8% mortality of MAS patients in their study. Without ventilatory support MAS carry a high mortality.

Congenital pneumonia was found in 5% Cases in my study. More than half (60%) were preterm. Dutta et al., (2006) found pneumonia as the second common cause of respiratory distress (24.34%) in his study and Haque et al., (2013) found 11.9%.

Conclusion:

respiratory distress has been found to be a common neonatal problem with considerable neonatal morbidity and mortality. The commonest causes of neonatal respiratory distress were PNA in 36% followed by TTN. So it can be concluded that proper ANC,modern resuscitation facilities for asphyxiated baby, prevention and appropriate management of preterm and low birth weight baby can reduce the incidence, morbidity and mortality from RD in newborn.

References

Dargaville, A. and Copnell. B. (2006). The Epidemiology of Meconium Aspiration Syndrome: Incidence, Risk Factors, Therapies, and Outcome Pediatrics, vol.117, no.5, pp.1712.

Hany, Aly. (2004). Respiratory Disorders in the Newborn: Identification and Diagnosis. Pediatr. Rev, vol. 25, no.6, pp.201-208.

Kumar, A., Bhat, V.,B. (1996). Epidemiology of respiratory distress of newborns. Indian Journal Pediatrics, vol. 63, no. 1, pp. 93-98.

Mathur, N.B., Garg, K., Kumar, S. (2002). Respiratory Distress in Neonates with Special Reference to Pneumonia. Indian Pediatrics, vol.39, pp. 529-37.

Mathur, N.B., Garg, P., Mishra, T.K. (2005). Predictors of fatality in neonates requiring mechanical ventilation. Indian Pediatrics, vol. 42, pp. 645-51.

Milner, A.D., Saunders, R.A. and Hopkin, I.E.(1978). Effects of delivery by ceserean section on lung mechanics and lung volume in the human neonate. Arch. Dis. Child., vol.53, no.7, pp. 545-8.

Oswyn, G., Vince, J.D. and Friesen, H. (2000). Perinatal asphyxia at Port Moresby General Hospital: A study of incidence, risk factors and outcome. PNG Med. J., vol. 43, pp.110-20.

Rawlings, J.S. and Smith, F.R.(1984). Transient tacypnea of the newborn. An analysis of neonatal and obstetric risk factors, Am. J. Dis. Child., vol.138, no.9, pp. 869-71.

Reuter, S., Moser, C., Baack, M. (2014). Respiratory Distress in the Newborn Pediatrics in Review, vol. 35, no. 10, pp.417-29.

Zaazou, M. H., Kamal, M. M., Ali, R. M., Hussieny, N. E., Sayed, M. E. (2011). Descriptive study of cases of respiratory distress in NICU in Ahmed Maher Teaching hospital. Medical Journal Cairo University, vol.79, no. 1, pp. 441- 48.

Original Article

Knowledge and Practice of Iodized Salt among the Rural Women of Satkhira, Bangladesh

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ABSTRACT:
Background: Iodine deficiency is the single greatest cause of preventable mental impairment globally and also causes many other adverse effects on growth and development due to inadequate thyroid hormone production (1, 2). These iodine deficiency disorders (IDD) can be effectively and inexpensively prevented by iodizing all salt for human and animal consumption (known as Universal Salt Iodization, USI) (1). The Government of Bangladesh passed a law in 1989 making it mandatory for all edible salt to be iodized (3, 4), one of the first countries to do so globally. ***Methodology:*** This descriptive type of cross sectional survey was carried out among 97 married women in March 2017 at the village Narayanpur of Kaligonj Upazila, Satkhira. Results: Maximum age group of the respondent is 23 to 27 yrs 30.92%, 88%of them are muslim, have knowledge about iodine is 67%, Of them 64 % are habituated to use Iodized salt , have knowledge about source of Iodine is only22%,having knowledge about IDD is 55%,, having family members Goitre 15% , able to test iodized salt only17 %, can able to preserve iodine 49% ***Conclusion:*** The levels of iodine deficiency in this community are unacceptable and will have a significant impact on the IQ and development of the children living here. A community designed education and awareness raising campaign regarding the benefits of iodized salt .

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Introduction

Iodine deficiency is one of the most common, yet easily preventable causes of brain damage worldwide, and is of international public health conce particularly in developing countries [1 Iodine is required for thyroid horm synthesis, therefore the consequences

inadequate iodine may causes iodine deficiency disorder.The use of iodized salt in IDD prevention, particularly in iodine deficient regions, was first recommend by the World Health Organization (WHO) in 1952 [3] and is recognised as efficient and cost-effective. However, in order to be effective, it needs to reach vulnerable members of the population (i.e., pregnant women and children) and the salt needs to be adequately iodized (15–40 ppm iodine content) [4]. The national survey in 2011 indicates that 69% of households in Pakistan use iodized salt, however there are still regions where adequately iodized salt is not available, and/or not accepted by the communities. The amount of iodine added to salt during the fortification process needs to account for the loss of iodine during transport and storage and should be regularly monitored by government agencies. In addition, the use of iodized salt in the food manufacturing industry is not widespread and has not been the focus of government initiatives [5].

Methodology:

This was a descriptive type of cross sectional study conducted during the period of March 2017 to assess the practice of iodized salt among the rural women in Narayanpur village of Kaligonj Upazila, Satkhira. The respondents were married women and were selected purposively on the basis of selection criteria from rural households of Kaligonj Upazila, Satkhira. Descriptive statistics were run based on respondent's socio-demographic characteristics, knowledge & practice of iodized salt. Data were analyzed by windows MS excel.

Results :

Maximum age group of the respondent is 23 to 27 yrs 30.92%, 88%of them are muslim, have knowledge about iodine is 67%, Of them 64 % are habituated to use Iodized salt , have knowledge about source of Iodine is only22%,having knowledge about IDD is 55%,, having family members Goitre 15%,able to test iodized salt only 17 %, can able to preserve iodine 49%

Table 1. Age group of the respondent n=97

Age group	Number
18 yrs –22yrs	25
23 yrs –27 yrs	30
28 yrs –32yrs	15
337rs---37 yrs	14
38 yrs and More	13

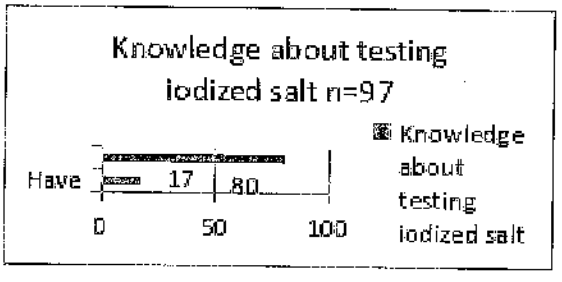

Figure1: Knowledge about testing iodized salt

Discussion :

Iodine deficiency is the single greatest cause of preventable mental impairment globally and also causes many other adverse effects on growth and development due to inadequate thyroid hormone production (1, 2). These iodine deficiency disorders (IDD) can be effectively and inexpensively prevented by iodizing all salt for human and animal consumption (known as Universal Salt Iodization, USI) (1). The Government of Bangladesh passed a law in 1989 making it mandatory for all edible salt to be iodized (3, 4), one of the first countries to

do so globally. A 1993 survey showing the severity of IDD as a public health problem across most of Bangladesh prompted enactment of an additional regulation. Following this, salt iodization became widely practised by the salt industry, with regulation by the Government (Bangladesh Small and Cottage Industries Corporation, BSCIC, under the Ministry of Industry) and with technical and financial support from a range of international agencies particularly, UNICEF, Micronutrient Initiative (MI), the Indian Coalition for Control of Iodine Deficiency Disorders and the Global Alliance for Improved Nutrition(GAIN). Maximum age group of the respondent is 23 to 27 yrs 30.92%, 88%of them are muslim, have knowledge about iodine is 67%, Of them 64 % are habituated to use Iodized salt , have knowledge about source of Iodine is only22%, having knowledge about IDD is 55%,, having family members Goitre 15%,able to test iodized salt only 17 %,can able to preserve iodine 49%. The most commonly reported consequence of iodine deficiency was goitre ,it is known to 55 % of respondent, while 33% reported to have never heard of iodine that although they hadn,t heard of iodine deficiency 45% . the national sample), most reported that using iodized salt was the best method of prevention 84% (rural low performing) to 90% (urban and slum).5

Conclusion :

This study has demonstrated that there is a clear need to improve the iodine status of the community living on the rural area The levels of iodine deficiency in this community are unacceptable and will have a significant impact on the IQ and development of the children living here. A community designed education and awareness raising campaign regarding the benefits of iodized salt .

References

1. Hetzel, B.S. Towards the globa elimination of brain damage due to iodin deficiency—The role of theinternationa council for control of iodine deficienc disorders. Int. J. Epidemiol. 2005, 34 762–764.

2. Andersson, M.; Karumbunathan, V Zimmermann, M.B. Global iodine statu in 2011 and trends over thepast decade. Nutr. 2012, 142, 744–750.

3. World Health Organizatio International Council for Control of Iodin Deficiency Disorders; United Nations Children's Fund. Assessment o the Iodine Deficiency Disorders an Monitoring Their Elimination; WHO Geneva, Switzerland, 2007.

4. Bull World Health Organ. Study-grou on endemic goitre—Final report. Bul World Health Organ. 1953, 9,293–309.

5. Spohrer, R.; Garrett, G.S.; Timmer, A Sankar, R.; Kar, B.; Rasool, F Locatelli-Rossi, L. Processed foods as a integral part of universal salt iodizatio programs: A review of global experienc and analyses ofbangladesh and pakista Food Nutr. Bull. 2012, 33, S272–S280.

Original Article

Intraventricular hemorrhage extension raises mortality in hemorrhagic stroke

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ABSTRACT:

Background: Spontaneous intracerebral hemorrhage (sICH) accounts for 10–15% of all strokes and is characterized by a 30–50% 3-month mortality rate. Intraventricular hemorrhage (IVH) extension can be seen in up to 54% of spontaneous intracerebral hemorrhage and is an independent predictor of worse outcome and neurological deterioration. ***Objective:*** To predict outcome and prognosis in spontaneous intracerebral hemorrhage patient in relation with intraventricular hemorrhage extension. Materials and Methods: Hospital based prospective study carried out in two hundred hemorrhagic stroke patients. The severity of intraventricular hemorrhage extension was calculated using the Graeb scale and volume of hemorrhage was measured by ABC/2 formula using CT scan. ***Result:*** Mean age of patients of hemorrhagic stroke was 61.64 ± 12.76 years. 66% of patients were male. Mortality rate of hemorrhagic stroke after the age of 60 years was 47.92% in 1st month. 79.80% of patients were died with GCS score less than 8. In our study 96.08% of patient died with >50 ml Hemorrhage group, on the other hand mortality rate was 48% in 30-50ml hemorrhage group and 11.12% in <30ml hemorrhage group. Mortality rate was 61.17% in hemorrhagic stroke with ventricular extension group on the other hand mortality was 21.65% in hemorrhagic stroke without ventricular extension. Those patients with GRAEB score >5 their mortality rate was 75.00% on the other hand mortality was 49.10% in GRAEB score 1-4. ***Conclusion:*** Intraventricular hemorrhage extension increased mortality in spontaneous intracerebral hemorrhage. Increased IVH extension severity, defined by a GRAEB score ≥5, is an independent predictor of poor outcome of Spontaneous intracerebral hemorrhage alone with age, GCS and hemorrhage volume.

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Introduction

Spontaneous intracerebral hemorrhage (sICH) has an overall incidence of 24.6 per 100,000 patient-years and the incidence increases with age. [1] sICH accounts for 10–15% of all strokes and is characterized by a 30–50% 3-month mortality rate. [2–4] Intraventricular hemorrhage (IVH) extension can be seen in up to 54% of sICH and is an independent predictor of worse outcome and neurological deterioration. [4–10]

parameters such as age, ICH volume, Glasgow Coma Scale (GCS) or infratentorial origin of hemorrhage, the presence of intraventricular hemorrhage (IVH) represents an established parameter independently impacting clinical outcomes after ICH. [9, 10]

IVH occurs in up to 45% of ICH patients [5] and previous analyses have suggested an influence of the extent of IVH on functional outcome.[10]

In ICH patients, the most detrimental consequence of IVH is acute, obstructive hydrocephalus. The occurrence of hydrocephalus has been shown to be an independent predictor of mortality in ICH patients.[10]

Observations from retrospective clinical series and prospective clinical trials have confirmed the importance of IVH as a clinical factor associated with poor outcomes including coma, mortality, and long-term functional impairment. The presence of intraventricular blood has been strongly associated with impaired consciousness at presentation. Simple comparison between ICH subjects with and without IVH extension suggests that mortality is substantially increased if IVH is present. Tuhrim was the first to consistently demonstrate a powerful relationship between the presence of IVH in a brain hemorrhage patient and the likelihood of death. This relationship wa prospectively demonstrated in severa subsequent studies. [10] Multivariat regression analysis performed on othe convenience samples almost alway defines the presence of IVH as a independent risk factor for mortality an poor functional outcome. Randomize controlled studies in the past decade hav confirmed this point by demonstrating similar relationship between poo outcomes and the extent of IVH.

Materials and Methods:

This Prospective study was conducted a Department of neurology, Shahid Sheik Abu Naser Specialized Hospital, Khulna between the period of 01/01/2019 t 31/01/2020. 200 cases of CT scan prove hemorrhagic stroke patient were include in this study. Hemorrhagic stroke wit history of recent trauma to hea intracerebral hemorrhage due t anticoagulant or antiplatelet therapy, C scan evidence of a subarachnoi hemorrhage, isolated intraventricula hemorrhage, patient with blood dyscrasi and hemorrhagic infarction were exclude from this study.

All stroke patients admitted in Neurolog unit evaluated clinically and CT scan we done. Clinical assessment of outcome wa done by assessing age, Glasgow Com Scale (for assessing conscious level), nec rigidity (for assessing ventricul extension), posterior fossa lesion (assesse by seeing signs of brain steam lesio signs of cerebeller lesion, respirato pattern and cardiovascular status). W calculate hemorrhage volume in bedsi by using ABC/2 formula.23,24 Volume hemorrhage was measured by ABC formula using CT scan. CT scan slice wi the largest area of hemorrhage w

identified. The largest diameter (A) of the hemorrhage on this slice was measured. The largest diameter 90° to A on the same slice was measured next (B). Finally, the approximate number of slices on which the intracerebral hemorrhage was seen was calculated (C). C was calculated by a comparison of each CT slice with hemorrhage to the CT slice with the largest hemorrhage on that scan. If the hemorrhage area for a particular slice was greater than 75% of the area seen on the slice where the hemorrhage was largest, the slice was considered 1 hemorrhage slice for determining C. If the area was approximately 25% to 75% of the area, the slice was considered half a hemorrhage slice; and if the area was less than 25% of the largest hemorrhage, the slice was not considered a hemorrhage slice. These CT hemorrhage slice values were added and multiplied by the slice thickness and determined the value for C. All measurements for A and B were made with the use of the centimeter scale on the CT scan to the nearest 0.5 cm. A, B, and C were then multiplied and the product divided by 2, which yielded the volume of hemorrhage in cubic centimeters. Site of haemorrhage and ventricular extension were recorded. The severity of IVH extension was calculated using the Graeb scale. Results were calculated using Chi-square test.

Results :

Result: Mean age of patients of hemorrhagic stroke was 61.64 ± 12.76 years. 66% of patients were male. Mortality rate of hemorrhagic stroke after the age of 60 years was 47.92% in 1st month. 79.80% of patients were died with GCS score less than 8. In our study 96.08% of patient died with >50 ml Hemorrhage group, on the other hand mortality rate was 48% in 30-50ml hemorrhage group and 11.12% in <30ml hemorrhage group. Mortality rate was 61.17% in hemorrhagic stroke with ventricular extension group on the other hand mortality was 21.65% in hemorrhagic stroke without ventricular extension. Those patients with GRAEB score >5 their mortality rate was 75.00% on the other hand mortality was 49.10% in GRAEB score 1-4.

Table-1: Distribution of patients by age (n=200).

Age of the patient	Total no. of patient
< 50 yrs	41(20.5%)
50 - 60 yrs	63(31.5%)
> 60 yrs	96(48%)
Total	200(100%)

Discussion:

Two hundred patients with hemorrhagic stroke admitted in Department of neurology, Shahid Sheikh Abu Naser Specialized Hospital, Khulna were included in this study within the time period of 01/01/2019 to 31/12/2019. All patients were selected as per inclusion criteria. Their presentation, risk factors and outcome were assessed.

In this study shows that mean age of patients of onset of hemorrhagic stroke was 61.64 ± 12.76. This co-relates with studies shows hemorrhagic stroke occurs particularly those older than 55 years of age.

This study shows that males were affected more than females Which co-relates with studies suggesting that intracerebral hemorrhage is more common in men than women.

47.92% of patients died in age group > 60 years followed by 42.86% in 50 – 60 years and 26.83% in < 50 years group (Table -

3), suggest mortality increased with increased age which corelates with study shown by Daverat P and Broderick JP et al . This study shows that 42% of patients died in 1st month of onset of stroke (Table - 4), which co-relates with the study shown by Broderick et al they shown that 30 day mortality of ICH was 44%, with half of deaths occurring within the first 2 days of onset.

Level of consciousness, volume of parenchymal hemorrhage and to a lesser extent intraventricular hemorrhage has been most consistently linked with poor outcome.

This study shows 79.80% of (79 out of 99) patients died with a GCS $\leq$ 8, where as 4.95% of patients (5 out of 101) died with GCS $\geq$ 9 (Table - 5), with a p – value < 0.00001 that is statistically significant which strongly co-relates with other foreign studie.

Volume of intracerebral hemorrhage as calculated by ABC/2 formulas using on CT-Scan were studied into three different categories < 30 ml, 30 – 50 ml and > 50 ml, Shown 96% death rates of hemorrhage size > 50 ml in 1st month. On the other hand death rates in 30 – 50 ml group were 48% and < 30 ml group were only 11.12% (Table –6); with a chi-square test result was 100.7416 and p-value < 0.00001, that was statistically significant and coincide with the study shown that increased volume of hemorrhage increased mortality, Broderick J et al shows that a model of 30 day mortality that used the Glasgow coma scale and hemorrhage volume in patients with intracerebral hemorrhage correctly predicted outcome with a sensitivity and specificity of 97%.

51.50% of patients (n=103) presented with ventricular extension of which 61.17% (n=63) of patients died within 1 month (Table - 7), with p-value < 0.00001 that was statistically significant and co-r with several studies.

Tuhrim was the first to consis demonstrate a powerful relatio between the presence of IVH in a hemorrhage patient and the likeliho death.[8] This relationship prospectively demonstrated in se subsequent studies.[10], Multiva regression analysis performed on convenience samples almost al defines the presence of IVH a independent risk factor for mortality poor functional outcome. Randon controlled studies in the past decade confirmed this point by demonstrati similar relationship between outcomes and the extent of IVH.

75% of patient died in Graeb score group, on the other hand 49.10% of pa died in graeb score 1-4 group (Table with chi square test value 7.2434 p-value <0.05 that is statistic significant. Trifan G in a study sh higher IVH severity as defined as G score ≥5 is associated with w outcome, while lower IVH severity G scores1-4 has similar outcomes to pa without IVH.

In one of these studies, Graeb score was associated with increased functi impairment at hospital discharge. another study, increasing IVH seve estimated using the Graeb scale patients divided into quartiles correl with decreased survival and functi independence.

Comparative death analysis of ventric hemorrhage and non ventric hemorrhage shows 61.17% of patient in ventricular hemorrhage group on other hand 21.65% of patient died in ventricular hemorrhage group with ratio 5.7000 and p-value <0.0001 tha statistically significant which co rela

with study shown by Trifan G.

In this study 17.50% of patient developed hydrocephalus (Table-10), those who developed hydrocephalus their death rate was 57.14% on the other hand death rate was 38.79% in hydrocephalus absent group.

Conclusion:

Intraventricular hemorrhage extension increased mortality in spontaneous intracerebral hemorrhage. Increased IVH extension severity, defined by a GRAEB score ≥5, is an independent predictor of poor outcome of Spontaneous intracerebral hemorrhage alone with age, GCS and hemorrhage volume. When using risk stratification tools for clinical severity grading after sICH, IVH extension should be given different weights based on the amount of IVH extension present, rather than being used as a dichotomized variable.

Reference:

1. van Asch CJ, Luitse MJ, Rinkel GJ, van der Tweel I, Algra A, Klijn CJ. Incidence, case fatality, and functional outcome of intracerebral haemorrhage over time, according to age, sex, and ethnic origin: a systematic review and meta-analysis. Lancet Neurol. (2010) 9:167–76. doi: 10.1016/S1474-4422(09)70340-0

2. Andersen KK, Olsen TS, Dehlendorff C, Kammersgaard LP.Hemorrhagicand ischemic strokes compared: stroke severity, mortality, and risk factors. Stroke. (2009) 40:2068–72. doi: 10.1161/STROKEAHA.108.540112

3. Sacco S, Marini C, Toni D, Olivieri L, Carolei A. Incidence and 10-year survival of intracerebral hemorrhage in a population-based registry. Stroke. (2009) 40:394–9. doi: 10.1161/STROKEAHA.108.523209

4. Qureshi AI, Tuhrim S, Broderick JP, Batjer HH, Hondo H, Hanley DF. Spontaneous intracerebral hemorrhage. N Engl J Med. (2001) 344:1450–60. doi: 10.1056/NEJM200105103441907

5. Sun W, Pan W, Kranz PG, Hailey CE, Williamson RA, Sun W, et al. Predictors oflateneurologicaldeteriorationaftersponta neousintracerebralhemorrhage. Neurocrit Care. (2013) 19:299–305. doi: 10.1007/s12028-013-9894-2

6. Hansen BM, Morgan TC, Betz JF, Sundgren PC, Norrving B, Hanley DF, et al. Intraventricular extension of supratentorial intracerebral hemorrhage: the modified graeb scale improves outcome prediction in lund stroke register. Neuroepidemiology. (2016) 46:43–50. doi: 10.1159/000442575

7. Hallevi H, Albright KC, Aronowski J, Barreto AD, Martin Schild S, Khaja AM, et al. Intraventricular hemorrhage: anatomic relationships and clinical implications. Neurology. (2008) 70:848–52. doi: 10.1212/01.wnl.0000304930.47751.75

8. Witsch J, Bruce E, Meyers E, Velazquez A, Schmidt JM, Suwatcharangkoon S, et al. Intraventricular hemorrhage expansion in patients with spontaneous intracerebral hemorrhage. Neurology. (2015) 84:989–94. doi: 10.1212/WNL.0000000000001344

9. Nishikawa T, Ueba T, Kajiwara M, Miyamatsu N, Yamashita K. A priority treatment of the intraventricular hemorrhage (IVH) should be performed in the patients suffering intracerebral hemorrhage with large IVH. Clin Neurol Neurosurg. (2009) 111:450–3. doi: 10.1016/j.clineuro.2009.01.005

10. Tuhrim S, Horowitz DR, Sacher M, Godbold JH. Volume of ventricular blood is an important determinant of outcome in supratentorial intracerebral hemorrhage. Crit Care Med. (1999) 27:617–21. doi: 10.1097/00003246-199903000-00045

Original Article

A Study on the Cardio protective Effective Effect of Curcuma Longa (Turmeric) Extract in Adrenali Induced Myocardial Infraction in Rats

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ABSTRACT:

Background. Myocardial infarction (MI) is one of the major causes of cardiac mortality. Curcuma Longa(CL) or Turmeric extract through its antioxidant property prevents free radical mediated adrenaline induced myocardial injury. Literature showed that CL has a positive contribution as a dietary supplement for the prevention of heart disease. Although modern medicines are effective in preventing MI, their use is often limited because of their side effects & adverse reactions.The study is designed to investigate whether CL can exert beneficial effects on experimental model of myocardial necrosis. ***Objectives:*** To find out the cardio protective effect of CL extract in adrenaline induced myocardial damage in rats. ***Methodology:*** An experimental design was conducted in Department of Pharmacology, Dhaka Medical College, from January 2013 to December 2013. The experiment was carried out in a total no. of 24 healthy rats of Albino strains weighing 150-200 gm. ***Results:*** In the present study, no significant change was observed in the mean serum level of CK-MB in between sham control group (normal saline treated), and CL control group (100 mg/kg) rats. Gross & histological feature of rats heart of these groups exhibit no lesion. Serum CK-MB level was markedly elevated 18 hours after 2nd injection of adrenaline. The elevation was highly significant($p< 0.001$). Gross and histological features of adrenaline control rat's heart also showed marked ischaemic changes as well as marked increase in heart weight. In this experiment, we found that pretreatment with CL in adrenaline induced rats caused significant ($p <0.001$) decrease in serum CK-MB level 18 hours after adrenaline administration. CL pretreatment prevented the adrenaline induced rise in serum CK-MB level by 60.43% in rat model of MI. Preservation of myocardium was evidenced. ***Conclusion:*** Finally, we conclude that CL protects experimental myocardial infarction as revealed by the amelioration of histological changes and biochemical marker of cardiac tissue damage without any adverse effect. CL has shown to be cardio protective, which may be attributed to its potent antioxidant properties.

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Introduction

Healthy human life is always cardinal for human being starting from his birth to the end of life.The numbers of diseases, minor to major, play a key role in disturbing the healthy human life.Along with the modernization as well as sophistication in the life, human health directly or indirectly faces challenge from several diseases resulting sometime in survival and sometimes in surrender to diseases. Cardiovascular disease(CVD), remain the principle cause of death in both developed and developing countries. [1]

Ischaemic heart disease (IHD) which is an imbalance between oxygen supply and demand resulted in hypoxia to heart muscle. If reperfusion does not occur within 15-20 minutes, irreversible cell damage ensues. But reperfusion injury which is most likely linked early generation of Reactive Oxygen Species (ROS). There is also experimental evidence that anti-oxidants are beneficial in maintaining cardiovascular health. Reinforcement of endogenous defense, through enhancement of antioxidants has been identified as a promising strategy of myocardial protection.

Myocardial infarction (MI) is the most important form of IHD. Acute myocardial infarction (AMI) is the rapid development of myocardial necrosis caused by a critical imbalance between the oxygen supply and demand of the myocardium. It increases the generation of reactive oxygen species (free radicals) in ischemic tissue bringing about myocardial damage.[4] [5]

Acute myocardial infarction is the leading cause of morbidity and mortality in the western world and according to the World Health Organization (WHO) will be the major cause of death in the world as a whole by the year 2020. Although the management of this epidemic will centre on the development of effective primary prevention programs, the impact of these strategies may be limited, particularly in the developing countries. There is an urgent need for effective forms of secondary prevention and in particular, treatments which will limit the extent of an evolving MI during the acute phase of coronary occlusion. AMI affects thousands of people each year and approximately 25% die, half of them before reaching a hospital.[6] [7]

AMI is a leading cause of morbidity in the US. Approximately 1.3 million cases of nonfatal AMI are reported each year, for an annual incidence of approximately 600 per 100,000 people. The incidence of death from AMI has fallen in many Western countries during the past 20 years.

In this study our main goal is to determine cardio protective effect of Curcuma Longa (Turmeric) extract in adrenaline induced myocardial damage in rats.

Method:

The experiment was carried out in a total number of 24 healthy rats of Albino strains ,the rats are aged 2-3 months of either sexes and weighing between 150-200 grams. They were kept in medium sized metallic cages in animal house of pharmacology department in Dhaka medical college, Dhaka. They were allowed to live at room temperature with 12 hours light and 12 hours dark cycle. They were fed on standard pillets of rat food and allowed to drink. The age, weight and treatments received will be notified. For the purpose of identification rats were marked with permanent ink.

The experiment was divided into two parts : part I & part II.Experiment I:This part of the experiment were carried out to demonstrate the cardio toxic effect of adrenaline. It was composed of 12 rats.

They were divided into two groups each comprising of 6 rats as follows: Group A:Saline(NS) control group-Sham control: Rats were administered 0.9% normal saline (1ml/200gm. p.o.) once daily for a month. Group B : Adrenaline-control (ADN) group: Rats were administered 0.9% normal saline(1ml/200gm. p.o.) once daily for a month in addition adrenaline (2 mg/kg) subcutancously on 29th and 30th day in an interval of 24 hours. Experiment II: This part of the experiment was carried out to demonstrate the cardio protective effect of Curcuma Longa extract in adrenaline treated rats. For this purpose 12 rats were allocated into two groups comprising 6 rats each as follows: Group C — Curcuma Longa(CL)- control group:

Ethanolic extract of curcuma longa, CL-EtOH (lOOmg/kg) were dissolved in normal saline and orally fed once daily for a month. Group D - Adrenaline(ADN) challenged, Curcuma Longa(CL)- treated group:The rats were fed orally CL-EtOH (lOOmg/kg) once daily for one month and in addition received ADN(2mg/kg. sc)) on 29th and 30th day at an interval of 24 hours.

First data were edited to the validity and consistency of the data. After proper verification data were coded and entered into computer by using SPSS software programs. Descriptive analysis was done by percentage, mean and standard deviation. Association was observed by appropriate statistical test at 95% confidence interval eg. odds ratio, Chi-square, t-test.

Result

Table-1 shows the effect of adrenaline on serum CK-MB level where serum CK-MB level (mean ±SE) in adrenaline control group 18 hours after injection of adrenaline was 48.25 ±1.21 U/L & in sham control group or Normal Saline treated rat was 9.86 ±1.13 U/L. There was a marked rise in serum CK-MB level in adrenaline control group as compared to sham control group & the rise was highly significant (P- value< 0.001). The following table is given below in detail:

Table-1: The effect of adrenaline on serum CK-MB level.

Group	Treatment	Serum CK-MB level (U/L)	95% confidence limit
Gr.A N=6	Control (NS) (1.0ml)	9.86 ±1.13	7.65-12.07
Gr.B N=6	Adrenaline (2mg/kg B.W)	48.25± 1.21***	45.88 - 50.62

The results shows the effect of pretreatment of CL extract on serum CK-MB level 18 hours after 2nd injection of adrenaline where CL pretreatment decreased serum CK-MB level as compared to adrenaline control group & the reduction was highly significant (p< 0.001). Treatment with CL prevented the adrenaline induced increase in serum CK-MB level by 60.43 %. The following table is given below in detail:

Table-2: Effect of pretreatment of CL extract on serum CK-MB level 18 hours after 2nd injection of adrenaline.

Groups	Treatment	Serum CK-MB level (U/L)	95% CI	prevention by CL pretreatment
Gr.A	Control (NS)	9.86 ±1.13	7.65 - 12.07	
N=6	(1.0ml)			
Gr.B	Adrenaline	48.25±1.21	45.88 - 50.62	
N=6	(2mg/kg B.W)			
Gr.D	CL(100mg/kg)+	25.65 ±1.70***	21.72 -28.38	60.43%
N=6	Adrenaline(2mg/kg)			

shows effect of CL extract alone on serum CK-MB level in rats. When only CL was given orally daily for 4weeks and serum CK-MB level (mean ± SE) was estimated 48 hours after last dose. It was found to be 10.23 ±0.96 U/L. The change in serum CK-MB level in CL control group when compared to Sham control (NS) group was not statistically significant. The following table is given below in detail:

Discussion

Acute myocardial infarction (AMI) is associated with profound alteration in the sympathetic nervous system activity. In IHD chronic sympathetic activation is deleterious to heart. Sympathetic activation in acute myocardial infarction (AMI) contributes to elevation of plasma noradrenaline levels which is associated with higher mortality in patients with IHD. Catecholamines cause cardiac myocytes dysfunction & necrosis.

It has been reported that during MI, the natural antioxidant defense mechanisms (i.e. superoxide dismutase, catalase, & glutathione) are depleted. Subsequently myocardial ischemic tissue becomes vulnerable to any type of oxidative stress which is mediated via different type of free radicals from various sources. Since catecholamines generate highly cytotoxic free radicals which play an important role in catecholamine- induced cytotoxicity.

In this study adrenaline was used to induce myocardial damage. One study observed that a highly significant rise in serum CK-MB level 12 hours after 2nd injection of adrenaline. In this study subcutaneous administration of 2nd dose of adrenaline (2mg/kg) was given 24 hours apart. Serum level of CK-MB was raised 18 hours after 2nd injection of adrenaline and rise in serum CK-MB level was also highly significant ($p<0.001$).[10]

Other report said that, adrenaline also used (2 mg/kg subcutaneously) to induce myocardial necrosis experimentally in rats and observed elevated level of serum CK-MB. They used isoprenaline a catecholamine to induce myocardial necrosis in rats and observed significant rise in serum CK-MB level.

In this study, no significant change was observed in the mean serum level of CK-MB in between sham control (normal saline treated), and CL control (only Curcuma longa treated) rats.[8-10]

In the CL treated group (adrenaline challenged) however, very significant decrease ($p-<0.001$) in mean serum CK-MB level were observed with pretreatment with Curcuma longa. Treatment with Curcuma longa prevented the adrenaline induced increase in serum CK-MB level by 60.43 %.

In the present study, the hearts of rats in all groups were examined for their weight and histological changes. Marked increase in heart weight was found in adrenaline treated rats and so increased heart weight to body weight ratio. Similar result was found by one study.

A number of workers revealed cardioprotective effect of Curcuma longa measuring other parameters. Mohanty IR et al.(2009) One study used three different doses of CL in experimental myocardial infarction induced by isoprenaline. They observed a significant rise in endogenous antioxidant content of rats heart(reduced GSH, SOD, Catalase) in CL treated group whereas isoprenaline treated group these enzymes reduced significantly. Cardio protection was also observed histologically.

Another study was done on cardioprotective effect of curcumin against Doxorubicin induced myocardial toxicity in rats. In that study, they found that dose

of CL 200mg/kg was most effective in raising endogenous antioxidant level(glutathion,superoxide dismutase). Rat hearts were best protected from myocardial ischemic injury at this dose.

Similar study was done on Curcuma longa extract against Doxorubicin induced cardiotoxicity in rats by. They recommended CL 1 OOmg/kg was most effective against Doxorubicin induced cardiotoxicity.[3][4]

Another study identified that protective role of Curcumin in myocardial oxidative damage induced by isoproterenol in rats.They observed endogenous antioxidant content of rats heart. The results of this study provide clear evidence that the Curcumin pretreatment enhances the antioxidant defense against Isoprotenol induced oxidative myocardial injury in rats and exhibit cardio protective property.

The exact mechanism of cardio protection of CL has not been yet established. Several works suggested some possible mechanism CL contain phenolic group which acts as antioxidant reported to have anti ischaemicproperty. Other workers showed an increase in endogenous antioxidant with chronic administration of CL. The active ingredient of herbal product responsible for its observed effect is claimed to be Curcumin. However, CL contains many others chemical constituents which may also play role in some of its observed effect. [5][6][7][8]

Conclusion

Finally we conclude that Curcuma Longaprotects experimental myocardial infarction as revealed by the amelioration of histological changes and biochemical marker of cardiac tissue damage without any adverse effect. CL has shown to be cardio protective, which may be attributed to its potent antioxidant properties.

Reference:

1.Aggarwal BB, SundaramC ,Malani N and Ichikuwa H (2007). Curcumin : The Indian Solid Gold. AdvExp Med Biol.,30 : 85-94.

2. Aggarwal BB, Kumar A and Bharti Ac (2003). Anticancer potential of curcumin : preclinical and clinical studies. Anticancer Res.,23 : 363-398.

3. Agrees CM, Jacobs HI, Glassner HF, Lederer NA and Clark WG (1995). Serum transaminase levels in experimental myocardial infarction. Circulation., 11:711-13.

4. Balarman R, Upaganlawar A and Gandhi H (2011). Effect of vitamin E alone one in consumption with lycopene on biochemical and histological alterations in isoprenaline induced myocardial infarction in rats. J. Pharmacol., 1: 24-31.

5. Bandyopadhyay D, Chattopadhyay A, Ghosh G and Datta AG (2004). Oxidative stress induced ischemic heart disease : protection by antioxidants. Current Medicinal Chemistry., 11:369-87.

6. Bernier M, Manning AS and Hearse DJ (1989). Reperfusion arrhythmias : Dose-related protection by anti-free radical interventions. Am J physiol., 256: 1344-52.

7. Best B (2007). Ischemia and reperfusion injury in cryonics (n.d.).Retrieved on 23.10.07 from http.7www.benbest.com /cryonics/ ischemia.htm I ^contents.

8. Bindoli A, Rigobello MP and Deeble DJ (1992). Biochemical and toxicological properties of the oxidation products of catecholamines. Free RadicBiol Med., 13: 391-405.

9. Khan IU and Jahangir SM(2007). Effect of antioxidant vitamin E and C on adrenaline induced myocardial damage in rats. M.Phil.Thesis University of Dhaka.

10. Nahar N, Akhter and Rahman MS (2003), Protective role of cardividelol in experimental myocardial infarection. Bang J PhysiolPharmacol., 20: 9-12.

Original Article

TVS USG an Important Diagnostic Tools for Prediction of Infertility

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ABSTRACT:
Introduction: Uterine cavity assessment is an integral part of a thorough infertility work up. The objectives of the study were to asses the diagnostic value of Tranvaginal sonography in the evaluation of endometrial cavity in infertile women and to evaluate wether Transvaginal sonography is an effective screening modality for intrauterine abnormalities. ***Material and methods:*** Cross sectional study 50 infertile women were included, and after taking informed consent and detailed history all participants underwent gynaecological examination, TVS as part of routine infertility work up. ***Results:*** With TVS, Endometrial Hyperplasia (n=14, 14%), submucous fibroids (n=13, 13%), endometrial polyps (n=27, 27%), adhesions (n=2, 2%), congenital anomalies (n=15, 15%) were detected. ***Conclusion:*** Transvaginal sonography has proved to be of immense value in the evaluation of infertile women because of its non invasive, cost effective and feasible nature. TVS thus can be considered as an initial investigation in the infertility work up.

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Introduction

Uterine cavity assessment is an important aspect of female infertility work up. Structural pathology in the uterine cavity such as congenital Mullerian anomalies and intrauterine lesions can affect endometrial receptivity, resulting in implantation failure which may manifest as RPL or infertility.1 Uterine cavity abnormalities can be the cause of infertility in 10 to 15% of women. Abnormal uterine cavity findings may occur in approximately 50% infertile women.2 Uterine cavity evaluation is thus recommended to screen fibroids, polyps, adhesions and uterine Mullerian abnormalities. Efficient detection and adequate management of lesions is imperative in infertile women so that optimal fertility treatment can proceed. Ultrasound imaging of the female reproductive tract was first described in 1972 by Kratochwil et al.3 The recent advances in ultrasound technology have promoted transvaginal sonography as a non invasive, low cost alternative to

hysteroscopy. It provides a good visualization of endometrium, midline echo and uterine cavity. Hysteroscopy is considered the gold standard for visualization of the uterine cavity and cervical canal. It records the findings photographically and by videotape for further evaluation and comparison and allows the identification of a number of pathologies including polyps, submucous fibroids, endometrial thickness and others.6 It also allows therapeutic intervention at the same time for the treatment of detected pathology. The WHO recommends the use of hysteroscopy only when clinical or ultrasound or HSG examinations suggest any abnormality.7,8 TVS has recently become a first line mandatory step in the initial evaluation of uterine abnormalities before resorting to invasive procedures such as hysteroscopy. It is readily available, cost effective and non invasive and universally preffered as the initial diagnostic procedure.

Material and Methods :

It was a cross sectional study conducted in the department of Radiology & obstetrics and gynecology department of Satkhira Medical College Hospital Data was collected from Medical College Hospital & a Private Diagnostic Centre nin Satkhira Bangladesh from July 20017 to January 2020. 50 married women (18 to 45 years) were included in the study after taking their informed consent for participation Inclusion criteria: All cases of primary and secondary infertility Exclusion criteria: Known cases of congenital abnormalities of the uterus, acute pelvic inflammatory disease,and vulvovaginitis. Methodology An informed consent was taken from every participant. A detailed history, general and gynecological examination were performed. Ultrasound Evaluation

All patients underwent TVS during t late follicular phase of the cycle using t S6 Voluson imaging machine with a 7 MHz endovaginal probe. The endometri cavity was

measured in two perpendicular pla sagittal and transverse view. Irregularitie thickness, echo pattern of endometriu and myometrium interphase in long ax and in transverse plane were note STATISTICAL ANALYSIS Statistic analysis was done with SPSS softwa 16.0

RESULTS In the present study, 37cas were primary infertility and 13 cases we secondary infertility. In 50 populati TVS detected 14 cases as normal and cases as abnormal. TVS detected 14 cas as endometrial hyperplasia .In case congenital anomalies the accuracy rate TVS is 100%. TVS correctly diagnos subseptum and arcuate uteru Inidentifying the septum by TVS., 2 cas were false positive and 2 cases bicornuate uterus were missed. Maximu number of abnormal Uterine findings a cause of infertility i.e. 76.19% were in t age group > 31 years. Minimum no uterine findings were in the age group 25 years. As age increases the acquir causes for infertility are increasing.

Uterine Findings	TVS Cases	TVS percentage
Normal	29	29
Sub mucous fibrosis	13	13
Endometrial Polyps	27	27
Adeshion	2	2
Congenital Annomalies	15	15
Endometrial hyperplasia	14	14
Total	100	100

Table 1: Evaluation of TVS on 100 pati

Discussion :

Uterine cavity assessment is a vital part of infertility work up. TVS is used to assess ovaries, fallopian tubes and adnexa and is preffered as it is readily available, low cost and does not use any ionizing radiation. Hysteroscopy is considered gold standard for endouterine pathologies such as submucous fibroids and congenital uterine abnormalities. In the last decade improvements in the ultrasound technology and hysteroscopy techniques have changed the diagnostic approach in infertility patients.4 In this study we evaluated the role of TVS and Diagnostic hysteroscopy in 100 infertile patients. In our study the incidence of primary infertility was 76% and that of secondary infertility was 24% which co relates with the studies conducted by Hajishaisha et al.5 We studied the uterine cavity in the late follicular phase for better ultrasound imaging of the endometrium. Endometrial polyps were a common finding in our study (21%). In our case out of the 27 cases of endometrial polyp detected by TVS, 21 were confirmed by hysteroscopy. Using hysteroscopy as a gold standard, TVS showed excellent specificity 100%, good sensitivity 92.4%, 77.8% NPV, 100% PPV with an accuracy rate of 94%. Another common finding in our study was endometrial hyperplasia. TVS detected endometrial hyperplasia in 14% women involved in this study, where as hysteroscopy detected in 10% women. Out of 14 cases, TVS correctly diagnosed 10 cases as endometrial hyperplasia which correlated with hysteroscopy and remaining 4 cases revealed ass endometrial polyp in hysteroscopy{4-6}. Submucous fibroid was found in 14 patients (14%), 11 primary infertility and 3 with secondary infertility. Intrauterine adhesions were detected in 4% women in our study. We found congenital uterine malformation in 15% of infertile women. TVS was able to detect uterine subseptum and arcuate uterus with quite significant accuracy Out of 10 patients who had septum and bicornuate uterus, TVS correctly diagnosed in 8 patients and missed 2 cases of bicornuate uterus. We recommend 3D TVS in such cases.

Conclusion : Examination of the uterine cavity is an integral part of any thorough evaluation of infertile women. Transvaginal sonography, when performed during the follicular phase, can detect most intrauterine abnormalities. It can be concluded that TVS can be relied upon for theinitial investigation of infertile women avoiding routine hysteroscopy and the costs incurred with it. Hysteroscopy may be reserved for women with an abnormal TVS, who did not respond to initial ovulation induction and intrauterine insemination. Hence transvaginal sonography may be used as the initial diagnostic procedure.

Referrences :

1. Ahamadi F, Zafarani F, Haghighi H, Niknejadi M, Vosugh A. Application of 3D ultrasonography in detection of Uterine abnormalities. IJFS. 2011; 4:144- 147.

2. Brown SE, Coddington CC, Schnorr J, Gibbsons W, Oehninger S. Evalution of outpatient hysteroscopy, saline infusion hysterography and hysterosalphingography in infertile women. A prospective, randomized study. Feril Steril 2000; 74:1029-1034.

3. Kratochwil A, Urban GU, Friedrich F, Ultrasonographic tomography of the ovaries, Ann Chir Gynecol, 1972;61:211

4. Devleta Balic, Adem Balic. Office Hysteroscopy, transvaginal ultrasound and endometrial histology: a comparison in infertile patients. Acta Medica Academica

2011;40:34-38.

5. Hajishafiha M, Zobairi T, Zanjani VR, Ghasemi -Rad M, Yekta Z, Mladkova N. Diagnostic value of sonohysterography in determination of fallopian tube patency as an initial step of routine infertility assessment. J Ultrasound Med. 2009; 28:1671-1677.

6. Narayan R, Goswamy R. Transvaginal sonography of the uterine cavity with hysteroscopic correlation in the investigation of infertility, ultrasound obstet gynecol 1993;3:129-133

7. Shalev J, Meizner I, Bar-Hava I. Predictive value of transvaginal sonography performed before routine diagnostic hysteroscopy for evaluation of infertility, Feril Steril 2000;73:412-417

8. La Sala GB, Blasi I, Gallinelli A, Debbi C, Lopopolo G, Vinci V. Diagnostic accuracy of sonohysterography and transvaginalsonography as compared with hysteroscopy and endometrial biopsy: A prospective study. Minerva Gynccol 2011;63:421-7. Source of Support: Nil; Conflict of Interest

Original Article

Evaluation of Complications Arteriovenous Fistula Creation for Hemodialysis at district level

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ABSTRACT:

Background: Arteriovenous fistula (AVF) is a classic example of multidisciplinary team work among nephrologists, vascular surgeons, duplex specialists, dialysis nurses and dialysis staff. The objectives of this study were to determine the complication of arteriovenous fistula (AVF) for hemodialysis (HD) and to find out the role of duplex study for the management of fistula complications. ***Methods:*** This was a prospective type of study done on 60 arteriovenous fistulas. All operations were done in different hospitals in Satkhira District. After duplex study of upper limb vessels, the site of fistula creation was determined. All Radio-cephalic, ulnar-basilic and brachiocephalic fistulas were done under local anesthesia. Other fistula of the series was done under brachial block. Immediate postoperative bruit, thrill and distal pulses were monitored. Fistulas were considered mature after at least 6 weeks of fistula creation with good visualization of arterialized vein and good thrill. Patients were advised to report if any complication arises. ***Results:*** The most common fistula was Radio-cephalic fistulas (75%) and then Brachio-cephalic fistulas (16.67%). Most fistula was created in left upper limb (80%). The most common complication was stenosis of arterialized veins (8.33%) and another type of stenosis was found at anastomotic site (3.33%). Second most common complication was cannulation site infections and at the site of fistula creation (5%). Thrombosis, aneurysm and pseudoaneurysm were identified as the most detrimental complications. ***Conclusion:*** Arteriovenous fistula is an important issue for hemodialysis patient as the life line. Dialysis nurses and technician should have knowledge about antisepsis and potential complication of AVFs. Early diagnosis and early treatment prevent loss of vascular access and reduce serious morbidity and mortality. Both the patients and dialysis staffs should give highest care for the AVF to reduce the complications.

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Introduction

Chronic kidney disease (CKD) and end-stage renal disease (ESRD) are increasingly common diagnoses all over the world. The main treatment of ESRD is hemodialysis. The high prevalence of CKD necessitates adequate vascular access for hemodialysis and hence creation of arterio-venous fistulas for these ESRD patients. Creating long standing good quality AV fistula is thus a challenging job for the surgeons [1-7].

In order to preserve viable access sites, the Kidney Disease Outcomes and Quality Initiative (KDOQI), recommend a radio-cephalic arteriovenous fistula (RCAVF) as the first and best option [8]. If not feasible, then a brachiocephalic arteriovenous fistula, followed by a basilic vein transposition should be created in the non-dominant arm. Prosthetic arteriovenous bridge grafts and tunneled dialysis catheters are mentioned as last resorts in patients with no autologous options. Objectives of our study were to understand the complications after fistula creation, long term follow up during dialysis and also to figure out the management techniques of these complications. The objectives also include understanding the role and importance of Duplex study for fistula creation and for evaluation of complications. We present our experience on facing complications and management technique of AVF.

Methods:

This was a prospective type of study done from January, 2015 to December, 2020. The total number of arteriovenous fistulas created was 60. All AV fistulas were created in different Hospitals of Satkhira district. Patient details were recorded for data collection with personal address and phone number. All patients were personally worked up and followed up. After taking detailed history and clinical examination, all patients had undergone duplex study of upper limb vessels (arteries and veins) for the site of fistula creation. Technique Complete informed written consent was taken before beginning of each procedure. All radio-cephalic, brachiocephalic and ulnar-basilic fistula were created under local anesthesia.

Arteriovenous anastomosis was done using either 6, 0 or 7, 0 prolene double ended round body needle. Immediate postoperative bruit, thrill and distal pulses were monitored. Every patient was followed up at 1st, 7th and 14th (postoperative day) POD for bruit, thrill and wound examination. Fistula was considered matured after at least 6 weeks of fistula creation with good visualization of arterialized veins and good thrill. Patient was advised to attend if any complication arise.

Results:

A total of 60 arteriovenous fistula were created from the period of January 2015 to December 2020 all by a single vascular surgeon in different hospitals of Satkhira district.

Table-I
Type of arteriovenous fistula (n=60)

Type of Fishtula	Number	Percentange
Radio-cephalic	45	75%
Brachio-cephalic	10	16.67%
Brachio-basilic	03	5%
Ulnar-basilic	02	3.33%
Total 60	100%	

The most common type of arteriovenous fistula was Radio-cephalic fistula (75%) and the next common type of fistula was Brachio-cephalic fistula (16.67%).

Table-II
Causes of Renal Failure (n=60)

Diagnosis	Number	Percentage
CKD 55	91.67%	
Obstructive Uropathy	03	5%
Polycystic Kidney disease	02	3.33%
Total 60	100%	

Table-III
Complications of Arteriovenousfistula (n=60)

Complication	Number	Percentage
Haematoma	03	5%
Bleeding 02	3.33%	
Seroma 02	3.33%	
Infection 03	5%	
Thrombosis	02	3.33%
Pseudo aneurysm	02	3.33%
Aneurysm	03	5%
Anastomotic stenosis	02	3.33%
Arterialized vein stenosis	05	8.33%
Canulation site infection	03	5%

In this study, the most common complication was stenosis of arterialized vein (8.33%). Repeated use of cannulation for dialysis followed by inflammation and fibrosis was the leading cause of stenosis. All stenoses was referred to higher centre as there is no scope of endovascular intervention with balloon angioplasty.

Discussion:

Distal radio-cephalic fistula gives more length and more patency rate than others, so surgeons as well as patients first choice was distal radiocephalic fistula. In a study done in Brazil, 52.5% of the study population was Distal Radio-cephalic fistulae, 16% was Proximal Radio-cephalic, and 15% was Brachio-basilic fistulae6. Most of the arteriovenous fistula (91.67%) in our series were made for Chronic Kidney Diseases'. Other causes of ESRD were obstructed uropathy (5%) and polycystic kidney disease (3.33%). The most common complication was arterialized vein stenosis (8.33%).. The National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (NKF/KDOQI) guide lines defines significant stenosis of the vessel lumen as a reduction by more than 50%7. Recirculation is diagnosed when the dialyzed blood returning through the venous side reenters the dialyzer through the arterial needle rather than returning to the systemic circulation, and as a result, the efficiency dialysis is reduced7. Continuous inflammation and fibrosis were the cause for stenosis. Another type of outflow stenosis was found in these series was anastomotic stenosis (3.33%). Intimal hyperplasia was the cause for anastomotic stenosis. In a prospective hospital based study conducted in Taif city, Saudi Arabia with the total number of 196 patients infections were found as about 20% of all AVF complications. The most common infections include perivascular cellulitis, which manifests as localized erythema and edema and is easily treated. Much more serious is an infection associated with anatomical abnormalities, such as aneurysms, hematomas or abscesses, which require surgical excision and drainage8. Thrombosis was leading cause of non-functioning arteriovenous fistula. The most common cause of vascular access thrombosis is venous neointimal proliferation that causes vascular stenosis, leading to fistula thrombosis[9]. We found aneurysm (5%) and pseudoaneurysm (3.33%) of AVF as a complication during this study period. An aneurysm is a pathological enlargement of the blood vessel wall resulting from repetitive

puncture10. Diffuse and progressive degeneration of the vascular access site occurs. Patient may present with signs of bleeding, infection or ulceration[7, 11]. False aneurysms are hematomas located outside the vessel wall, formed due to a leaking hole in the artery or vein, most often due to iatrogenic trauma – primarily repeated needle punctures[12]. Surgical intervention is recommended when there is a risk of perforation and ulceration if there are elements of bleeding or if there is a limited place for puncture because of the size of the aneurysm. Two pseudoaneurysm presenting fistulas were managed by excision of sac with ligation of both arterial and venous ends. Two bleeding fistulas were found in immediate postoperative period within one and half hours of brachiocephalic fistula creation. Re exploration was done. Bleeding point was identified and proper hemostasis was done..

Conclusion:

Arteriovenous fistula is an important issue for the hemodialysis patients. It gives more length and easy to cannulation, easy to hemostasis after completion of dialysis. Early diagnosis and early treatment of complications prevent loss of vascular access as well as avoid serious morbidity and mortality.

References:

1. Macsata RA and Sidawy AN. Hemodialysis Access: General Considerations and Strategies to Optimize Access Placement. Rutherford,s Vascular Surgery and Endovascular Therapy. 9th Edition, Elsevier, Philadelphia;2019: 2288-2299.

2. Biuckians A, Scott EC, Meier GH, Panneton JM, Glickman MH. The natural history of autologous fistulas as first-time dialysis access in the KDOQI era. J Vasc Surg. 2008;47:415-21.

3. Allon M, Robbin M: Increasing arteriovenous fistulas in hemodialysis patients: problems and solutions. Kidney Int 2002; 62: 1109–1124.

4. Ethier J, Mendelssohn DC, Elder SJ, Hasegawa T, Akizawa T, Akiba T, Canaud BJ, Pi soni RL: Vascular access use and outcomes: an international perspective from the dialysis outcomes and practice patterns study. Nephrol Dial Transplant 2008; 23: 3219–3226.

5. Al-jaishi AA, Liu AR, Lok CE, Zhang JC and Moist LM. Complications of the Arteriovenous Fistula: A Systematic Review. J Am SocNephrol 2017; 28:1839-1850.

6. JohnyS,Pawar B. Complications of arteriovenous fistula for haemodialysisaccess. IntSurg J.2018 Feb;5(2): 439-444.

7. Stolic R. Most Important Chronic Complications of Arteriovenous Fistulas for Hemodialysis. Med Princ Pract 2013;22: 220–228

8. Aljuid MM, Alzahrani NN, Alshehri AA, Alkhaldi LH, Alosaimi FS, Aljuaid NW, Asiri OA, Atalla AA. Complications of arteriovenous fistula in dialysis patients: Incidence and risk factors in Taif city, KSA. Journal of Family Medicine and Primary Care 2020 january;9(1):407-411

9. Bonatti J, Oberhuber A, Schachner T, Zou Y, Hammerer-Lercher A, Mittermair R, Laufer G: Neointimal hyperplasia in coronary vein grafts: pathophysiology and prevention of a significant clinical problem. Heart Surg Forum 2004; 7: 72–77.

10. K/DOQI Workgroup Clinical practice guidelines for vascular access. Am J Kidney Dis 2006; 48(suppl 1):S176–S247.

11. TordoirJH,Mickley V: European guidelines for vascular access: Clinical algorithms on vascular access for haemodialysis. EDTNA ERCA J 2003; 29: 131–136

12. Saeed F, Kousar N, Sinnakirouchenan R, Ramalingam VS, Johnson PB, and Holley JL: Blood loss through AV fistula: a case report and literature review. Int J Nephrol. 2011;2011: 350870.

Original Article

"Comparative Study of Lipid Profile Between Newly Diagnosed Type 2 Diabetic and Nondiabetic Patient Attending At The Tertiary Level Hospital."

K Sarder [1], F.Hossain[2], S. Chatterjee[3], QA Ahmed [4], MK Mondal [5], MS Rahman [6], R Parvin [7], A Galib [8]

ABSTRACT:

Background: A characteristic feature of type 2 diabetes is that it is often associated with other medical disorders, particularly central(visceral) obesity, hypertension and dyslipidemia (characterized by elevated levels of small dense low density lipoprotein cholesterol(LDL-C) and triglycerides and a low level of high density lipoprotein cholesterol(HDL-C). ***Objectives:*** To compare the lipid profile between newly diagnosed type II diabetic and non diabetic patient.Method: A cross sectional comparative study was carried out at outpatient department of medicine, Sher-E-Bangla Medical College Hospital, Barisal. form January'2015 to June' 2015. Detailed informations were obtained in each cases according to protocol. ***Results:*** Total 100 cases were included, mean age was 44.39(±9.75) years in diabetes group and 43.81(±8.67) years in non diabetes group. Mean HbA1c 7.63 ± 1.25 were in diabetic group and 4.67 ±1.13 were in non diabetic group (p<0.001). Mean total cholesterol (mg/dl) 184.56 ± 40.66 were in diabetic group and 171.03 ± 31.42 were in non diabetic group (p<0.001). Mean LDL 164.75± 25.30 were in DM group and 105.17 ± 27.09 were non DM group (<0.001), Mean HDL 37.82± 4.27 were in DM group and 42.20 ± 7.43 were non DM group (<0.001). Mean Triglyceriges (mg/dl) (geometric mean by log transformation) 163.49 (±19.76) were in DM group and 139.51(±21.68) were non DM group (<0.001). Correlation between HbA1c with lipid profile in type 2 diabetes mellitus. there were significant relation between HbA1c with lipid pattern (p<0.001). Thirty eight percent patients with type-2 diabetes had raised serum cholesterol (>200mg/dl), 54% patients have raised triglycerides in serum (>150mg/dl), 60% patients had raised serum LDL and 34% patients had decreased serum HDL (p<0.001) that all are statistically significant. ***Conclusion:*** In conclusion, hyperlipidemia is the commonest complication of diabetes mellitus. Common lipid abnormalities in diabetes are raised triglycerides, LDL-C serum cholesterol and low HDL-C. Therefore good glycaemic control can prevent development and progression of lipid-abnormalities among patients with diabetes mellitus.

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Introduction

Diabetes mellitus is a hereditary, chronic and endocrine metabolic disorder which causes death worldwide [1]. The most common symptom of diabetes is no symptom and by the time the disorder is diagnosed an abnormal lipid profile , hypertension and retinal changes may be already present often. Diabetes is associated with a greater risk of mortality from cardiovascular disease(CVD) which is well known as dyslipidaemia , which is characterized by raised triglycerides, low high density lipoprotein and high small dense low density lipoprotein particles. In type 2 diabetes mellitus lipid abnormalities are almost the rule. Typical finding are elevation of total and VLDL cholesterol, triglyceride concentration, exaggerated postprandial lipaemia, lowering of HDL cholesterol and a predominance of small, dense LDL particles [2]. The prevalence of dyslipidemia in diabetes mellitus is 95%. [3]

A study conducted in Nishtar Hospital, Multan by Ahmad et al showed that 21% patients with type -2 diabetes had raised serum cholesterol (≥200 mg/dl) and 34.2% patients have raised triglycerides in serum(≥150 mg/dl)[4]. In a study conducted in Nigeria, 89% of people with diabetes had dyslipidemia. Total cholesterol was elevated in 42%, Total triglycerides was elevated in 13%, LDL-C elevated in 74%, low HDL seen in 53%.[5]

The UKPDS study showed that the coronary artery disease was significantly associated with increased concentration of lower density lipoprotein, decreased HDL concentration and increased TG concentrations.[6]

In a study of DM patients in Ethiopia, 18.5% and 14.2% were found to have hypercholesterolaemia and hyper triglyceridaemia respectively. In the same study hypercholesterolaemia was found in a high proportion of females and type 2 DM patients.[7] In a report from the third US National Health and Nutrition Examination Survey and the Behavioral Risk factors Surveillance System which monitored 4085 adults with diabetes , 58% had serum LDL cholesterol levels greater than or equal to 3.4 mmol/l.[8]

Of the 2481 patients aged over 45 years studied in the UK to assess the universal screening of diabetes in general practice , 73%(45-92%) had a cholesterol level ≥5 mmol/l.[9] In a cross sectional survey in South Africa undertaken to assess dietary patterns in type 2 DM patients(133 men, 155 women), high triglyceride levels were detected in 24-25% of men and in 17-18% of women.[10] Another study conducted at Hazara division Pakistan on " Frequency of dyslipidaemia in type 2 diabetes mellitus in patients of Hazara division" showed that serum triglyceride was raised in 59%.[11]

The most frequent serum lipid abnormality in type 2 diabetes is an elevation of serum triglycerides to 1.5-3.0 times as compared to sex, age and body weight matched non diabetic controls. Reduction of HDL cholesterol (by 10-20%), primarily due to a fall of HDL cholesterol is also seen.[12]

Insulin deficiency causes excessive metabolism of free fatty acids, this may lead to a disorder in lipid metabolism. Insulin is a hypoglycaemic hormone secreted from beta cell of islet of pancreas. Insulin also has an effect on lipid metabolism.[13]

The metabolic dysregulation associated with Diabetes mellitus causes secondary pathophysiologic changes in multiple organ systems that impose a tremendous burden on the individual with diabetes and on the health care system. In the united states DM is the leading cause of end stage renal disease(ESRD), non traumatic lower

extremity amputations and adult blindness. It also predisposes to cardiovascular diseases. With an increasing incidence worldwide , DM will be a leading cause of mortality and morbidity for the foreseeable future.[14]

Among the metabolic abnormalities that commonly accompany diabetes are disturbances in the production and clearance of plasma lipoproteins. Moreover, development of dyslipidaemia may be a harbinger of future diabetes . A characteristic pattern , termed diabetic dyslipidaemia, consists of low high density lipoprotein(HDL), increased triglycerides and postprandial lipaemia. This pattern is most frequently seen in type 2 diabetes and may be a treatable risk factor for subsequent cardiovascular disease.[15]

It`s importance was recognized in the Framingham study and subsequently confirmed in numerous other epidemiological studies. The Framingham and Munster studies, which included few patients with diabetes, showed that the ratio of total cholesterol:HDL-cholesterol is a strong determinant of cardiovascular risk and its significance increases with age. Risk is further increased by elevated triglycerides and in patients with diabetes.

Epidemiological studies have shown that diabetics have 2-4 times higher risk of developing cardiovascular diseases. Abnormal lipid profiles and lipoprotein oxidation (especially LDL-C) are more common in diabetics and are aggravated with poor glycaemic control.

Results:

Total 100 cases were included, mean age was 44.39(±9.75) years in diabetes group and 43.81(±8.67) years in non diabetes group. Majority (58%) male and (42%) were female. Male female ration 1.38 :1. Mean fasting blood sugar (mmol/L) 9.61 ± 4.50 were in diabetes group and 5.37 ± 1.31 were in non diabetes group (p<0.001). Mean SGPT /ALT (U/L) 33.73 ± 21.62 were in DM group and 27.39 ± 7.83 were in Non DM group. Mean Urea (mg/dl) 24.74(±8.19) were in DM group and 19.87(±5.86) were in Non DM group. Mean Creatinine (mg/dl) 1.16 ± 0.53 were in DM group and 0.89 ± 0.19 in Non DM. Mean Hemoglobin (H7gb) (g/dl) 12.82 ± 1.49 were in DM group and 13.76 ± 1.37 in Non DM. Mean HbA1c and lipid profile between diabetic and non diabetic patients. Mean HbA1c 7.63 ± 1.25 were in diabetic group and 4.67 ±1.13 were in non diabetic group (p<0.001). Mean total cholesterol (mg/dl) 184.56 ± 40.66 were in diabetic group and 171.03 ± 31.42 were in non diabetic group (p<0.001). Mean LDL 164.75± 25.30 were in DM group and 105.17 ± 27.09 were non DM group (<0.001), Mean HDL 37.82± 4.27 were in DM group and 42.20 ± 7.43 were non DM group (<0.001). Mean Triglyceriges (mg/dl) (geometric mean by log transformation) 163.49(±19.76) were in DM group and 139.51(±21.68) were non DM group (<0.001). Correlation between HbA1c with lipid profile in type 2 diabetes mellitus. there were significant relation between HbA1c with lipid pattern (p<0.001). Thirty eight percent patients with type-2 diabetes had raised serum cholesterol (>200mg/dl), 54% patients have raised triglycerides in serum (>150mg/dl), 60% patients had raised serum LDL and 34% patients had decreased serum HDL (p<0.001) that all are statistically significant

Table 1: Mean HbA1c and lipid profile according to study population

	Diabetes Mean ±SD	Non Diabetes Mean ±SD	p value
HbA1c	7.63 ± 1.25	4.67 ±1.13	<0.001
Total Cholesterol (mg/dl)	184.56 ± 40.66	171.03 ± 31.42	<0.001
LDL (Fasting)	164.75± 25.30	105.17 ± 27.09	<0.001
HDL (Fasting)	37.82± 4.27	42.20 ± 7.43	<0.001
Triglycerides (mg/dl) (geometric mean by log transformation	163.49(±19.76)	139.51(±21.68)	<0.001

Table 2: Lipid abnormality pattern of the study population

	DM type 2	Non DM	Total	p value
Total cholesterol				
< 200 mg/dl	31(62)	45(90)	76	<0.001
≥200 mg/dl	19(38)	05(10)	24	
HDL				
≥ 40 mg/dl	33(66)	47(94)	80	<0.001
<40 mg/dl	17(34)	03(06)	20	
LDL				
< 100 mg/dl	20(40)	39(78)	59	0.005
≥100 mg/dl	30(60)	11(22)	41	
TG				
< 150 mg/dl	23 (46)	41(82)	64	0.001
≥ 150 mg/dl	27(54)	09(18)	36	

Discussion

This was a hospital based cross sectional comparative study. The study was conducted in the medicine outpatient department, Sher-E-Bangla Medical College Hospital, Barisal. Sample size was one hundred. Fifty patients attending at medicine outpatient department, Sher-E-Bangla Medical College Hospital, Barisal and diagnosed as a new case of type 2 diabetes mellitus was included as diabetic group (case group); another fifty age and sex matched non-diabetic voluntere individual was selected in non-diabetic group (control group).

In current study mean fasting blood sugar (mmol/L) 9.61 ± 4.50 were in diabetes group and 5.37 ± 1.31 were in non diabetes group (p<0.001). Mean SGPT /ALT (U/L) 33.73 ± 21.62 were in DM group and 27.39 ± 7.83 were in Non DM group. Mean Urea (mg/dl) 24.74(±8.19) were in DM group and 19.87(±5.86) were in Non DM group. Mean Creatinine (mg/dl) 1.16 ± 0.53 were in DM group and 0.89 ± 0.19 in Non DM. Mean Hemoglobin (H7gb) (g/dl) 12.82 ± 1.49 were in DM group and 13.76 ± 1.37 in Non DM. that inflammation has a role in the etiology of diabetes.

In this study mean HbA1c and lipid profile between diabetic and non diabetic patients. Mean HbA1c 7.63 ± 1.25 were in diabetic group and 4.67 ±1.13 were in non diabetic group (p<0.001). Mean total cholesterol (mg/dl) 184.56 ± 40.66 were in diabetic group and 171.03 ± 31.42 were in non diabetic group (p<0.001). Mean LDL 164.75± 25.30 were in DM group and 105.17 ± 27.09 were non DM group (<0.001), Mean HDL 37.82± 4.27 were in DM group and 42.20 ± 7.43 were non DM group (<0.001). Mean Triglycerige (mg/dl) (geometric mean by log transformation) 163.49(±19.76) were in DM group and 139.51(±21.68) were non DM group (<0.001). Singh et al. The mean age, HbA1c, total cholesterol triglycerides, high density lipoprotein, low density lipoprotein and very low density lipoprotein were 50.3± 11.8 years 7.34±1.24%, 203.9 ±15.8 mg/dl, 151.1 17.7 mg/dl, 37.7 ± 6.2 mg/dl, 124.4 ± 11 mg/dl and 32.3 ± 7.1 mg/dl respectively Iqbal AT et al. study showed significant difference between case (Diabetic) and control group regarding different parameters like blood glucose level, LDL and HDL. In our study showed significantly higher LDL and low HDL.The finding of our study is consistent with the findings of them who found

significantly higher concentration of LDL and low HDL (P>0.5).

Conclusion

The p-values of different lipid profile parameters of newly diagnosed diabetic subjects were significantly higher than those of non-diabetic subjects. Diabetic subjects were associated with a characteristic atherogenic dyslipidaemia of elevated total cholesterol, serum TGs, LDL-C and low HDL-C compare to that of non-diabetic subjects.

Referrence

1. Frier B M, Fisher M. Diabetes mellitus. In: Boon N A, Colledge N R, Walker B R Eds. Davidson`s Principles & Practice of Medicine 20th Ed. Elsevier Science, Edinburgh 2006: 805-47

2.American Diabetes Association. Standards of Medical Care in Diabetes. Diabetes Care 2007; 30: 4-41.

3. Chattanda SP and Mgonda YM. Diabetic dyslipidemia among diabetic patients attending specialized clinics in Dar es Salaam. Tanzania Med.J. 2008;23:08-11

4. Ahmad A, Khan AR, Raja ZA, and Mustafa G. Measurement of serum cholesterol and triglyceride; Evaluation in patients with diabetes , hypertension and cerebrovascular accidents in South Punjab. Professional 2003;10:92-98.

5. Ogbera AO, Fasanmade OA, Chinenye S Akinlade A. Characterization of lipid parameters in diabetes mellitus- a Nigerian report . Int Arch Med. 2009; 2:19.

6. Turner HC, Neil HAW, Stratton IM, Meanly SE, Mathews DR, Holman (the United Kingdom Prospective Diabetes Group). Risk factors for coronary artery disease in non insulin dependent diabetes mellitus (UKPDS 23). BMJ.1998; 316:823-28

7. Seyoum B, Abdulkadir J, Barhanu P. Analysis of serum lipid and lipoproteins in Ethiopian diabetic patients. Ethiop Med J 2003;41:1-8

8. Saaddine JB, Engelgau MM, Beckles GL. A diabetes report card for the United States:quality of care in 1990s. Ann Intern Med 2002;136:565

9. Lawrence JM, Bennett P, Young A, Robinson AM. Primary care screening for diabetes in general practice: cross sectional population study. BMJ 2001;323:548-51

10. Nthangeni G, Steyn NP, Alberts M. Dietary intake and barriers to dietary compliance in black type 2 diabetic patients attending primary health care services. Public Health Nutr 2002;5:329-38

11. Ahmed N, Khan J, and Siddiqui TS. Frequency of dyslipidaemia in type 2 Diabetes mellitus in patients of Hazara division. J. Ayub. Med. coll. Abottabad 2008;20:51-54

12. Erkelens DW. Diabetic dyslipidaemia; plasma lipids and lipoprotein composition in diabetes mellitus. The Diabetes Annual; Elseiver Science, Publishers;Eds, Marshall SM, Home PD Alberti KGMM & Kall Lp.1993;7:166-77

13. Godkar P and Godkar D. Textbook of medical laboratory technology. 2nd Ed. chemistry of carbohydrates(Bhalami publishing house) s. New Delhi 2003;176-233.

14. Ligaray KPL, Isley WL. Diabetes Mellitus, Type 2. e Medicine Endocrinology. (online). Last updated 12, January 2010. Available at http://www.emedicine. medscape.com/article/117853. Accessed on october 05,2010

15.Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Dyslipidaemia in Adults with Diabetes. Canadian journal of Diabetes 2006;30 :230-40.

Original Article

Study About The Prevalence & Risk Factors of COVID-19 Suicidal Tendency in Bangladeshi Population including Health Care Providers.

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ABSTRACT:

Background: Current COVID-19 researches suggest that both general population and health-care providers (HCPs) are at risk of elevated psychological sufferings including suicidal behavior.

Objectives: To Study the Risk Factors of Covid-19 (Novel Corona Virus) among general Population & Health care providers leading to suicidal ideation.

Materials & Methods: A web-based cross-sectional study was administered through the social media platforms. A total 2388 respondents took part in the survey (mean age 30.1 to 64 years) among them 734 were frontline HCPs (30.7 to 56 years). The measures included socio-demographics, PPE-related and patient-care related information and a question concerned with the COVID-19 suicidal behavior.

Results: About 6.1% of the total participants had suicidal behavior, with no detectable differences within the groups (i.e., general population and HCPs). Regression analysis showed that being female, being divorced, and having no child were emerged as independent predictors for suicidality. There was no significant association between the PPE-related or patient-care related variables and suicidal behavior of the HCPs. Majority of the participants sometimes had fear of death although no significant relation of the factor was found with suicidality.

Conclusions: The present findings identified the substantial proportion of the HCPs and general population had COVID 19 related suicidal behavior. It can be used to advocate a large-scale suicide safety plan using a multi- disciplinary approach herein. The study can be limited because of its nature (i.e., cross-sectional self-reporting online survey) and not considering non-COVID-19 related suicide risk factors etc.

Keywords: *Covid-19, General Population, Health Care Providers, Suicidal Tendency.*

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Introduction

The ongoing COVID-19 disease (also known as novel corona virus disease) outbreak has turned into a public health emergency of international concern, and later it was also declared as a pandemic by the World Health Organization. As of 14 January 2021, a total 91403.293 confirmed cases and 1959587 deaths were reported globally whereas a total 524020 cases and 7819 deaths were reported in Bangladesh(WHO 2021) [1]

In fact lack of sufficient COVID-19 diagnostic kits as well as presence of one test-center only till the last week of March were alleged for lower case reporting in Bangladesh (where the present study was carried out; [2]Besides, an unpublished report claimed that 81% of the total population might be affected in the country whereas 507,442 people might have to die[3]. The report was shared throughout the social media platforms by popular celebrities although it was not peer-reviewed or re ected by data-driven computational models.

Hence, the overall situation is arguably leading the mass people to higher fear of COVID-19 infection, panic towards COVID-19 and other associated psychological distresses. Also, the infection rate was claimed to be seven times higher than the previous year; therefore, the incidence may have in uence on rising public fear as of ue like symptoms that are represented in the COVID-19 patients as well [4]

The health-care providers (HCPs) are directly involved in the diagnosis, treatment, and care of patients and previous studies showed that they had higher chance of developing mental illness like depression, fear, anxiety, stress, trauma etc. because of contagion and infection fear of themselves and their family[5]. Because – (i) people rush to all sorts of hospitals with u-fever like symptoms hiding their travel and contact history despite having specific hospitals for COVID-19 treatments[6], (ii) there is huge shortage of PPE [7]and its' questionable quality (iii) substandard PPE was alleged for many of HCP's infection [e.g., as of 5th August 2020, 1700 doctors (within total 3,1103 cases) are affected with COVID-19 disease and 7289 HCPS are in home or institutional quarantine & death of more than 250 HCPS reported (Ministry of Health & Family Welfare 2020 [8]

Since the mental health sufferings are likely to persist for a long time even after the crisis leading to traumatic disorders[9], the HCPs as well as the general population may be considered to be the most vulnerable in the present Bangladeshi context. The aggregated fear of contagion, loneliness, anxiety, phobia, economic crisis, fear of not getting proper treatment during emergency are arguably suicide contributing factor as the 90% of suicide occurred due to mental disorders and traumatic sufferings [10]Although there are many studies that assessed the psychiatric issues among the general people and HCPs during the current COVID-19 pandemic, none of them assessed the suicidal behaviors to date [12]Many HCPs suicide occurrences are reported in press media although [12] suicidal behaviors (i.e., suicidal thoughts, suicide plan, suicide attempt etc.) are not investigated anywhere[13].

Materials &Methods:

A web-based cross-sectional study was administered through the social media platforms (i.e., Facebook, Whats App, Imo, Skype, Viber etc.) from 23

September to 5th August, 2020. Approximately 3500 participants were contacted whereas, 2,290 respondents took part in the survey (mean age 30.1 6.4 years). Among them 1,556 were general population (29.6 to 67 years) and 734 were frontline HCPs (30.7 to 56 years). After giving the online consent (by mentioning the ethical guidelines and participant's rights provided by the Helsinki Declaration, 1975), the respondents were capable to participate in the survey. The confidentiality of the information of the participants was assured and kept anonymous. Besides, a formal ethical approval was obtained from the Institute of Allergy and Clinical Immunology of Bangladesh (Dhaka, Bangladesh) prior to the inception of this study.

Measures:

Socio-demographics:

Data concerning socio-demographic factors including age, gender (male or female), marital status (unmarried, married or divorced) and parenthood status (i.e., having children; yes/no) were asked. A question (i.e., 'do you have any elderly person at home?') was asked through a binary response to inquire about the aged person in the family who are thought to be mostly affected by the COVID-19 disease. Lastly, personal fear of death by COVID-19 infection was also assessed in the present study with three answer choices (i.e., 'all times', 'never', 'sometimes').

PPE-related information:

A dichotomous response (i.e., yes/no) was used to assess the personal protective equipment (PPE)-related information among HCPs: (i) whether they purchased PPE by themselves, (ii) whether they received PPE from hospital authority, (iii) whether the purchased or provided PPE was reusable and (iv) whether they were satisfied at the quality of PPE. Besides, three answer choices (i.e., 'less than a week', 'a week', 'more than a week') were given to them to measure the frequency of using a single PPE.

Patient caring-related information:

For HCPs, patient-care related questions were asked in binary responses (yes/no) concerning (i) whether they were worried while examining a patient having u-like symptoms, (ii) whether they washed hands after examining each patient, (iii) whether they felt insecure for both themselves and their family members and (iv) whether they were in fear of spreading COVID-19 to others. Additionally, two more questions were enquired of them as to their precautionary measures at home after returning from workplace and their attitude towards a patient returning from abroad.

Suicidal behavior:

For assessing the suicidal behavior among the participants, a question was asked (i.e., Yes/No response) like previous studies . According to the concept of suicidal behavior (i.e., intending to end one's life, making plan for the thought, and attempting to end life; the question, "do you think about committing suicide, and whether these thoughts were persistent due to the COVID-19 related issues and move forward to plan and attempt?" was included in the present study.

The descriptive statistics (i.e., mean, standard deviation, percentage, frequencies) were used for socio-demographics, PPE-related and patient caring attitude and perception about COVID-19 disease variables. Inferential statistics (e.g., chi-square tests) were performed to identify significant relationships among suicidality and the

variables in three groups (i.e., total respondents, general population and healthcare providers). Besides, the binary logistic regression was performed to assess the suicidal behavior risk factors in the variables that were significant in bivariate analysis. In this study, the logistic regression was interpreted with 95% confidence intervals and a p-value of <0.05 was considered significant.

Results:

Of the total 2290 sample, 51% were females; majority of the participants were married (60.9%), without child (57.8%), and with elderly person at their home (66.1%). Moreover, more than half (54.7%) of them sometimes had fear of death due to COVID-19. Besides, 67.9% of the total sample was general people and rest of them was health-care providers. The suicidal behavior among the total respondents, about 6.1% of the total respondents had a suicidal behavior. There was no significant difference between suicidal behavior of two groups (i.e., general people and HCPs- 6.1% and 6.0%, respectively; p 0.906). Females in the total sample (8.4% vs 3.5%; p < 0.001) and in both general people (8.5% vs 3.6%; p < 0.001) and HCPs (8.1% vs 3.3%; p <0.001) experienced more suicidal behaviors compared to males. Within the marital status, persons who were divorced had reported more suicidal behavior followed by unmarried and married respondents in general population and in HCPs. Respondents with no child were more prone to suicidal behavior in the total participants and general population although it was not significantly associated in HCPs restless in examining patients with u-like symptoms; 91.0% felt insecure of probable infection for both themselves and their family members due to caring COVID-19 patients; 88.8% were in fear of transmitting the infection as a host. Furthermore, there were no significant associations between the patient-caring variables and suicidal behavior of the HCPs.

Discussion:

The traumatic events such as pandemic, natural disaster etc. have an aggregative role in elevated psychiatric sufferings during and as an aftermath of these events. In the prior pandemics, the elevated suicide rates are reported to be high (i.e., the elderly suicide rates subsequently increased after the SARS pandemic However, during the COVID-19 pandemic, the issue of mental health is lightly addressed in Bangladesh (e.g., , but this negligence may accelerate the suicide cases. Also, only a few studies have attempted to analyze that phenomenon Therefore, the present study aimed at exploring the dynamics of suicide between health-care providers (HCPs) and general population.

Based on the unfavorable features the lockdown provides (i.e., isolation, quarantine, economic recession etc.), it is anticipated that many of the people are prone to suicide due to not combating with the situations. Although there is a dearth of knowledge establishing the suicidal behaviors across the world. However, this study for the first time reports a suicidal behavior from the Bangladeshi sample (i.e., 6.1%, n206) during the time of COVID-19. Besides, there was no significant difference on suicidal behavior between the general people and HCPs.

Table: 1. Distribution of the Valuables across general population & health care providers.

Variables Gender	Total sample, N¼ 2290 (n; %)	General population (1556, 67.9%)	Suicidal Tendency (6.1%)	Health-care providers (734, 32.1%)	Suicidal Tendency (6.5 %)
Male	1122, 49	770, 49.5		352, 48	
Female	1190, 51	785, 50.5		381 , 52	
Marital status					
Unmarried	870, 38	622, 40		226, 30.9	
Married	1374, 60.9	918, 58		499, 68	
Divorce	29, 1.3	17, 1.1		16, 2.1	
			94.9		47.7
Having children					
Yes	973, 42.5	634, 40.8		525, 71.6	
No	1087, 47.5	922, 59.2		208, 28.4	
Fear of death due to COVID-19					
All times	448, 19.6	304, 19.6		130, 17.8	
Never	588, 25.7	370, 23.8		195, 26.6	
Sometimes	1252, 54.7	880, 56.6		408, 55.6	

(i.e., 6.1% and 6.5% respectively), although HCPs are anticipated to have higher suicidality due to the pandemic related exposures and difficulties. However, it can be assumed that the general people are similarly feared and panicked to COVID-19 infection as HCPs are due to misinformation and other circumstances existing in the country. Thus, a nation-wide study concerning public mental health sufferings is warranted.

Conclusions:

A developing as well as densely populated country like Bangladesh, having no suicide prevention strategies indicates a higher chances of suicide occurrences in many times to come. Based on the present findings, a good number of individuals had suicidal behavior, and female, broken relationship, having no child were the associated factors. Hence, it is anticipated that the present findings will be helpful for the development of country level mental health strategies, as well as global prospect where no prior information is available. Besides, online psychiatric services are suggested to be established through hotlines to cope up with the immensely pressurizing lockdown anxiety and panic contagion in both general population and HCPs.

References:

01.World Health Organization, 2020. Coronavirus Disease 2019 (COVID-19): Situation Report – 112. Retrieved. https://www.who.int/docs/default-source/coronaviruse/sit uation reports/20200511-covid-19-sitrep-112.pdf ?sfvrsn 813f2669_2. (Accessed 29 May 2020).

02. The Daily Star, 2020a. Coronavirus Outbreak: Low Test Rate May Be Belying Reality. Retrieved. https:// www.thedailystar.net/ frontpage/ news/ coronavirus-outbreak-low -test- rate- may-be-belying-reality-1888327. (Accessed 29 May 2020). The Daily Star, 2020b. 500 Doctors Infected with Covid-19: Bangladesh Doctors' Foundation. Retrieved. https://www. thedailystar.net/ 500-doctors-infected-with -coronavirus-covid-19- in-bangladesh- 1898275. (Accessed 29 May 2020).

03. Mridha, M.K., Mitra, D.K., Labrique, A., Zhu, Y., Paul, R.R., 2020. COVID-19: Cases, Hospitalization Need, Critical Care Needs and Mortality Projections for Bangladesh. Retrieved. https://www.scribd.com/document/452626372/Bangladesh -COVID-19-projections. (Accessed 25 March 2020).

04. Dhaka Tribune, 2020a. Respiratory and Infectious Diseases Soar in Bangladesh.

05. Khan, K.S., Mamun, M.A., Griffiths, M.D., Ullah, I., 2020. The mental health impact of the covid-19 pandemic across different cohorts. Int. J. Ment. Health Addiction epub ahead of print.

06. Anadolu Agency, 2020. 13 Staffers at Bangladesh Hospital Positive for Virus. Retrieved. https://www.aa.com.tr/ en/asia-pacific/ 13-staffers-at-bangladesh-hospital-positive- for virus/1808656. (Accessed 25 May 2020).

07. Al Jazeera, 2020. Hundreds of Doctors

in Bangladesh Infected with Coronavirus.
08. Ministry of Health & Family Welfare BD-2020.
09. Lee, S.M., Kang, W.S., Cho, A.R., Kim, T., Park, J.K., 2018. Psychological impact of the 2015 MERS outbreak on hospital workers and quarantined hemodialysis patients. Compr. Psychiatr. 87, 123–127.
10. Dsouza, D.D., Quadros, S., Hyderabadwala, Z.J., Mamun, M.A., 2020. Aggregated COVID- 19 suicide incidences in India: fear of COVID-19 infection is the prominent causative factor. Psychiatr. Res. 290, e113145.
11. Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V.G., Papoutsi, E., Katsaounou, P., 2020. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis. Brain Behav. Immun. Epub ahead of print.
12. Jahan, I., Ullah, I., Mamun, M.A., 2020a. COVID-19 Suicide and its Risk Factors Among the Healthcare Professionals: the Way Forward... submitted for publication.
13. Bhuiyan, A.K.M.I., Sakib, N., Pakpour, A., Griffiths, M.D., Mamun, M.A., 2020.

COVID-19- related suicides in Bangladesh due to lockdown and economic factors: case study evidence. Int. J. Ment. Health Addiction epub ahead of print.1227–1239.