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Editorial

Health Challenges In Changing Climate In Developing Countries

Over the last 50 years, human activities – particularly the burning of fossil fuels – have released sufficient quantities of carbon dioxide and other greenhouse gases to trap additional heat in the lower atmosphere and affect the global climate. In the last 130 years, world has warmed by approximately 0.85ºC. Each of the last 3 decades has been successively warmer than any preceding decade since 1850. Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.[1]

Climate change is universal. Impact of climate change is same in all part of the Earth but when it comes down to being vulnerable and suffering then, it's the developing countries that suffer the most devastation due to climate change. All populations will be affected by climate change, but some are more vulnerable than others. People living in small island (e.g. Maldives), developing states and other coastal regions like Bangladesh, megacities, and mountainous and polar regions are particularly vulnerable. [2]

Changes in temperature and rainfall pattern may change the geographic range of vector-borne diseases.[3] In Bangladesh, we are already seeing the effect of these changes like untimely monsoon rain which is believed to be a cause of recent dengue outbreak. According to the World Health Organization, as of the year 2030, climate change is expected to contribute to approximately 250,000 additional deaths per year, from malnutrition, heat stress, and prolonged intense heat waves. Increased death and injury are also increasing from extreme weather events such as flooding, landslides, and storms water-associated diseases such as cholera and diarrhea, inadequate access to safe drinking water and sanitation. [4]

The Paris Agreement, adopted on 12 December 2015, marks the beginning of a new era in the global response to climate change. The world now has a global climate agreement - that will have a major public health policy impact. As stated in the agreement, "the right to health", will be central to the actions taken.

There is scientific consensus that the climate is changing, that human activity plays a major role, and that the changes will continue through this century. Expert consensus holds that significant health effects are very likely. Public health and health care systems must understand these impacts to properly pursue preparedness and prevention activities. Mitigating climate change presents unrivalled opportunities for improving public health. The policies that need to be implemented to reduce greenhouse gas emissions will also bring about substantial reductions in heart disease, cancer, obesity, diabetes, road deaths and injuries, and air pollution.[5] As climate change is an issue of great importance to Bangladesh and other developing countries, we should plan to build our research capability in this area and generate evidence to support national, regional and global policy-making.

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Dr. Mir Jakib Hossain
Associate Professor, Department of Gastroenterology, Mugda Medical College, Dhaka

REFERENCES

1. IPCC, 2014: Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth

Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

2. Schurer A.P., Cowtan K., Hawkins E., Mann M.E., Scott V., Tett S.F.B. Interpretations of the Paris climate target. Nat. Geosci. 2018;11:220–221. doi: 10.1038/s41561-018-0086-8

3 . Borodina A., Fischer E.M., Knutti R. Models are likely to underestimate increase in heavy rainfall in the extratropical regions with high rainfall intensity. Geophys. Res. Lett. 2017;44:7401–7409. doi: 10.1002/2017GL074530

4. Butler C.D. Famine, hunger, society and climate change. In: Butler C.D., editor. Climate Change and Global Health. CABI; Wallingford, UK: 2014

5. Hess J.J., Heilpern K.L., Davis T.E., Frumkin H. Climate change and emergency medicine: Impacts and opportunities. Acad. Emerg. Med. 2009.

Original Article

Health Literacy and Behavior Related to Stroke and Heart Attack among Higher Secondary Students

Nabi SG[1], Rahim Z[2], Afroz F[3], Rahman FNS[4], Rakib MMNS[5], Haque ME[6]

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ABSTRACT

According to some evidence, one of the factors that can be related to lifestyle behaviors is health literacy. The study was carried out to evaluate the knowledge on health literacy particularly on non-communicable diseases (Stroke and Heart Attack) and behaviors related to NCD (Stroke and Heart Attack) among the higher secondary students. It was a cross sectional study conducted from January 2013 to December 2013 among 313 participants selected purposively from three different colleges in Rangpur City using a semi-structured pretested self-administered questionnaire. Among the respondents, 63% were male and 37% were female. Most of the fathers of the respondents (93.4%) were educated and more than two third of the mothers (79.3%) were above HSC level. In occupation, majority of fathers were service holders (46.6%) and mothers were household workers (73.8%). The mean monthly income was Tk. 27630 (SD=17185) where majority respondent parent's (97.1%) monthly income range was Tk. 3,000-50,000. The study viewed that 79.99% respondents gave emphasis on mental freshness for prevention of stroke and 72.6%, 69.4% reported tension free living and give up use of tobacco respectively as the preventive measure for heart attack. Among the respondents, 91.37% agreed that physical activity is vital for normal functioning and 90.09% respondents performed physical activity by walking. The present study revealed that 56.1% of male & 42.7% females had good knowledge on health literacy and knowledge about health literacy is statistically significant with gender of the students ($p < 0.05$). School and community based awareness need to be designed for further improvement of health literacy among students.

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Keywords:
Health literacy; non communicable disease; risk factor, behavior

INTRODUCTION:

In Bangladesh health education is broadly utilized term in preventive medicine coordinated to advance solid way of life. Health experts commonly characterize health education as a single direction way to deal with information spreading .Generally they don't think about the genuine utilization of information to improve health by the individual accepting the information. In the course of the most recent couple of years health experts in Bangladesh have started to break down the connection between health, knowledge and environmental support to accomplish an increasingly complex comprehension of how to change ways of life. These levels recognize consistence with expert prescribed behavior (functional health literacy), self-management of problems in partnership with health professionals (interactive health literacy) and empowerment (critical health literacy)[1]. Health Literacy has been characterized as the psychological and social aptitudes which decide the inspiration and capacity

1. Dr. Shah Golam Nabi, Associate Professor and Principal, Mugda Medical College and Hospital, Mugda, Dhaka, Bangladesh.
2. Dr. Zahidur Rahim, Senior Program Officer, Ma-Moni HSS, Save the Children, Dhaka, Bangladesh.
3. Dr. Fahdia Afroz, Residential Physician (RP), Department of Cardiology, National Institute of Cardiovascular Disease, Mohakhali, Sher-e-Bangla Nagar, Dhaka, Bangladesh.
4. Farabi NA Rahman, Fellow, Department of Public Administration, University of Dhaka.
5. Dr. MM Nahid Al Rakib, Medical Officer (Planning and Research), PMR, Directorate General of Health Services (DGHS), Mohakhali, Dhaka-1212, Bangladesh
6. Dr. Md. Ekramul Haque, Evaluator, CDC, Directorate General of Health Services (DGHS), Mohakhali, Dhaka-1212, Bangladesh

Correspondence: Dr. Shah Golam Nabi. E-mail: sgnabi5@gmail.com

of people to access, comprehend and use information in manners which advance and keep up great health. Health Literacy implies more than having the option to peruse handouts and effectively make arrangements. By improving individuals' entrance to health information and their ability to utilize it successfully, health literacy is basic to strengthening. The World Health Organization (WHO) reports NCDs to be by a long shot the main source of death on the planet, speaking to over 60% all deaths considered. Out of the 36 million individuals who expired from NCDs in 2005, half were under 70 years of old and half were women. Of the 57 million worldwide deaths in 2008, 36 million were expected to NCDs. That is roughly 63% of all out deaths around the world. Risk factors, for example, an individual's background, lifestyle and environment are known to improve the probability of certain NCDs. Consistently, at any rate 5 million individuals die because of tobacco use and about 2.8 million pass away from being overweight. Elevated cholesterol represents generally 2.6 million deaths and 7.5 million dies as a result of hypertension [2]. Nonetheless, this study was meant to quantify the health literacy and behavior related to NCD among the higher secondary students that can guide to a more extensive investigation throughout the country.[2]

MATERIALS AND METHODS

This cross sectional study, conducted during the period of January to December 2013 was carried out among higher secondary students in Rangpur city. Three private colleges named Cantonment public school and college, Rangpur; RCCI public school and college; Police line school and college, Rangpur were selected purposively. Student both male and female who are willing to participate in the study were consider as study population. Samples were taken purposively from eleven class XI students and the sample size was taken 313. Data were collected using semi structured self-administered questionnaire based on the objectives with simple and understandable language. According to the specific objectives the variables were identified and the English questionnaire was draft. The questionnaire was then translated to Bangla and retranslated to English again to measure the correctness of the translations. Data editing was carried out by checking and verifying the full questionnaire at the end of the interview and also at the end of whole survey before analysis. The data analysis was performed by using Statistical Package for Social Science (SPSS) version 20. We used descriptive statistics and Chi-square tests were done to identify relationship between health literacy and socio-economic profile of the respondents.

RESULT:

Table 1

Socio-demographic profile of the respondents (n=313)

Characteristics	n	%
Gender		
Male	196	63
Female	117	37
Age group (years)		
15	27	8.6
16	173	55.2
17	101	32.3
18	12	3.8
Father's education		
SSC and below	21	6.6
HSC	34	10.9
Diploma	3	1.0
Graduate	114	36.4
Masters	141	45.1
Mother's education		
SSC and below	65	19.9
HSC	96	30.7
Graduate	109	34.9
Masters	43	13.7
Father's occupation		
Agriculture	12	3.8
Service	146	46.6
Business	74	23.6
Doctor	24	7.7
Teacher	46	14.7
Others	11	3.5
Mother's occupation		
Service	30	9.6
Business	7	2.2
Teacher	45	14.4
House maker	231	73.8
Monthly family income		
<50000	304	97.1
50001-100000	7	2.2
>100000	2	0.6

Table 1 shows the socio-economic characteristics of the study population. Majorities (63%) of the respondents were male and rests of them (37.0%) were female. Maximum of the (45.1%) respondent's

father was higher educated (masters) and more than one-third (34.9%) mothers were graduate. In occupation, 46.6% fathers were service holder and 23.6% were businessmen. However, 73.8% mothers were house maker workers and 14.4% were teacher. Majority (97.1%) of the respondent's monthly family income was < 50000 taka.

Table 2: *Knowledge on Heart attack and its effective way of prevention among respondents (n=313)*

Name of the variables	n	%
Heart attack		
One kind of heart disease	150	47.9%
Narrowing heart capillary	188	60.1%
Reduce blood from the heart	202	64.5%
Reduce the capacity of heart	144	46%
Preventive measure		
Regular medicine intake	119	37.2%
Weight control	195	61%
Disciplined lifestyle	181	56.6%
Tension free living	232	72.6%
Give up use of tobacco	222	69.4%

Table 2 showed that 64.5% (n=202) mentioned heart attack as a disease that caused by reduce blood from heart. Approximately 60.1% (n=188) and 47.9% (n=150) mentioned the disease as narrowing the heart capillary by depositing fat and one kind of heart disease respectively. About 72.6% (n=232) and 69.4% (n=222) reported tension free living and give up use of tobacco respectively as the preventive measure.

Table 3: *Knowledge on Life style and Condition that increases the risk of heart Attack (n=313)*

Name of the variables	n	%
Life style		
Tobacco consumption	249	79.6%
Less physical activity	153	48.9%
Alcohol consumption	158	50.5%
Junk food intake	152	48.6%
Mental pressure	252	80.5%
Condition		
Uncontrolled food habit	137	42.8%
Diabetics	43	13.4%
Blood pressure	278	87.01%
Mental pressure	250	78.25%
Chronic kidney disease	44	13.7%

Table 3 showed that 80.5% (n=252) and 79.6% (n=249) mentioned mental pressure and tobacco consumption respectively as main risk factor for heart attack. Approximately 87.01% (n=278) and 78.25% (n=250) respondents reported blood pressure and mental pressure respectively as the main risky condition for heart attack.

Table 4: *Knowledge on condition and life style that increase the risk of stroke (n=313)*

Name of the variables	n	%
Condition		
High blood pressure	271	84.8%
Chronic steroid therapy	48	15.02%
Tobacco consumption	156	48.82%
Cardiac patient	186	58.21%
Alcohol consumption	108	33.80%
Heriditical cause	37	11.58%
Mental pressure	256	80.12%
Lifestyle		
Smoking	217	69.3%
Excess alcohol intake	148	47.3%
less physical labor	115	36.7%
Mental pressure	236	75.4%
Discontinue treatment of heart disease or hypertension	216	69%

Table 4 showed that 84.8% (n=271) respondents mentioned high blood pressure as the mainly causative condition for stroke and 80.12% (n=256) mentioned mental pressure for the same quarry. In life style process the table reflected that 75.4% (n=236) respondents mentioned mental pressure as the risk factor for stroke. About 69.3% (n=217) tobacco consumption was mentioned by the respondents.

Table 5 *Respondents knowledge on preventing Stroke (n=313)*

Name of the variables	n	%
Preventing measure		
Cessation of smoking	228	71.36%
Proper treatment of heart disease and hypertension	225	70.4%
Mental freshness	246	76.99%
Cessation of alcohol consumption	158	49.5%
Regular medicine intake	167	52.27%

Table 5 showed that 79.99% (n=246) respondents gave emphasis on mental freshness for prevention of stroke. Approximately 71.36% (n=228) and 70.4% (n=225) were mentioned cessation of tobacco consumption and proper treatment of heart disease and hypertension respectively.

Table 6: *Opinion of respondents about taking snacks and frequency of taking junk food (n=313)*

Name of the variables	n	%
Snacks		
Oil contained food	193	61.7%
Fast food or junk food	90	28.8%
Fruit	136	43.5%
Any type of drink	105	33.5%
Bakery product	178	56.9%
Junk food		
Everyday	29	9.3%
Any occasion	67	21.4%
Every now and then	210	67.1%
Do not take	7	2.2%

Table 6 showed that 61.7% (n=193) respondents mentioned oil contained meal as snacks. About 56.9% (n =178) mentioned bakery food while 28.8% (n=90) mentioned fast food or junk food as snacks. Table also showed that 65.73% (n=210) respondents mentioned that they intake junk food every now and then. Only 21.91% (n=7) respondents reported that they did not intake.

Table 7: *Respondents opinion about physical activity performed and the advantage of physical activity (n=313)*

Name of the variables	n	%
Physical activity		
Walking	282	90.09%
Regular exercise	73	23.32%
Sports and games	142	45.36%
Household work	102	32.58%
Advantage		
Maintaining normal functioning	286	91.37%
Prevent NCD	137	43.76%
Mental freshness	249	79.55%
Maintain body weight	257	82.01%
Maintain blood circulation	288	92.01%

Table 7 stated that 90.09% (n=282) respondents performed physical activity by walking. About 45.36% (n=142) respondents mentioned sports for performing physical activity. Approximately 32.58% (n=102) and 23.32% (n=73) respondents mentioned house hold work and regular exercise by which they performed their physical activity regularly.

Table also viewed that 91.37% (n=286) respondents agreed that physical activity is vital for normal functioning. Only 43.76% (n=137) respondents mentioned prevention of non-communicable disease as the advantage of physical exercise.

Table 8: *Association of knowledge about health literacy among respondents with their gender, father's & mother's educational status (n=313)*

Variables	Knowledge about health literacy			Test statistics
	Poor	Average	Good	
Gender				
Male	20 (10.2%)	66 (33.7%)	110 (56.1%)	$\div^2$=7.742 df=2P=0.021*
Female	9 (7.7%)	58 (49.6%)	50 (42.7%)	
Father's education				
Below graduate	5 (8.9%)	26 (46.4%)	25 (44.6%)	$\div^2$=1.367 df=2P=0.505
Graduate & above	24 (9.3%)	98 (38.1%)	135 (52.5%)	
Mother's education				
Below graduate	15 (9.3%)	62 (38.5%)	63 (39.1%)	$\div^2$=0.176 df=2P=0.916
Graduate & above	14 (9.2%)	62 (40.8%)	68 (44.7%)	

Table 8 represents the association of level of knowledge about health literacy among respondents with their gender, father's & mother's educational status by Pearson's Chi-square method. According to table 56.1% of male & 42.7% females had good knowledge score in health literacy, 49.6% of females & 33.7% of male had average knowledge score & rest of them were in group of poor knowledge score. So knowledge about health literacy is statistically significant (p=0.021) with gender of the students. Whereas, father's educational status has no association (p>0.05) with knowledge about health literacy of students and there is no association (p>0.05) between mother's educational status with health literacy knowledge of students.

DISCUSSION:

Present study found that Majorities (63%) of the respondents were male and rests of them (37.0%) were female. Maximum of the respondent's fathers (45.1%) were higher educated (masters) and more than one-third mothers (34.9%) were graduate. In occupation, greater portion of the fathers (46.6%) were service holders and mothers were house maker (73.8%). Majority (97.1%) of the respondent's monthly family income was < 50000 taka.

Above findings are represents that female are still backward position in comparison with male. Worldwide, men are more likely to be literate, with 100 men considered literate for every 88 women[3]. Ratio of female to male secondary enrollment (%) in Bangladesh was last measured at 115.35 Ratio of female to male secondary enrollment is the percentage of girls to boys enrolled at secondary level in public and private schools[4]. In Germany and other industrialized nations, health problems are more prevalent among children and adolescents with a low social background. This association may, at least partially, be mediated by health literacy[5].

Present study showed that 64.5% mentioned heart attack as a disease that caused by reduce blood from heart. Among the respondents, 60.1% and 47.9% mentioned the disease as narrowing the heart capillary by depositing fat and one kind of heart disease respectively. About 72.6% and 69.4% reported tension free living and give up use of tobacco respectively as the preventive measure. Study showed that 80.5% and 79.6% mentioned mental pressure and tobacco consumption respectively as main risk factor for heart disease. Approximately 87.01% and 78.25% respondents reported blood pressure and mental pressure respectively as the main risky condition for heart disease.

In 2005 a multi-center cross sectional study conducted among 2000 adult students of four different educational institutions of Karachi. Among the respondents, 48% student correctly defined coronary angiography. Among the students 71.37% students had good knowledge about risk factors of cardiac disease. Knowledge of 50% students was based on personal and family experience of heart disease and 88% students thought that education should be provided regarding heart disease at high school level[6].

Our study showed that 84.8% respondents mentioned high blood pressure as the mainly causative condition for stroke and 80.12% mentioned mental pressure for the same quarry. In life style process the table reflected that 75.4% respondents mentioned mental pressure as the risk factor for stroke. About 69.3% tobacco consumption was mentioned by the respondents.

A recent report Stroke was the second most frequent cause of death worldwide in 2008, accounting for 6.2 million deaths (11% of the total). Approximately 17 million people had a stroke in 2010 and 33 million people have previously had a stroke and are still alive. Between 1990 and 2010 the number of strokes decrease by approximately 10% in the developed world and increased by 10% in the developing world. Overall two thirds of strokes occurred in those over 65 years old[2].

Our study viewed that 79.99% respondents gave emphasis on mental freshness for prevention of stroke. Among the respondents, 71.36% and 70.4% were mentioned cessation of tobacco consumption and proper treatment of heart disease and hypertension respectively.

In our study revealed that 61.7% respondents mentioned oil contained meal as snacks. About 56.9% mentioned bakery food while 28.8% mentioned fast food or junk food as snacks. Table also showed that 65.73% respondents mentioned that they intake junk food every now and then. Only 21.91%) respondents reported that they did not intake.

A recent study showed the dietary changes with progressing of globalization. Animal- source food

changes are equally dramatic, particu-larly in selected countries. In China, we documented very large increases in animal-source food intake. Egg, poul-try, beef, and pork consumption have increased rapidly in China, and milk intake has recently begun to rise. Today, the average Chinese adult consumes >1300 kcal/d of pork, poultry, beef, mutton, fish, eggs, and dairy foods. As we showed elsewhere, the structure of consumption shifts in China is such that for each additional increase in income, adults proportionally increase their intake of animal-source foods Concurrent shifts are occurring in the use of caloric sweeten-ers. Only a few countries have published studies of the trends concerning the specific foods in which caloric sweeteners are found; the United States and South Africa are 2 of these countries. In the United States, calorically sweetened bever-ages (eg, soft drinks and fruit drinks) account for >50% of the increase in added caloric sweeteners in the past several decades; the foods responsible for caloric sweetener intake in South Africa are much more varied than in the United States[7].

Our study stated that 90.09% respondents performed physical activity by walking. About 45.36% respondents mentioned sports for performing physical activity. Approximately 32.58% and 23.32% respondents mentioned house hold work and regular exercise by which they performed their physical activity regularly.

A recent study showed that more than 60 percent of American adults are not regularly active and an additional 25 percent are sedentary. In spite of ample evidence that regular physical exercise is inversely related to coronary heart disease, hypertension, obesity, diabetes and certain cancers, less than 20 percent of adults engage in regular, vigorous physical activity. Highly mechanized companies have employed robotics in replacement of human workers both in production and in moving around. People are now confined with routine and activities requiring less physical exertion. Physical activity levels have declined substantially, especially since the mid-20th Century[8]. Physical inactivity has direct effect of health and is associated as probable causes of the rising prevalence of obesity and other non-communicable diseases like hypertension and cardiovascular diseases.[9]

Present study viewed that 91.37% respondents agreed that physical activity is vital for normal functioning. Only 43.76% respondents mentioned prevention of non-communicable disease as the advantage of physical exercise.

Our present study found that knowledge about health literacy is statistically significant with gender of the students ($p=0.021$). Whereas, father's educational status has no association ($p>0.05$) with knowledge about health literacy of students and there is no association ($p>0.05$) between mother's educational status with health literacy knowledge of students.

Above findings are represents that female are still backward position in comparison with male. Worldwide, men are more likely to be literate, with 100 men considered literate for every 88 women [3]. Ratio of female to male secondary enrollment (%) in Bangladesh was last measured at 115.35 Ratio of female to male secondary enrollment is the percentage of girls to boys enrolled at secondary level in public and private schools[4]. In Germany and other industrialized nations, health problems are more prevalent among children and adolescents with a low social background. This association may, at least partially, be mediated by health literacy[5].

CONCLUSION:

The present study revealed that majority of the respondents had good knowledge on health literacy. In the assessment of health literacy majority of the respondents. In the assessment of health literacy on NCD (heart attack, stroke) based on life style related risk factor, environmental risk factor and preventive measure, knew the life style risk factor, environmental risk factor and preventive measures. The present study also revealed that majority; respondent had knowledge on disease related with tobacco consumption. The majority respondents had positive answered about taking fast food frequently. The respondents had knowledge on the advantage of physical exercise. The present study found the association between mother's education and frequency of taking fruits. Taking junk food/fast food by students was also statistically significant with monthly family income. Knowledge about health literacy was statistically significant with gender of the students. Need based, specific, time relevant and school based programs and community based awareness program need to be designed for further improvement of health literacy among college students. At the same time, support

empowerment by ensuring basic education for all citizens

REFERENCES:

1. Jahan RA. Promoting health literacy: a case study in the prevention of diarrhoeal disease from Bangladesh. Health Promotion International. 2000 Dec 1;15(4):285-91.
2. World Health Organization. Health literacy: the solid facts. 2013.
3. UNESCO Institute for Statistics. 50th Anniversary of International Literacy Day: Literacy rates are on the rise but millions remain illiterate.
4. Bangladesh Bureau of Statistics. Education Scenario in Bangladesh: Gender perspective. 2017.
5. Schmidt CO, Fahland RA, Franze M, Splieth C, Thyrian JR, Plachta-Danielzik S, Hoffmann W, Kohlmann T. Health-related behaviour, knowledge, attitudes, communication and social status in school children in Eastern Germany. Health Education Research. 2010 Mar 12;25(4):542-51..
6. Jafary FH, Aslam F, Mahmud H, Waheed A, Shakir M, Afzal A, Qayyum MA, Akram J, Khan IS, Haque IU. Cardiovascular health knowledge and behavior in patient attendants at four tertiary care hospitals in Pakistan–a cause for concern. BMC Public Health. 2005 Dec;5(1):124.
7. Popkin BM. Global nutrition dynamics: the world is shifting rapidly toward a diet linked with noncommunicable diseases–. The American journal of clinical nutrition. 2006 Aug 1;84(2):289-98.
8. Paasche-Orlow MK, Wolf MS. The causal pathways linking health literacy to health outcomes. American journal of health behavior. 2007 Aug 1;31(1):S19-26.
9. Tullao TS. The impact of economic globalization on noncommunicable diseases: opportunities and threats. World Health Organization Globalization, Diets and Noncommunicable Diseases. 2002.

Original Article

Recent Onset Low Back Pain: Prognosis and Factors Determining Functional Outcome

Pervin S[1], Nessa J[2], Haque T[3], Ahmed M[4], Banu HB[5], Rahman A[6], Amin R[7], Khan MH[8]

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ABSTRACT

Background: *Low back pain is an important public health problem in all countries. It can be seriously disabling, imposes an enormous social & economic burden on the community. The rise in disability due to back pain has been exponential with escalating medical and social costs. Accurate data on prognosis and prognostic factors is required to provide information on the appropriate assessment of patients with acute low back pain.*

Objectives*: The purpose of this study was to estimate the prognosis and to identify the prognostic factors in patients with recent onset low back pain.*

Methods: *This observational study was conducted in the Department of Physical Medicine and Rehabilitation of Shaheed Suhrawardy Medical College Hospital during the period from November, 2012 – May, 2013 .Total 90 cases were selected as per inclusion & exclusion criteria. The patients were evaluated clinically and by standardized assessment tools at enrollment (within 2 weeks of onset) and followed up at 2 weeks, 6 weeks and 12 weeks after onset of low back pain. Assessments included baseline demographics, clinical findings, pain intensities and disabilities. Individual pain intensity was assessed by using the Numeric Rating Scale (NRS) and disability was measured by using 24-item Roland Morris Disability Questionnaire (RMDQ). Recovery was assessed in terms of return to work, return to function or no disability and resolution of pain.*

Results*: Within 12 weeks, 68.9% of the patients had recovered. 52.2% of patients noticed days off from their work due to low back pain at baseline and this figure reduced to 25.6%, 16.6% and 8.9% at 2 weeks, 6 weeks and 12 weeks. Who reduced their work status at baseline, among them most of the patients had returned to previous work status. Disability and pain took much longer to resolve. Older age, low educational level, higher pain intensity, higher disability, previous episode of low back pain, more days of reduced activity because of low back pain before consultation and feelings of depression had significant effects on functional outcome.*

Conclusion*: In this study, 31.1% of the patients did not recover from the presenting episode within 12 weeks. Participants off work with low back pain had higher pain intensity and disability scores than people who are working. Several sociodemographic, clinical and psychological factors were of prognostic value.*

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Keywords:
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Rehabilitation depression

1. Dr. Sanjida Pervin, Assistant Professor, Department of Physical Medicine & Rehabilitation, National Institute of Diseases of Chest & Hospital (NIDCH), Dhaka.
2. Professor Dr. Jebun Nessa, Professor & Head, Department of Physical Medicine & Rehabilitation, Shaheed Suhrawardy Medical College Hospital, Dhaka.
3. Dr. Taslima Haque, Assistant Professor, Department of Physical Medicine & Rehabilitation, Shaheed Suhrawardy Medical College Hospital, Dhaka.
4. Dr. Monzur Ahmed, Assistant Professor, Department of Physical Medicine & Rehabilitation, Shaheed Suhrawardy Medical College Hospital, Dhaka.
5. Dr. Hashina Bilkish Banu, Assistant Professor, Department of Physical Medicine & Rehabilitation, Shaheed Suhrawardy Medical College Hospital, Dhaka.
6. Dr. Atiqur Rahman, Senior Registrar, Department of Anesthesia, Apollo Hospital, Dhaka.
7. Dr. Ruhul Amin, Associate Professor, Department of Physical Medicine & Rehabilitation, National Institute of Diseases of Chest & Hospital(NIDCH), Dhaka.
8. Dr. Moinuddin Hossain Khan, Assistant Professor, Department of Physical Medicine & Rehabilitation, National Institute of Traumatology & Orthopaedic Rehabilitation (NITOR), Dhaka.

Correspondence: Dr. Sanjida Pervin, E-mail : sanjida.pervin26 @gmail.com

INTRODUCTION

Low back pain is a common disorder with major consequences for health care resources[1,2] It is also a common problem in Bangladesh. In United State approximately 90% of persons in the working population have back pain every year[3]. In United Kingdom back pain is the second common cause of physical disability after cardiovascular disease[3]. Even in Bangladesh it is the commonest cause of disability. Disabling low back pain in industrialized societies has become the focus of wide-ranging research over the last 15 years. The economic impact of days lost from work, invalidity benefit and health service utilization as a result of chronic back pain is enormous, having risen rapidly day by day.

Low back pain is defined as an uncomfortable sensation in the lumbar and buttock region originating from neurons near or around the spinal canal that are injured or irritated by one or more pathologic processes[4]. Low back pain is a symptom complex[2] which persists for more than three months is called chronic low back pain[5] and affects the area between the lower rib cage and gluteal folds[1]. It is estimated that 80%-90% of all people experience at least one episode of back pain in their lifetime[6]. Additionally it causes work losses, which in recent years have increased more rapidly than any other common form of incapacity[7]. Early identification of patients at risk for developing persistent disabling pain may be helpful in order to reduce long-term problems.

The course of low back pain is extremely unpredictable—probably due to a large number of different and usually unknown underlying pathological processes[8]. It therefore seems unlikely that any particular treatment will show a major effect when applied indiscriminately to all low back pain patients. There is evidence that the type of advice given to patients can alter the course of an episode of low back pain[9,10]. For this reason, most management guidelines recommend that patients should be reassured that they have a favourable prognosis.

There are few high quality prognosis studies and none that have measured pain, disability and return to work over a six month period. Without accurate data on prognosis and prognostic factors clinicians are unable to provide appropriate information and advice to their patients with acute low back pain. For this reason one of the major problems in treating patients with low back pain is early identification of prognostic factors for the development of chronicity. Patients with a benign prognosis could then be reassured about the favorable spontaneous recovery rates, whereas more intensive diagnostic, treatment and rehabilitation efforts could be concentrated on the small group with the most severe prognosis. This information is required to allow adequate care and also be useful for assessing treatment. This study aims to provide, first to estimate the prognosis and a secondary aim to identify prognostic factors in case of recent onset low back pain.

METHODOLOGY:

This observational study was carried out from November 2012 to May 2013 in the Department of Physical Medicine and Rehabilitation at Shaheed Suhrawardy Medical College Hospital. All consecutive cases with recent onset low back pain were checked for eligibility criteria (inclusion & exclusion criteria) and those found eligible were approached for informed consent. The inclusion criteria were: age group (16-60) years, pain lasting > 24 hrs but < 2 weeks, period of at least 1month without back pain before this episode. The exclusion criteria were: age <16 years and > 60 years, low back pain with rediculopathy, malignancies, spinal infection, spinal fracture, spondyloarthropathies. The history was obtained from the patients and clinical evaluation was done giving importance to the musculoskeletal and the nervous system and necessary investigations were done. Hundred (100) cases of recent onset low back pain were selected for the study from ShSMCH, among them 10 cases were lost during follow up due to unknown reasons. A pre-designed semi-structured questionnaire was used for all cases. A face to face interview with the cases was done for filling out the questionnaire. Individual completed a baseline questionnaire and was contacted at 2 weeks, 6 weeks and 12 weeks after the initial consultation. Three dimensions of recovery were sampled – pain intensity, disability and return to work. When individual reported being pain-free, disability-free and having returned to previous work status and that was sustained for a whole month, he was considered "recovered" completely at the beginning of that month. . Pain was managed by non-steroidal anti-inflammatory drugs, analgesics, and muscle relaxants as appropriate to the severity of pain and also by low dose tricyclic antidepressants,

which have a role in pain modulation and sleep. ADLs were advocated verbally and some of them were physically demonstrated to all patients when required. Those were to avoid prolonged standing, to avoid prolonged sitting, to use plain firm bed, to use soft single pillow, to lie down in supine position, to be cautious during get in and get out of bed, to use high commode, to have working surface of adequate height below the elbow, to avoid stooping, to use long levered cleaner during sweeping, to avoid tight fitting garments, to avoid high heel shoes, to avoid weight lifting or to lift with caution to keep back straight during activity, to avoid twisting and to drive in a comfortable position with adequate height. At each follow-up, patients were asked whether they have become pain free, have no disability due to back pain and return to their pre-injury work status. Only when patients report achieving all of these points and remain in that condition for a whole month, they are considerer recovered at the beginning of that month. . Individual pain intensity was assessed by using the Numeric Rating Scale (NRS) and disability was measured by using 24-item Roland Morris Disability Questionnaire (RMDQ). The association between potential prognostic factors and the recovery was modeled with Logistic regression. Collected data was sorted and screened for any discrepancy and edited for finalized result. After editing and coding, data was analyzed by SPSS® 16 . A p value of < 0.05 was considered statistically significant at 95% Confidence Interval.

RESULTS:

Among the study population (n = 90), the mean (±SD) age was 33.72 ± 10.55 years. 78(86.7%) cases were of age group 16 – 45 years and 12(13.3%) cases were >45 years age group. Male was 57(63.3%) cases and female was 33(36.7%) cases. 29(32.2%) cases were illiterate, majority had completed the primary educational level which was 42(46.7%) cases followed by secondary, higher secondary and diploma level which were 9(10%), 7(7.8%) and 3(3.3%) cases respectively. Among them maximum were housewives which is 17(18.9%) cases; 15(16.7%) cases were garment workers; service holder, farmer & driver, each were 8(8.9%) cases; 7(7.8%) cases were tailors; labourer & carpenter groups, each were 5(5.6%) cases and 17(18.9%) cases were in the 'others' group (table – I).

Table-1 : ***Baseline characteristics of the study subjects (n=90)***

Variable		No	(%)
Age (years)			
Mean±SD	33.72±10.55		
Range	16.00 60.00		
16 45		78	(86.7)
>45		12	(13.3)
Sex			
Male		57	(63.3)
Female		33	(36.7)
Level of education			
Illiterate		29	(32.2)
Primary		42	(46.7)
Secondary		9	(10.0)
Higher Secondary		7	(7.8)
Diploma/Graduate and above		3	(3.3)
Occupation			
Carpenter		5	(5.6)
Labourer		5	(5.6)
Tailor		7	(7.8)
Driver		8	(8.9)
Farmer		8	(8.9)
Service holder		8	(8.9)
Garments worker		15	(16.7)
Housewife		17	(18.9)
Others		17	(18.9)

Among the total 90 patients, previous episode of LBP was found in 46(51.1%) cases and 44(48.9%) case had newer onset. The mean (±SD) duration was 6.89 ± 3.61 days. Duration was 4-12 days in [59(65.6%)] cases, 3 days in 19(21.1%) cases and 13-14 days in 12(13.3%) cases. 67(74.4%) cases had sudden and 23(25.8%) cases had gradual onset. Aggravating factor was prolonged sitting in

42(46.7%) cases followed by prolonged standing, leaning forwards and prolonged walking which was 23(25.6%), 13(14.4%) and 12(13.3%) cases respectively. Pain intensity was moderate in 50(55.6%) cases followed by severe and mild intensity which was 33(36.7%) and 7(7.8%) cases respectively. 56(62.2%) cases belong to RMDQ<14 group and 34(37.8%) cases belong to RMDQ ≥14 group. Depression was found in 31(34.4%) cases and absent in 59(65.6%) cases. Among them 47(52.2%) cases were not working due to LBP and 43(47.8%) cases continuing their work. Majority had shown that days off ≥4 days, which was 25(27.8%) cases followed by 1-3 days, which was 22(24.4%) cases. However, 43(47.8%) cases showed no days off (Table – II).

At 2 weeks, 6 weeks and 12 weeks, 46(51.1%), 57(63.3%) and 62(68.9%) cases became pain free. During enrollment, mild pain was in 7(7.8%) cases and this figure increased to 18(20%), 20(22.2%) & 20(22.2%) cases at 2 weeks, 6 weeks & 12 weeks respectively. Moderate pain was in 50(55.6%) cases during enrollment and during follow up, it was in 21(23.3%), 13(14.4%) & 8(8.9%) cases at 2 weeks, 6 weeks & 12 weeks respectively. Severe pain was found in 33(36.7%) cases at enrollment and this figure decreased to 5(5.6%) cases at 2 weeks and no pain was found at 6 weeks & 12 weeks (Table – III).

At 2 weeks, 6 weeks and 12 weeks, 60(66.7%), 67(74.4%) and 72(80.0%) cases became disability free. During enrollment, RMDQ <14 was found in 56(62.2%) cases, which was decreased to 25(27.8%), 23(25.6%) and 18(20.0%) cases at 2 weeks, 6 weeks and 12 weeks respectively. RMDQ e”14 was found in 34(37.8%) cases during enrollment, which was decreased to 5(5.6%) cases at 2 weeks and no disability was found at 6 weeks & 12 weeks (Table - IV).

At enrollment, 47(52.2%) cases could not continue their work and this figure decreased to 23(25.6%), 15(16.7%) and 8(8.9%) cases at 2 weeks, 6 weeks and 12 weeks respectively. 43(47.8%) cases did not stop their work at enrollment and this figure raised to 67(74.4%), 75(83.3%) and 82(91.1%) cases at 2 weeks, 6 weeks and 12 weeks respectively (Table V).

Table 2 : *Baseline characteristics of low back pain (LBP) (n=90)*

Variables		No	(%)
Previous episode			
Yes		46	(51.1)
No		44	(48.9)
Duration (days)			
Mean±SD	6.89±3.61		
Range	2.00 14.00		
Up to 3		19	(21.1)
4 12		59	(65.6)
13 14		12	(13.3)
Mode of onset			
Sudden		67	(74.4)
Gradual		23	(25.8)
Aggravating factor			
Prolong walking		12	(13.3)
Leaning forward		13	(14.4)
Prolong standing		23	(25.6)
Prolong sitting		42	(46.7)
Intensity			
Mild		7	(7.8)
Moderate		50	(55.6)
Severe		33	(36.7)
Disability (RMDQ)			
<14		56	(62.2)
≥14		34	(37.8)
Depression			
Present		31	(34.4)
Absent		59	(65.6)
Working status			
Working		43	(47.8)
Not working		47	(52.2)
Days off (days)			
Mean±SD	5.17±3.33		
Range	2.00 13.00		
None		43	(47.8)
1 3		22	(24.4)
≥4		25	(27.8)

Table 3: *Low back pain intensity at enrollment and at follow-up (n=90)*

Intensity	Enrollment		Week 2		Week 6		Week 12	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Absent	0		46	(51.1)	57	(63.3)	62	(68.9)
Mild	7	(7.8)	18	(20.0)	20	(22.2)	20	(22.2)
Moderate	50	(55.6)	21	(23.3)	13	(14.4)	8	(8.9)
Severe	33	(36.7)	5	(5.6)	0		0	

Table 4: *Disability at enrollment and at follow-up (n=90)*

Disability	Enrollment		Week 2		Week 6		Week 12	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
RMDQ = 0	0		60	(66.7)	67	(74.4)	72	(80.0)
RMDQ <14	56	(62.2)	25	(27.8)	23	(25.6)	18	(20.0)
RMDQ ≥14	34	(37.8)	5	(5.6)	0		0	

RMDQ (Roland Morris Disability Questionnaire) = 0 (No Disability)

Table V : *Working status at enrollment and at follow-up (n=90)*

Working Status	Enrollment		Week 2		Week 6		Week 12	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Not working	47	(52.2)	23	(25.6)	15	(16.7)	8	(8.9)
Working	43	(47.8)	67	(74.4)	75	(83.3)	82	(91.1)

Among the total 90 patients, most of the patients had recovered, which was 62(68.9%) cases and 28(31.1%) cases had not recovered (Table – VI).

Table 6 : *Distribution of study population according to functional outcome (n=90)*

Outcome	Frequency	Percentage
Recovered	62	68.9
Not recovered	28	31.1

Among the study population, 16-45 years of age group was recovered more than >45 years of age group, which was 59(95.2%) and 3(4.8%) cases respectively and the p value was 0.001. The mean (±SD) age of recovered and not recovered group was 31.79 ± 9.14 and 38.00 ± 12.27 years respectively and showed significant variation (P=0.009). Male was recovered more than female which was 37(59.7%) and 25(40.3%) cases respectively.

Educational status played significant role among recovered and not recovered group (P=0.037). Among the illiterate group, 15(24.2%) cases were recovered and 14(50.0%) cases were not recovered. Among the primary & secondary group, 29(46.8%) & 8(12.9%) cases were recovered and 13(46.4%) & 1(3.6%) cases were not recovered. Among the higher secondary & diploma group, all were recovered which was 7(11.3%) & 3(4.8%) cases respectively.

Duration of LBP showed no significant variation between recovered and not recovered group (P=0.382). Among the duration of up to 3 days, 14(22.8%) cases were recovered and 5(17.9%) cases were not recovered; 4-12 days, 38(61.3%) cases were recovered and 21(75.0%) cases were not recovered; 13-14 days, 10(16.1%) cases were recovered and 2(7.1%) cases were not recovered. The mean (±SD) duration also was not significant (P=0.958) between recovered (6.90 ± 3.69 days) and not recovered (6.86 ± 3.51 days) group.

Distribution of previous episode of LBP showed significant variation (P=0.033) between recovered [27(43.5%)] and not recovered [19(67.9%)] group.

Days off showed significant variation between recovered and not recovered group (P=0.0001). Among those, who did not took days off, 42(67.7%) cases were recovered and 1(3.6%) cases were not recovered. Among the days off of 1-3 days, 13(21.0%) cases were recovered and 9(32.1%) cases were not

recovered; ≥4 days, 7(11.3%) cases were recovered and 18(64.3%) cases were not recovered. The mean (±SD) duration of days off was statistically highly significant (P=0.0001) between recovered (1.56 ± 3.16 days) and not recovered (5.21 ± 3.01 days) group.

The difference between recovered and not recovered group according to pain intensity was statistically highly significant (P=0.0001). All patients with mild intensity were recovered, which was 7(11.3%) cases. Among moderate pain, 45(72.6%) cases were recovered and 5(17.9%) cases were not recovered; severe pain, 10(16.1%) cases were recovered and 23(82.1%) cases were not recovered.

Disability showed significant variation between recovered and not recovered group (P=0.0001). Among the score RMDQ <14, 50(80.6%) cases were recovered and 6(21.4%) cases were not recovered; RMDQ ≥14, 12(19.4%) cases were recovered and 22(78.6%) cases were not recovered.

Distribution of depression showed significant variation (P=0.002) between recovered [15(24.2%)] and not recovered [16(57.1%)] group (Table – 7).

Table 7 : *Effect of basic characteristics on final outcome after 12 week*

Variable	Recovered (n=62)		Not recovered (n=28)		P value
	No.	(%)	No.	(%)	
Age (years)					0.001**
16-45	59	(95.2)	19	(67.9)	
>45	3	(4.8)	9	(32.1)	
Mean±SD	31.79±9.14		38.00 ±12.27		0.009**
Range	16.00 55.00		20.00 60.00		
Sex					0.284ns
Male	37	(59.7)	20	(71.4)	
Female	25	(40.3)	8	(28.6)	
Education					0.037*
Illiterate	15	(24.2)	14	(50.0)	
Primary	29	(46.8)	13	(46.4)	
Secondary	8	(12.9)	1	(3.6)	
Higher secondary	7	(11.3)	0		
Diploma/Graduate and higher	3	(4.8)	0		
Duration of LBP (days)					0.382ns
Up to 3	14	(22.8)	5	(17.9)	
4-12	38	(61.3)	21	(75.0)	
13-14	10	(16.1)	2	(7.1)	
Mean±SD	6.90±3.69		6.86±3.51		0.958ns
Range	2.00 14.00		2.00 13.00		
Previous episode of LBP					0.033*
No	35	(56.5)	9	(32.1)	
Yes	27	(43.5)	19	(67.9)	
Days off due to LBP					0.0001***
None	42	(67.7)	1	(3.6)	
1-3	13	(21.0)	9	(32.1)	
≥4	7	(11.3)	18	(64.3)	
Mean±SD	1.56±3.16		5.21±3.01		0.0001***
Range	0.00 13.00		0.00 12.00		
Intensity of LBP					0.0001***
Mild	7	(11.3)	0		
Moderate	45	(72.6)	5	(17.9)	
Severe	10	(16.1)	23	(82.1)	
Disability (RMDQ)					0.0001***
<14	50	(80.6)	6	(21.4)	
≥14	12	(19.4)	22	(78.6)	
Depression					0.002**
Absent	47	(75.8)	12	(42.9)	
Present	15	(24.2)	16	(57.1)	

Chi square test/Fisher's exact test (for qualitative values), and unpaired Student's 't' test (for quantitative values)
ns = Not significant * = Significant at P<0.05 ** = Significant at P<0.01 *** = Significant at P<0.001

Age group of >45 years was not recovered (OR 1.14, 95% CI 0.08 – 17.31) times than 16-45 years age group, which was not statistically significant (P=0.923).

Female was less recovered which was 0.16(95% CI 0.02 – 1.31) than male which was not statistically significant (P=0.087).

Patient's with pain duration of 4-12 days were 7.45(95% CI 1.14 – 48.53) times less recovered which was statistically significant (P=0.036).

Patients who had past episode of LBP (OR 0.26, 95% CI 0.05-1.47) was not significantly associated with non recovery (P=0.127).

Patients with severe pain intensity were 1.39(95% CI 0.25 – 7.70) times not recovered which was not statistically significant (P=0.707).

Patients with RMDQ e" 14 score were 38.77(95% CI 4.45 – 338.08) times not recovered than RMDQ < 14 score which was statistically highly significant (P=0.001).

Patients with depression at enrollment were less recovered (OR 0.071, 95% CI 0.01 – 0.43) than without depression group, which was statistically highly significant (P=0.004) (Table – VIII).

Table VIII: *Final multivariate model for no recovery after 12 weeks*

Parameter	Recovered (n=62)		Not recovered (n=28)		OR (95% CI)	P value
	No.	(%)	No.	(%)		
Age (years)						
16 45	59	(95.2)	19	(67.9)		1
>45	3	(4.8)	9	(32.1)	1.14 (0.08 17.31)	0.923^{ns}
Sex						
Male	37	(59.7)	20	(71.4)		1
Female	25	(40.3)	8	(28.6)	0.16 (0.02 1.31)	0.087^{ns}
Duration of current LBP (days)						
≤3	14	(22.6)	5	(17.9)		1
4 12	38	(61.3)	21	(75.0)	7.45 (1.14 48.53)	0.036*
13 14	10	(16.1)	2	(7.1)	1.06 (0.10 11.08)	0.959^{ns}
Past episode						
No	35	(56.5)	9	(32.1)		1
Yes	27	(43.5)	19	(67.9)	0.26 (0.05 1.47)	0.127^{ns}
LBP intensity at enrollment						
Mild	7	(11.3)	0			1
Moderate	45	(72.6)	5	(17.9)	0.05 (0.01 0.46)	0.008**
Severe	10	(16.1)	23	(82.1)	1.39 (0.25 7.70)	0.707^{ns}
Disability at enrollment (RMDQ)						
<14	50	(80.6)	6	(21.4)		1
≥14	12	(19.4)	22	(78.6)	38.77 (4.45 338.08)	0.001**
Depression at enrollment						
Absent	47	(75.8)	12	(42.9)		1
Present	15	(24.2)	16	(57.1)	0.071 (0.01 0.43)	0.004**

Logistic regression analysis
ns = Not significant * = Significant at P<0.05 ** = Significant at P<0.01

DISCUSSION

The present study observed the mean (± SD) age of the patients was 33.72 ± 10.55 years, which has more or less similarity with another study done in Bangladesh, where the mean (± SD) age of the patients was 38.5 ± 9.01[11] . 57 (54.5%) were male and 33 (45.5%) were female. Nicholas Henschke et al[12] found 54.8% were male among 969 study population. Costea et al[13] studied 103 patents, among them 60% were male. The present study more or less correlates with those of international studies.

32.2% were illiterate; 46.7%, 10%, 7.8% and 3.3% had completed the primary, secondary, higher secondary and diploma respectively. So, most of the patients had low educational level. Dionne et al[14] found that, a low level of education is associated with various diseases and conditions including musculoskeletal disorders and more specifically low back pain. Education may affect the incidence of LBP as the levels of exposure to physical work factors are associated with education.

In the occupations of the study patients, housewives (18.9%) were on the top of the list and then garment workers (18.9%), service holders (8.9%), drivers (8.9%), farmers (8.9%), tailors (7.8%), labourers (5.6%) and carpenters (5.6%). Moyenuzzaman[15] observed 15% housewives, 24% students, 19% service holders, 13% farmers, 11% workers were affected. This study showed housewives were the highest number, probably the housewives in our country perform repetitive lifting and bending in furnishing their house-hold activities like washing, mopping floors, cooking and cutting vegetables in an uncomfortable squatting position. The garment workers, drivers perform their work in static postures for prolong time like prolong standing, prolong sitting. All of these may be associated with mechanical strain on the spine.

The present study showed mean (±SD) duration of current episode was 6.89 ± 3.61 days; 74.4% had sudden onset; aggravating factors were prolonged sitting (46.7%), then prolonged standing (25.6%), leaning forwards (14.4%) and prolonged walking (13.3%). Pain intensity was mild, moderate & severe for 7.8%, 55.6% & 36.7% respectively and 37.8% had higher disability (RMDQ e" 14). 52.2% of patients took days off from work, the mean (±SD) days off was 5.17 ± 3.33 days and 47.8% cases did not take days off. 51.1% had previous of LBP and 34.4% was suffering from depression.

M. Grotle et al[16] found in a study, done in Norway, mean(±SD) duration of back pain episode was 8.1 ± 6.6 days, 63% participants had sudden onset and 62% had previous episode. Nicholas Henschke et al[12] found, 82.2% had sudden onset, 39.3% had previous episode. The present study more or less correlates with the above international studies.

In this study, at 2 weeks, 6 weeks and 12 weeks; 51.1%, 63.3% and 68.9% of participants reported being pain free; 66.7%, 74.4% and 80% reported being disability free. Participants who could not continue their work due to LBP at enrollment was 52.2% and this figure reduced to 25.6%, 16.7% & 8.9% at 2 weeks, 6 weeks & 12 weeks respectively.

Nicholas Henschke et al[12] found that among 969 patients; at 6 weeks, 3 months and 12 months; 40%, 52% and 57% of patients reported being pain free; 60%, 71% and 75% reported being disability free respectively. The present study more or less correlates with the above international study. 68.9% recovered completely by 12 weeks and 31.1% developed chronicity. Nicholas Henschke et al[12] found, 57% recovered completely by 3 months and one third of patients did not recovered within 1 year.In this study, we found, recovery was rapid. Coste et al[13] enrolled 103 patients from French primary care and found recovery was rapid.

The mean (±SD) age was significant (P=0.009) in the not recovered group (38.00 ± 12.27 years) than recovered group (31.79 ± 9.14 years). Education showed significant variation between recovered and not recovered group (P=0.037). Pain intensity (P=0.0001), higher disability (P=0.0001), previous episode of LBP (P=0.033), days off due to LBP before consultation (P=0.0001) and depression (P=0.002) showed significant variation between recovered and not recovered group. There were no significant effect of sex (P=0.284) and duration of LBP before consultation (P=0.382) on functional outcome. Nicholas Henschke et al[12] studied 969 patients of recent onset low back pain and found older age, back pain associated with compensatory cases, higher pain intensity, longer duration of back pain episode, more days of reduced activity and feeling of depression were all associated with poorer prognosis. The present study more or less correlates with the above international study.

In this study, higher disability (OR 38.77, 95% CI 4.45 – 338.08) and depression (OR 0.071, 95% CI 0.01 – 0.43) showed significant association with non recovery after 12 weeks. M. Grotle et al[16] found, age above 45 years, smoking and high level of distress were the best prognostic factors of non recovery at 3 months. Coste et al[13] reported that a previous episode of low back pain was an adverse prognostic factor. Shiottz – Christensen et al[17] enrolled 524 patients and found that low back pain in compensation cases and high disability at baseline were adverse prognostic factors.

CONCLUSION

Several sociodemographic, clinical and psychological factors affect the functional outcome of patients with recent onset low back pain. Early identification of patients at risk for developing persistent disabling pain may be helpful in order to reduce long-term problems. Better understanding of prognosis and prognostic factor scan help clinicians to provide appropriate information and advice to their patients with acute low back pain. Patients with a bening prognosis could then be reassured about the favorable spontaneous recovery rates, whereas more intensive diagnostic, treatment and rehabilitation efforts could be concentrated on the small group with the most severe prognosis.

REFERENCES

1. Frymoyer JW. Back pain and sciatica. N Engl J Med 1988; 318: 291-300.
2. Frank A. Low back pain. BMJ 1993; 306: 901-9.
3. Simmonds M, Harding V, Watson P, Claveau Y. Physical therapy assessment: expending the model. Pain Res Manage 2000; 16: 1013-28.
4. Casey PJ, Weinstein JN. Low back pain. In: Kelley's textbook of rheumatology. Ruddy S, Harris ED Jr, Sledge CB (eds). 6th ed. Philadelphia, WB Saunders, 2001, pp 509-24.
5. Datta D, Mirza SK, White III AA. Low back pain. In: Kelley's textbook of rheumatology. Harris ED, Budd RC, Genoves MC, Firestein GS, Sargent JS, Sledge CB (eds). 7th ed. Philadelphia, WB Saunders, 2005, pp 588-600.
6. Milhous RL, Hough LD, Frymoyer JW, Ruess JM, Gallagher RM, Wilder DG, Callas PW. Determinants of vocational disability in patients with low back pain. Arch Phys Med Rehabil. 1989; 70 : 589-98.
7. Maniadakes N, Gray A. The economic burden of low back pain in the UK. Pain 2000; 84: 95-103.
8. Roland M, Morris R. A study of the natural history of low-back pain. Spine 1983; 8: 1145-1550.
9. Indahl A, Velund L, Reikeraas O. Good prognosis for low back pain when Left untampered. A randomized clinical trial. Spine 1995; 20: 473-77.
10. Hagen E, Ericksen H, Ursin H. Does early intervention with a light mobilization program reduce long-term sick leave for low back pain? Spine 2000; 25:1973-6.
11. Ahmed B, Alom S, Rahid I, Rahman N, Rahman A, Uddin T, Azad GN. Effect of TENS on patients with acute low back pain. JAFMC Bangladesh 2007; 7(2): 29-31.
12. Nicholas Henschke, Christopher G Maher, Kathryn M Refshauge, Robert G Herbert, Robert G Cumming, Jane Bleasel, John York, Anurina Das, James H McAuley. Prognosis in patients with recent onset low back pain in Australian primary care: inception cohort study. BMJ 2008; 337: a171.
13. Coste J, Delecoevillerie G, Cohen de Lara A, Le Parc JM, Paolaggi JB. Clinical course and prognostic factors in acute low back pain: an inception cohort study in primary care practice. BMJ 1994; 308: 577-80.
14. Dionne CE, Von Kroff M, Koepsell TD, Deyo RA, Barlow WE, Checkoway H.Formal education and back pain : a review. J Epidemiol Community Health. 2001 Jul; 55(7): 455-68.
15. Moyeenuzzaman M. A study on the patients with low back pain attending Physical Medicine Department of IPGMR (Dissertation). Dhaka: IPGM & R; 1992.p.70-115
16. Grottle M, Brox JI, Glomsrod B, LOnn JH, Veierod M, Vollestad NK. Clinical course and prognostic factors in acute low back pain: patients consulting primary care for the first time. Spine 2005; 30: 976-82.
17. Schiottz – Christensen B, Nielsen GL, Hansen VK, Schodt T, Sorensen HT, Olesen F. Long-term prognosis of acute low back pain in patients sen in general practice : a 1-year prospective follow-up study. Fam Pract 1999; 16: 223-32.

Original Article

Diverse Spectrum of Presentation of Infertile Women with Polycystic Ovary Syndrome (PCOS) attending Gynae Outpatient department of a tertiary care hospital, Dhaka

Islam M[1], Amir M[2], Rahman DML[3]

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ABSTRACT

The Polycystic Ovary Syndrome (PCOS) first reported in the classic paper of Stein and Leventhal in 1935 is a heterogenous collection of signs and symptoms that gathered together form a spectrum of disorder from mild to severe. The study is aimed to evaluate the different spectrum of presentations in infertile PCOS women attending Gynae OPD at BSMMU. This cross sectional observational study was done from the period of July 2012 to December 2012 among all the infertile women with PCOS attending Gynae OPD at BSMMU. The characteristics of women recruited, showed that 50.91% of them were between 21 to 25 years, 54.54% were obese, 67.27% PCOS women were suffering from primary subferility, the commonest second complaint was hirsuitsm (89.09%). Oligomenorrhoea was present in 80% cases, amenorrhoea in 12.73% and only 7.27% had regular menstrual cycle. Hypothyroidism was detected in 16.36% and DM was in 10.9% participants. 5.45% were found hypertensive. 69.09% women demonstrate frank elevation in circulating free testosterone. Serum LH was elevated (> 11.6 ul U/ml) in 56.36% cases and serum prolactin was elevated (< 25 ng/ml) in 16.36%. Only in 3.64% cases serum FSH level was found low (< 2.8 ml U/ml). TVS appearance of polyscystic varies was reported in 76.36% of the patients.

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INTRODUCTION:

The Polycystic Ovary Syndrome (PCOS) is a heterogenous collection of signs and symptoms that gathered together form a spectrum of disorder with a mild presentation in some, while in others a severe disturbance of reproductive, endocrine and metabolic functions.[1] The syndrome has a prevalence of 5 to 10%, more common in infertile women with variants among races and ethnicities.[2] This entity was first reported in the classic paper of Stein and Leventhal in 1935.

At a recent joint ESHRE/ ASRM (European society for human reproduction and embryology / American Society For Reproductive Medicine) consensus meeting a refined definition of the PCOS was agreed: namely the presence of two out of the following three criteria:

1. Oligo- and / or anovulation.
2. Hyperndrogenism. (Clinical and/or biochemical)
3. Polycystic ovaries

And the absence of other endocrine causes:

- Congenital adrenal hyperplasia
- Androgen secreting tumors
- Cushings syndrome
- Hyperprolactinaemia -
- Thyroid dysfunction.

(the Rotterdam ESHRE/ ASRM- sponsored PCOS consensus workshop group, 2004)[1]

1. Dr. Munmun Islam, Lecturer, Microbiology, Mugda Medical College, Mugda, Dhaka.
2. Dr. Mumtahena Amir, Resident Sugeon (Gynae), 500 Bedded General Mugda, Dhaka.
3. Dr. Dosth Mohammad Lutfur Rahman, Assistant Professor, Mugdha Medical College, Dhaka

Correspondence: Dr. Munmun Islam, E mail:drmunmun islam@gmail.com

The morphology of the polycystic ovary has been redefined as an ovary with 12 or more follicles measuring 2 to 9 mm in diameter giving the appearance of a pearl necklace and increased ovarian volume (>10 cm)[3] on transvaginal ultrasound.

Laboratory testing often reveals mildly elevated serum androgen level, an increased ratio of luteinizing hormone to follicle stimulating hormone (LH/ FSH), lipid abnormalities and insulin resistance.

The features of obesity, hyperinsulinaemia and Hyperndrogenaemia are also known to be factors which confer an increased risk of cardiovascular disease, hypertension, dyslipidaemia, non-insulin dependent diabetes mellitus (NIDDM).[4] The research evidence suggests that women with PCOS experience considerable stress related to their symptoms.

BSMMU is a tertiary referral centre where PCOS cases are referred from different area for better management. The main goal of this study is to detect PCOS early and treating them. There is an opportunity existing for preventive therapy, which should decrease the reproductive, metabolic and cardiovascular risks by halting the disease process and will decrease the morbidity of the patients.

MATERIALS AND METHODS

This Cross sectional, in the Gynae Outdoor, BSMMU, Dhaka from July 1212 to December 2012.

Sampling was done by purposive consecutive sampling. Due to financial and time constraints only 55 infertile women with PCOS were seclted during study period with attended Gynae OPD at BSMMU, Dhaka.

The inclusion criteria were age of the patient 20 to 40 years. Duration of infertility 1 year or above. PCOS was diagnosed by the presence of two of the following three criteria: oligimenorrhoea or amenorrhoea, hirsutism/ altered LH: FSH, ultrasound evidence of bilateral enlarged ovaries with multiple (10 or more) small subcortical follicles (2 – 10 mm in diameter).

RESULT:

Table-I Age distribution of infertile women with PCOS

Age in years	Frequency	Percentage	Cumulative Percentage
21-25	28	50.91	50.91
26-30	15	27.27	78.18
31-35	10	18.18	96.36
36-40	2	3.64	100
Total	55	100	

Distribution of Infertile women with PCOS according to types of subfertility

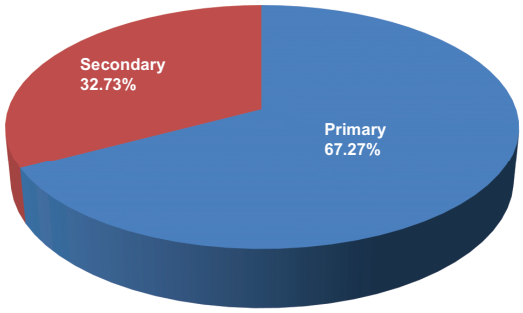

Fig.-1: *Distribution of infertile women with PCOS according to types of subfertility*

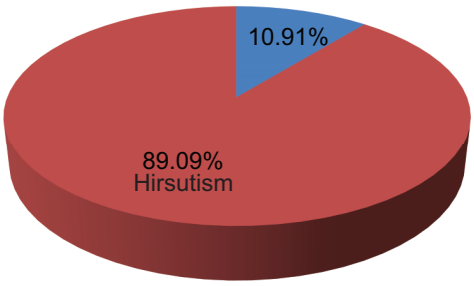

Fig.-2: *Distribution of hirsutism among PCOS womenDistribution of Hirsutism among PCOS women:*

Table-3 Distribution of infertile women with PCOS according to their BMI

BMI (kg/ m^2)	Frequency	Percentage	Cumulative Percentage
> 20	2	3.64	3.64
20-24.9	7	12.73	16.37
25-29.9	30	54.54	70.91
30-34.9	16	29.09	100
Total	55	100	

Table-4 *Distribution of infertile women with PCOS according to their menstrual history*

Menstrual cycle	Frequency	Percentage
Regular	4	7.27
Oligomenorrhoea	44	80
Amenorrhoea	7	12.73
Total	55	100

Table-5 Distribution of associated disease

Name of disease	Frequency	Percentage
Diabetes Mellitus	6	10.9
Hypertension	3	5.45
Bronchial Asthma	2	3.64
Anaemia	13	23.64
Hypothyroidism	9	16.36
None	22	40
Total	55	100

Table-VI Distribution of infertile women with PCOS according to variation in hormone level

Hormone	Level	Frequency	Percentage
LH	Raised (> 11.6 ulU/ml)	31	56.36
	Normal (1.1-11.6 ulU/ml)	24	43.64
FSH	Low (> 2.8 ulU/ml)	2	3.64
	Normal (2.8-11.3 ulU/ml)	53	96.36
Prolactin	Raised (> 25 ng/ml)	9	16.36
	Normal (1.9-25 ng/ml)	46	83.64
Testosterone	Raised	17	30.91
	Normal	38	69.09

Distribution of TVS findings in infertile PCOS women

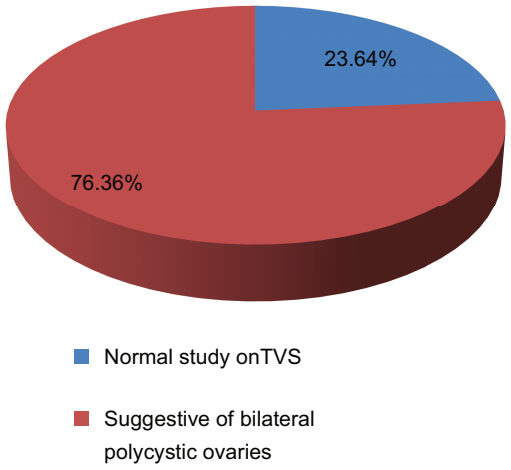

Fig.-3 : *Distribution of TVS findings in infertile PCOS women*

DISCUSSION:

In this study we observed that there is heterogenecity in the presentation with PCOS. It is emphasized that PCOS is a syndrome with no significantly single diagnostic criterion (such as hyperandrogenism or polycystic ovaries) is sufficient for clinical diagnosis.[5]

Out of the 55 women included in the study 44 (80%) of them had oligomenorrhoea, 12.73% had amenorrhea and only 4 of them (7.27%) still had regular menses in spite of evident hirsutism.

PCOS is reported to be more prevalent in younger ages (<35) than among older .women. This is in consistence with the finding that 96.36% of the patients included in the study were less than 35 years of age. Regarding the BMI 54.54% of the patients were overweight (BMI> 24.9 kg/m^2. 67. 27% PCOS women were suffering from primary subfertility.

Hirsutism was the second common complaint that the respondents claim to suffer. It is prevalent in 89.09% of them. This result is relatively close to the figure 81% obtained by kiddy et al.[6]

The evaluation of 55 infertile women with PCOS showed serum LH was elevated (>11.6 mlU/ml) in 56.36% cases and serum prolactin was elevated (>25 ng/ml) in 16.36%.Only in 3.64% cases serum FSH level was found low (<2.8 mlU/ml). Raised (>7.8 mmol/L) blood sugar (2 hr after 75 gm glucose load)

in 10.9%. Raised (>4 mlU/ml) serum TSH in 16.36%. TVS of lower abdomen showed 76.36% of the patients had evidence of polycystic ovaries.

The limitation of the study was large number of data collection was not possible in this short period and sample size was also small due to financial constraint. Relevant laboratory investigations were not done for all patients due to limitation of facilities and poor socioeconomic condition of the patient.

CONCLUSION:

From the above study we found that PCOS can be presented in different ways in women of reproductive age. Prevalence of PCOS is more in young women of reproductive age and is marked by hyperinsulinaemia and hyperandrogenism. Adolescent girl with PCOS often present with irregular menses, oligomenorrhoea, acne, hirsutism and obesity. At the reproductive age it commonly presents with subfertility due to anovulation. At old age hypertension, diabetes mellitus, dyslipidaemia, endometrial carcinoma may appear as a late sequel of the disease.

Considering the wide range of clinical presentations, initiative for early diagnosis of PCOD should be taken. Preventive therapy includes modification of lifestyle, having proper diet and exercise which should improve the reproductive, metabolic, cardiovascular risks by halting the disease process and decreasing the morbidity of the patients.

REFERENCES

1. Dewhurst J. Polycystic ovary syndrome and secondary amenorrhoea. In. Edmonds DK, editor. Dewhurst's Textbook of Obstetrics & Gynaecology, 7th edition : Blackwell publishing : Oxford university press; 2007: 381.
2. De Cherny AH, Nathan L. Benign disorders of ovaries and oviducts. In. De Cherny AH, Nathan L, Goodwin TM, Laufer N, eds. Current diagnosis and treatment Obstetrics & Gynaecology, 10lh edition. McGraw Hill; 2007 : 655.
3. Balen AH, Laven JSE, Tan SL & Dewailly D (2003) Ultrasound assessment of the polycystic ovary. Int Consensus Definitions Human Report Update 9, 505-14.
4. Balen AH, Conway GS, Kaltsas G et al. (1995) Polycystic ovary syndrome: the spectrum of the disorder in 1741 patients Human Repord 10, 2107-11.
5. Rotterdam ESHRE/ASRM- Sponsored PCOS consensus workshop group Revised 2003 consensus on diagnostic criteria and long term health risks related to PCOS. Fertil Steril 2004; 81: 19-25.
6. Kiddy DS, Sharp PS and White DM. Difference in clinical and endocrine features between obes and nonobese subjects with PCOS: An analysis of 263 consecutive case. Clin Endocrinol Oxf. 1990, Feb; 32 (2): 213-20.

Original Article

Feeding Pattern of below Two Years Old Children Attending in OPD of Mugda Medical College Hospital

Chowdhury AS[1], Hossain F[2], Baqi SAA[3], Zaman R[4], Islam S[5], Yeasmin S[6], Shahid ATM[7], Afrooz F[8]

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ABSTRACT

Background: *Malnutrition is now a major public health issue for children . There are many reasons but lack of knowledge of ideal nutrition and inappropriate feeding practice may be one of the most important hidden problem . This study tried to point out that issue . The study was done to know the infant and young child feeding pattern for the children of 0-23 months of age attending out patient department of an urban hospital.*

Methods: *This cross sectional study was conducted among 157 mother/child pair attending the outpatient department of Mugda medical college hospital during the period of February 2018 to July 2018.*

Result : *Among the children of below 6 months of age 57.9 % was fortunate to experienced early initiation of breast feeding and exclusive breast feeding was 44.6 %.Continued breast feeding among the children of 12 to 15 months was 54.28 and 59.34 % children were given solid food at 6 months of age. Adequate minimum dietary diversity, minimum meal frequency and minimal acceptable diet among children 6-23 months were 52.73%,67 % and 36.26 % respectively.*

Conclusion: *Early initiation of breast feeding(0-23mo) and Exclusive breastfeeding(0- 6mo) were satisfactory in the study children but IYCF practice in children of 6-23 months was not optimum and far away from the HPNSDP target.*

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Keywords:
Feeding pattern, Infant and young child feeding, Breast feeding Complimentary feeding.

Introduction:

In appropriate feeding practice including breast feeding during the first 2 years of life is now a major public health issue. Every year 1.4 million under five children die due to direct or indirect cause of suboptimal breast feeding.[1] Failure of exclusive breast feeding at 0-5 months of age results in more than 2 fold increase risk of dying from diarrhoea and pneumonia than infants who are exclusively breastfed.[2] Exclusive breast feeding up to 6 months and continuing breast feeding up to 2 years along with introduction of nutritionally adequate,safe and age appropriate complimentary feeding at 6 months are established as the top most preventive child health interventions for their effectiveness in preventing child mortality.[3,4] The first two years of life is the critical window of opportunity for the child growth. Recent analysis have found that the effect of growth faltering during this period is severe on child health and survival especially for developing countries. [5]

Inappropriate feeding practice in infant and young children is one of the most serious obstacle in

1. Dr. Abu Sayeed Chowdhury, Consultant, Pediatrics, Mugda Medical College Hospital
2. Dr. Farhana Hossain, Associate Professor, Ophthalmology, Popular Medical College
3. Dr. Shah Abdullah al Baqi, Consultant, Pediatrics, Gopalgonj.
4. Dr. Rifat Zaman, Consultant, Central Jail Hospital, Dhaka
5. Dr. Saiful Islam, Consultant, Paediatrics, Dhaka Medical College Hospital
6. Dr. Shamima Yeasmin, Registrar, Paediatrics, Dhaka Medical College Hospital
7. Dr. A.T.M Shahid, Consultant, Pediatrics, Mugda Medical College Hospital
8. Dr. Farzana Afrooz, Consultant, Pediatrics, Mugda Medical College Hospital

Correspondence : Dr. Abu Sayeed Chowdhury, E-mail: shimulsayeed9@gmail.com

maintaining nutritional status in children in Bangladesh. Only 21% children of 6-23 months of are fed minimum acceptable diet according to IYCF recommendation which is little better in urban area)28%). Overall IYCF achievement is far away from the target of 52% of children to be fed with minimum acceptable diet by 2016. [6]

To know the actual feeding practice several studies were conducted in our country. Most of the studies was based on rural population. The present study is conducted to observe the feeding pattern of children attending at outpatient department of an urban hospital.

MATERIALS AND METHODS

This is a cross sectional study conducted at the outpatient department of Mugda medical college hospital, during the period of February 2018 to July 2018. Sample size was calculated using standard formula among children less than 24 months. Total 157 mother child pair was interviewed. Mother / caregiver-child pair with children 0-23 months attending the OPD were included consecutively. Children who were sick requiring emergency care or who were irritable or mothers who were unwilling to participate were excluded from study. All mothers were interviewed after obtaining informed verbal consent. Predesigned questionnaire were used for data collection. Questions regarding feeding practices were adopted from WHO questionnaires for IYCF and the indicators were considered as per guidelines. All responses were recorded by 24 hours recall method except for initiation of breast feeding and exclusive breast feeding in children 6 to 23 months of age which were elicited by historic recall. Early initiation of breast feeding is considered when proportion of children born in last 24 months who were put on breast within one hour of birth. Exclusive breastfeeding is considered when proportion of infants 0-5 months who were fed exclusively from breast on the previous day. Data analysis was done by using SPSS software version 22.

RESULTS

Total 157 mother/caregiver- child pair were found eligible for analysis. Mean age of children in month was 6.65±6.15 months. Among the study children 42% were below 6 months of age and 58% were of 6 to 23 months age group. 54.41% were male and 45.59% were female. Among the mothers 82.8% were housewives and 17.2% were working mothers)Table-1). Mean age of mothers was 29.68 ±5.1 year. Breastfeeding was initiated with in 1 hour of birth in 57.9 % of the study children)0-23 months). Exclusive breastfeeding was found in 44.6% children under 6 months of age) Table-2. At the time of interview 54.28% of children of 12 to 15 months age were continuing breastfeeding) Table- 2.

Table-1 *Socio-demographic pattern of study children)n-157)*

Indicators	No	%
Age of child		
0-6 months	66	42
6-23 months	91	58
Sex		
Male	87	54.41
Female	70	45.59
Delivered by		
NVD	77	49
C/S	80	51
Mother's occupation		
House wives	130	82.8
Working mothers	27	17.19

Table- 2 IYCF status among study children

Indicators	Status	N	%
Early initiation of breastfeeding among children 0-23 months of age)N=157)	Within 1 hour	91	57.9
	After 1 hour	66	42.1
	Total	157	100
Exclusive breast feeding)N=157)	Yes	70	44.6
	No	87	55.4
Continued breast feeding among children 12-15 months of age)N= 57)	Yes	31	54.28
	No	26	45.72

16.66 % infants below 6 months were getting plain water, fruit juice, formula, diluted milk cows milk or solid food along with breast feeding and 36.36 % were fed with formula alone) Table-3.

Table-3 *Feeding pattern in 0-6 month old infants (n-66)*

Pattern	Frequency	Percentage (%)
Exclusive breastfeeding	31	46.91
Bf+ formula or Cow's milk	11	16.66
Formula	24	36.36
Total	66	100

Early initiation of breastfeeding was higher) 84.4 %) in the child who delivered by NVD than the child who delivered by caesarean section)32.5%) Table 4) At the 6 to 7 months of age highest number of children received complimentary food) 59.34%)) Table-5) Rate of exclusive breastfeeding was higher) 77%) among the children of housewives than children of working mothers which is 28%. Among 12-15 months of age group who continued breast feeding 73.3% were children of housewives and 26.6% were children of working mothers (Table-6).

Table - 4 *Frequency of early initiation of breast feeding (n-157)*

Mode of delivery	Total number of child	Number of early initiation of breast feeding	Percentage (%)
NVD	77	65	84.41
C.S	80	26	32.5

Table-5 *Timing of introduction of complimentary food) 6-23 months). n-91*

Age	N=91	Percentage (%)
Before 6 months	13	14.28
6 to <7 months	54	59.34
7 months or more	24	26.37

Table-6 : *Breastfeeding status among children of housewives and working mothers.*

Indicators	House wives	Working	Total	P* value
Continue breast feeding up to 12-15 months of child's age	42 (73.3 %)	15 (26.7%)	57	0.613

*'t' test

DISCUSSION

Early initiation of breastfeeding within 1 hour of birth was found in 57.9% of study Children)0-23mo) which is higher than the observations of other two similar studies Aparajita et al 31.6% [7] and Ulak et al 57%[8] . It was also higher than the FSNSP report 2014)48%).[9] Early initiation of breastfeeding was more common in infants delivered by normal vaginal delivery(84.41%) than infants delivered by caesarean section(32.5 %). It can be compared with in the rate found by Aparajita where early initiation was nil in case of caesarean section.[7]

In the present study 46.91 of 0- 6month old children were found to be exclusively breastfed which was better than the rate declared by FSNSP. 2014.(45%).[9] But it was less)58.7 %) than the observation by Das N [10] and also less than the BDHS 2011 data (63.5%) [6] 16.66% infants below 6 months were getting plain water, fruit juice, formula other milk or complimentary food along with breast feeding and 36.36 % were fed with formula alone. According to BDHS.2011, 27.2% infants are getting plain water, fruit juice or other milk. In a Delhi based study prevalence of formula feeding was 26% [11.] Though statistically not significant an important observation is that the rate of exclusive breastfeeding was higher (73.3 %) among the children of housewives than those of working mothers were (26.7%). No association was found between modes of delivery with exclusive breast feeding. In a similar study there was also no association was found with mode of delivery [12]. Early weaning before 6 month of age was found in 14.28 and 26.37% of children were introduced solid or semisolid food after 7 months of age. A study by Salim et al in rural Bangladesh found 24% children had weaning at appropriate time where early weaning was prominent (50.4%) [13]. In another study study conducted in slum area 64% children

were started with complimentary food within 6-7 months 18% were introduced weaning food after 7 months.[14] 54.28 % children of 12-15 months age group were on continued breast feeding which is lower than study conducted by Sinhababu A et al)71.7%)[15] and BDHS data)95%) but higher than other study)43%)[7]

CONCLUSION

In the present study IYCF practice in 6-23 months old children was not optimum and far away from the HPNSDP target But early initiation of breast feeding)0-23 months) and Exclusive breast feeding)0-6months) were satisfactory in the study children. An important observation which needs urgent attention is that frequency of exclusive breast feeding practice and continued breastfeeding was lower in working mothers than housewives. So proper steps should be taken to improve the existing situation.

REFERENCES:

1. WHO Infant and Young Child Feeding : Model Chapter for Textbook for Students and Health Professionals.2009
2. Arefin S, Black RE, Antelman G, Bequi A, Claufield L, Becker S. Exclusive Breastfeeding Reduces Acute Respiratory Infection and Diarrhea Deaths Among Infants. Paediatrics. 2001;108:1-8.
3. World health Organization./UNICEF. Global Strategy for Infant and Young Child Feeding 2003.A55/15, Annex-16 April 2002.WHO.
4. Jones G, Streketee RW, Black RE, Bhutta ZA. Morris SS. Bellagio Child Survival Study Group. How many child death can we prevent this year? Lancet. 2003; 362:65-71.
5. Victoria CG, Deonis M, Hallal PC, Blossner M, Shrimton R, Resin N, et al. Worldwide timing of Growth faltering: Revisiting Implications for Interventions. Paediatrics. 2010; 125:473-80.
6. Bangladesh Demographic and Health Survey 2011.Preliminary Report. National Institute of Population Research and Training. Dhaka Bangladesh.
7. Aparajita D, Sourav N, Soumalya R, Arnab G, Ram P. Assessment of Infant and Young Child Feeding Practices Among Mothers in a SlumArea of Kolkata: A Cross Sectional study. Int J Biol Med Res. 2014;5:3855-61.
8. Ulak et al. Infant Feeding Practices in Bhaktapur Nepal.A Cross Sectional Health Facility Based Survey. International Breastfeeding Journal. 2012;7:1.
9. Food Security and Nutrition Surveillance Report 2012 in collaboration with BBF,HKI. March 2012.
10. Das N. Infant and Young Child Feeding Perception and Practices Among Mothers in a Rural Area of West Bengal. India. Ann Med Health Sci Res. 2013; 3: 370-75.
11. Khan AM, Agarwal P, Gupta A. Kannan AT. A Study on Infant and Young Child Feeding Practices Among Mothers Attending an Urban Health Centre in East Delhi. Indian J Public Health. 2012; 56: 301-04
12. Bagur A S, Supare M S. The Infant Feeding Practices in an Urban Slum of Nagpur india. Jounal of Clinical and Diagnostic Research. 2012; 6:1525-27.
13. Salim M, Mita SA, Uddin MN, Jahan NWB, Rahman MM, Haque MA, Begam HA . Infant and Young Child Feeding Practices Upto 2 years of Age and Their Nutritional Status. Bangladesh Medical Journal. 2012; 41:14-20
14. Akhtar K, Haque ME, Islam MZ, Sharif AI. Feeding Pattern and Nutritional Status of Under two Years Slum Children. J Saheed Shurawardy Med Coll. 2012; 4:3-6.
15. Sinhababu A, Mukhpaddhay DK, Panja TK, Saren AB, Mandal NK, Biswas AB. Infant and Young Child Feeding in Bankura District, West Bengal India. J Health Population Nutr. 2010; 28:294-99.
16. Amanda Z, Kate W, Purnima M. Infant and Young Child Feeding Practices and Child Undernutrition Bangladesh: Insight from Nationally Representative Data. Public Health and Nutrition. 2012; 15:1697-1704.
17. National family health survey(NFHS- 3).India.2005-06.West Bengal. Available from :http//www.rchiips.org/nfhs. NFHS3%20 data/wbstate-report-printed version.pdf[last assessed on 2013.Nov.28].

Original Article

Awareness about Pulmonary TB among Rural People : OPD of a Primary Care Hospital in Bangladesh

Das SR[1], Biswas C[2], Akhtar K[3],Tahmina Afroz[4], Rashid MMO[5], Hamid MA[6]

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ABSTRACT

Introduction: *Tuberculosis is the most dreaded and common global health issue. Awareness and knowledge are important factors for tuberculosis identification and treatment.*

Objective: *To assess awareness regarding pulmonary TB among rural population in Bangladesh that is out patient department of a primary health care hospital in Bangladesh.*

Methodology: *A cross-sectional descriptive type of study was conducted with a sample size 125 from 1st November 2017 to 15th November 2017 to assess the awareness regarding pulmonary TB among rural population in Bangladesh.*

Results*: A total of 125 respondents were interviewed face to face of which 48.8% were in the age group of less than 29 years of age. Regarding their education status 33.72% were Illiterate and 12.79% were Graduates. Almost 96% respondents Monteux test (MT) were positive. Maximum 75.58% of the respondents know the Sign and symptom of TB and minimum 24.42% did not know. Concerning source of getting information about Govt. of Bangladesh introduce DOTS 31.2% received information from family and relative and 16% from hospital. According to their BCG vaccination status 54.65% received BCG vaccine where as 45.35% did not. According to the visit centre of receiving* ***TB treatment*** *66.28% received from Dhamrai health complex and 33.72% received from others places. Regarding their medication 54.64% TB patient know when they should take medication where as 45.35% did not know when they take medication. According to the awareness about the complication of TB 70.93% of them were aware and 29.07% were not aware. According to the respondents taking medical care 77.91% received medical care where as 22.09% did not. Regarding the history of a TB patient covering the nose and mouth where as 33.72% did not. According to the measurement of cleaning the handkerchief which was used for covering of nose and mouth 54.65% did not clean the handkerchief where as 45.35% had clean. 89.53% of the respondents had knowledge on pulmonary TB and 10.46% had no knowledge.*

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Keywords:
Awareness, PulmonaryTuberculosis, Knowledge, Montoux test

1. Dr. Shila Rani Das, Associate Professor, Dept. of Community Medicine, ZH Sikder Woman's Medical College, Dhaka.
2. Consultant, Department of Dermatology and Venereal diseases, Dhamrai Upazilla Health Complex, Savar, Dhaka.
3. Dr. Khursheda Akhtar, Lecturer, Department of Community Medicine, Mugda Medical College, Dhaka.
4. Dr. Tahmina Afroz, Lecturer, Department of Biochemistry, Mugda Medical College, Dhaka.
5. Dr. Md. Mamun Or Rashid, Assistant Professor, Department of Orthopedics, Col. Malek Medical College, Manikganj.
6. Dr. Md. Abdul Hamid, Assistant Professor, Department of Dermatology, Mugda Medical College

Correspondence: Dr. Shila Rani Das, E-mail: dr.shila@yahoo.com, phone 01911183906

INTRODUCTION

Awareness and knowledge about any health condition or disease is important for improving the quality of life and optimizing patient's health.[1] Tuberculosis is the most dreaded and common global health issue after HIV and is the leading cause of death.[2] Adequate and timely knowledge about tuberculosis is associated with positive attitude towards healthcare.[3] Tuberculosis is the third leading cause of mortality in developing countries

after HIV and Ischemic heart disease.[4] According to a survey and global Tuberculosis report, there were approximately 8.6 million newly diagnosed cases in 2012 and 1.3 million deaths due to tuberculosis. Even though it is treatable condition, it is the second leading cause of death. This can be mainly attributed to lack of awareness and knowledge. According to surveys done in the past, there is the evidence that if we improve the knowledge and awareness about tuberculosis amongst the population then it can lead to significant decrease in the Tuberculosis of new cases.[5] India accounts for 20% of the total world tuberculosis cases and every year nearly 1.8 million new tuberculosis cases develop here, out of which some are infectious and some are non-infectious.[6] Majority of deaths and tuberculosis occurrences are within the age group of 15-16 years and above 60 years. This younger age group is the future of Indian development and therefore tuberculosis acts as a hindrance in socioeconomic development of the nation. The major control protocol for tuberculosis is detection in early stages and DOTS regimen. A person can only recognize and detect Tuberculosis if he/ she are aware about the signs and symptoms and if he/she seeks medical advice at the right time. Due to this reason various Tuberculosis awareness programmes have been initiated in the country at rural and urban levels. Awareness amongst younger age group is of particular importance specially in combating the disease.[7]

The aim of present study is to evaluate the awareness and knowledge about Tuberculosis amongst urban population in Bangladesh.

METHODOLOGY:

This descriptive type cross sectional study was carried out in Upazila health complex, Dhamrai, Bangladesh from 1st March to 15th March 2017 to assess awareness regarding pulmonary TB among rural population in Bangladesh that is out patient department of a primary health care hospital in Bangladesh. All the Pulmonary TB Patient OPD of Dhamrai Upazilla Health Complex were included. Data processing involves categorizing of data, coding and summarizing the data with the help of calculator. For descriptive statistics means, standard deviations and range was calculated and presented by table, bar and pie diagram. All data were analyzed by SPSS version 14.

RESULT

Table 1: *Distribution of the respondents by sociodemographic characteristics (n=125)*

Age group (in years)	Frequency	Percentage (%)
Less than 29	61	48.8 %
30-49	32	25.6 %
50-69	27	21.6 %
70 and above	5	4 %
Religion		
Muslim	93	74 %
Non-Muslim	32	26 %
Educational status		
Illiterate	42	33.72 %
Primary	23	18.60 %
Secondary	19	15.12 %
Higher secondary	25	19.77 %
Graduate	16	12.79 %
Total	125	100%

This table shows that about 48.8% respondents age less than 29 years of age followed by 25.6% within 30 to 49 years of age, 21.6% were 50 to 69 years and 4% respondents age above 70 years. About 74% respondents Muslim and 26% Non muslims. About 33.72% were illiterate, 19.7% were higher secondary, 18.60% primary, 15.12% secondary, 19.77% higher secondary and 12.79% graduate.

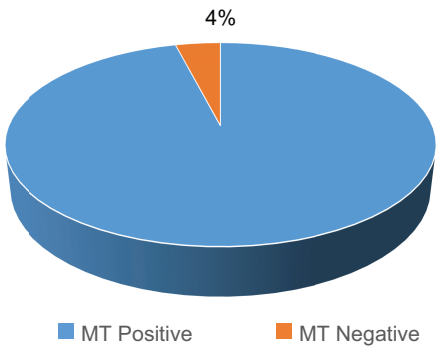

Figure 1: *Diagnosis of Tuberculosis by Monteux test (n=125)*

Among the tuberculosis cases 96% were true positive and 4% were false negative.

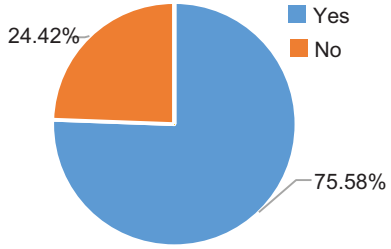

Figure-2: *Distribution of the respondents according knowledge on symptoms of pulmonary TB (n=125)*

About 75.58% of the respondents know the Sign sand symptom of TB and minimum 24.42% did not know about the sign symptom of TB.

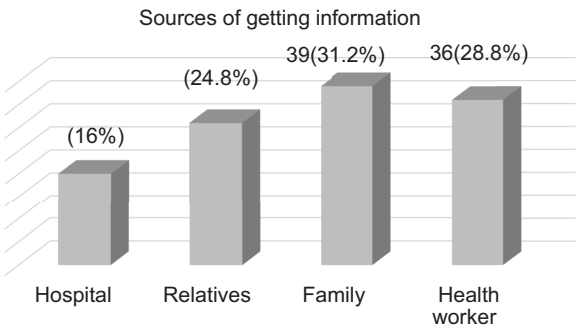

Figure-3: *Distribution of the respondents according to their source of getting information about Govt. of Bangladesh introduce DOTS (n=125)*

According to the data, we found maximum 31.2% of the respondents gets information about Govt. of Bangladesh introduce DOTS from family and minimum 16% of the respondents gets information about Govt. of Bangladesh introduce DOTS from hospital.

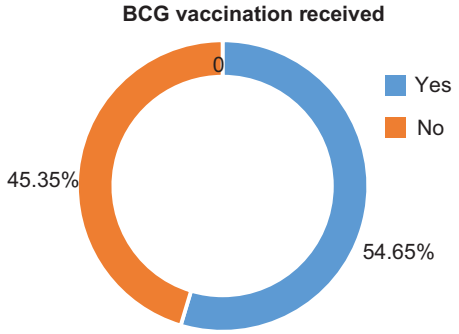

Figure-4: *Distribution of the respondents according to BCG vaccination received (n=125)*

Above table shows that about 54.65% of the respondents received BCG vaccination and minimum 45.35% of the respondents did not received.

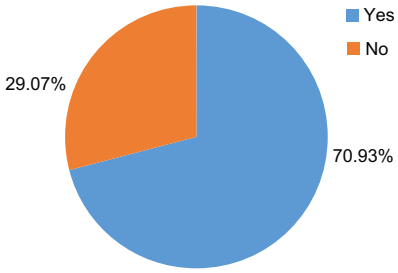

Figure-5: *Distribution of the respondents according to their awareness about of complications of TB (n=125)*

About 89 (70.93%) of the respondents are aware about complication of TB and 36 (29.07%) of the respondents are not aware about complication of TB.

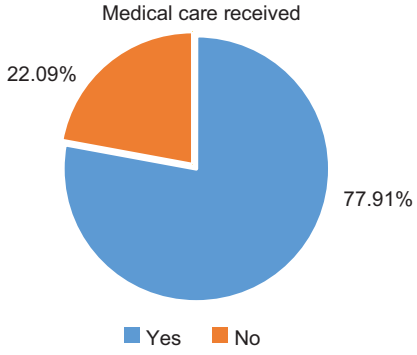

Figure-6: *Distribution of the respondents according to taking medical care received (n=125)*

About 97(77.91%) of the respondents received medical care and 28(22.09%) of the respondents were not received medical care.

DISCUSSION

This cross sectional study was conducted in DhamariUpazilla health complex. In our study to assess the awareness regarding pulmonary TB among rural population in Bangladesh. About 48.8% respondents age less than 29 years of age followed by 25.6% within 30 to 49 years of age, 21.6% were 50 to 69 years and 4% respondents age above 70 years. About 74% respondents Muslim and 26% Nonmuslims. About 33.72% were illiterate, 19.7%

were higher secondary, 18.60% primary, 15.12% secondary, 19.77% higher secondary and 12.79% graduate. Among the tuberculosis cases 48 (96%) were true positive and 5 (4%) were false negative. About 75.58% of the respondents know the Sign and symptom of TB and minimum 24.42% did not know. About 31.2% of the respondents gets information about Govt. of Bangladesh introduce DOTS from family and minimum 16% of the respondents gets information about Govt. of Bangladesh introduce DOTS from hospital.

A similar study conducted by Sherkhane et al amongst adolescents of urban slums reported that 48.31% of their study subjects happened to know about Tuberculosis through television.[8] About 54.65% of the respondents received BCG vaccination and minimum 45.35% of the respondents did not received. About 89 (70.93%) of the respondents are aware about complication of TB and 36(29.07%) of the respondents are not aware about complication of TB. Similar study done by Balamurugan s et al amongst medical students in Salem district, Tamilnadu reported a higher knowledge when compared to our study and this could be due to differences in level of education as medical students tend to have a higher knowledge when compared to general population.[9] About 97(77.91%)of the respondents received medical care and 28(22.09%) of the respondents were not received medical care.

CONCLUSION:

Considering the various findings of present study, it was concluded that the Immunodiagnostic methods for the laboratory diagnosis of pulmonary tuberculosis can play a vital role as diagnostic method and can help in prognosis of the disease in a low income and resource constraint country like Bangladesh. It could be cost effective by saving the time and money, yet large scale studies can be done in the evaluation of these test prior to application in the National level. Although utmost sincerity and dedication was invested to carry out the study it could not go beyond limitations as we dealt with the smear positive pulmonary tuberculosis cases only and smear negative cases were excluded from the study. Moreover the sample size was not large enough to reach a sound decision.

REFERENCES:

1. Jaramillo E, The impact of media-based health education on tuberculosis diagnosis in Cali, Colombia. Journal of Health Policy and Planning. 2001; 16(1): 68-73.
2. Sagonda T, Mupfumi L, Manzou R, Makamure B, Tshabalala M, Gwanzura L, et al. Prevalence of extensively drug resistant tuberculosis among archived multidrug resistant tuberculosis isolates in Zimbabwe. Tuberculosis Research and Treatment. 2014:349141.
3. Hoa N P. Thorson A E K, Long N H. &Diwan V K, Knowledge of tuberculosis and associated health-seeking behaviour among rural Vietnamese adults with a cough for at least three weeks. Scandinavian Journal of Public Health. 2003; 31(62): 59-65.
4. Sreeramareddy CT, Harshakumar HN, Arokiasamy JT, Prevalence of self-reported tuberculosis, knowledge about tuberculosis transmission and its determinants among adults in India: results from a nation-wide cross sectional household survey. BMC InfectDis. 2013; 13:16.
5. Alvarez G GC, Alvarez J F,Dorantes J J E & Halperin FD, Perceptions and practices of tuberculosis patients and nonadherence to therapy in Chiapas. Mexico. SaludPublica de Mexico. 2000; 42(6): 520- 528.
6. Bogam RR, Sagare SM. Knowledge of tuberculosis and its management practices amongst postgraduate medical students in pune city. National Journal of Community Medicine. 2011;2(1) :52-9.
7. Renuka M, Dhar M. Knowledge and awareness of tuberculosis among high school students of Mysore City. Al Ameen J Med Sci.2012; 5(3) :333-336.
8. Sherkhane R, Sherkhane M, Awareness regarding Tuberculosis among adolescents of urban slums. IJMSPH. 2014;3(11):1329-1333.
9. Balamurugan SS, Swaminathan, and Rao SS. The Awareness about Tuberculosis and DOTS among the Aspiring Doctors in a Tertiary Medical College Hospital, Salem, Tamil Nadu. NJRCM. 2013;2(2): 79-148.

Case Report

Unusual presentation of chondrosarcoma

Parveen SI[1], Rahman DML[2]

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Summary:
Chondro-sarcoma is a malignant chondroid tumor. It is the 3rd most common primary malignant tumor after plasmacytoma & osteosarcoma$_1$. It is difficult to differentiate low grade chondrosarcoma from benign chondroid lesion; however, the presence of pain in the absence of fracture & cortical destruction and the presence of a soft-tissue mass are suggestive of malignancy. Based on their intraosseous location chondrosarcoma can be divided into central & peripheral lesion. Most chondrosarcomas (about 75%) are de novo; but the remaining 25% are secondary and develop from malignant transformation of a benign lesion such as enchondroma, osteochondroma or rarely chondroblastoma. Central variety occurs in both tubular (e.g. femur, proximal humerus, proximal tibia) & flat bone, Peripheral variety occurs in flat bones (pelvis, ribs) & spine$_1$. The main idea of presentation is to inform the radiologists about the abnormal presentation may mislead if report is prepared on X-ray only.

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INTRODUCTION:

Primary chondrosarcoma occurs mainly between the ages of 30-60 years. Although child hood chondrosarcoma does occur and appear more aggressive than that of adult form$_2$. There is male predilection of low-grade chondrosarcoma. Diagnosis may be delayed on account of slow growth or relatively mild symptomatology. Malignancy may arise in the cartilage cap of an osteochondroma or in a long or flat bone but chondrosarcoma of the hands & foot is distinctly unusual. About 10% secondary chondrosarcoma arise from recognizable precursor, usually the cartilage cap of an osteo-chodroma especially in patients suffering from diaphyseal aclasia[4].

1. Dr. Syeda Ireen Parveen Assistant Professor (Radiology & Imaging), MuMCH, Dhaka.
2. Dr. Dosth Mohammad Lutfur Rahman, Assistant Professor, Department of Radiology & Imaging, Mugda Medical College, Dhaka

Correspondence: Dr. Syeda Ireen Parveen, E mail: ireen parveen10@gmail.com

CASE REPORT:

This case was a 40 years adult male, resident of Khagrachhari district working in police department as a cook came to our department with postero- anterior chest X-ray having a rounded opacity in right para-hilar region then we took a right lateral view it was in anterior segment of right upper lobe in right lateral film. At first it seems to be a lung lesion. I interested to know the history of illness. The patient has a swelling in the chest wall at upper parasternal area. He had a complaint of occasional pain in right upper chest of about last 10 years & was relieved by taking some antibiotics and pain killer drugs. Then he recognized a small swelling at that site for last 3 years which was not responding to antibiotics and the size is gradually increasing. All routine investigations were normal except slight increased level of alkaline phosphatase & mild increased ESR.

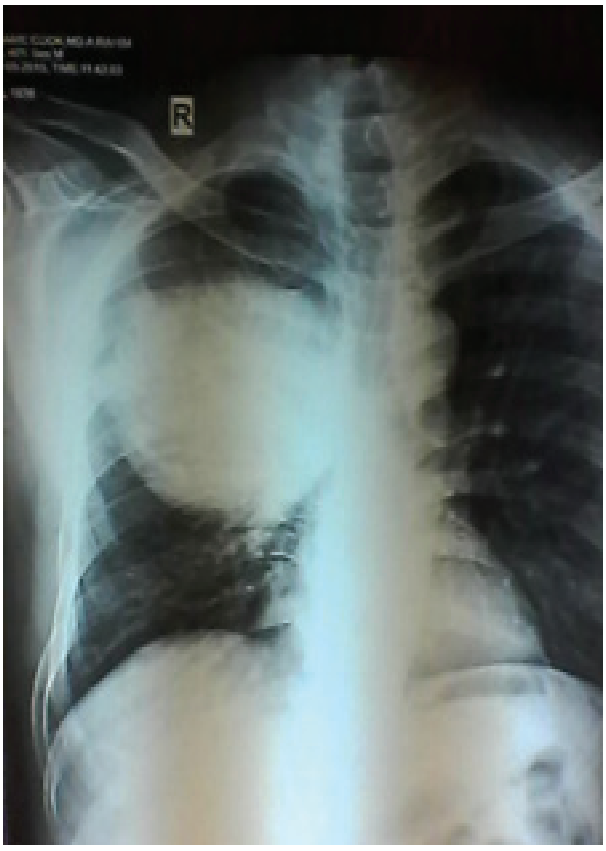
FNAC done with a report of low grade chondro-sarcoma and finally CT scan confirmed the exact location with details of lesion. The patient had an old MI, so surgeons refrained from surgical procedure. He was treated by chemotherapy but no significant response in 1st dose of chemotherapy.

X-ray & CT scan findings of chest are given below:

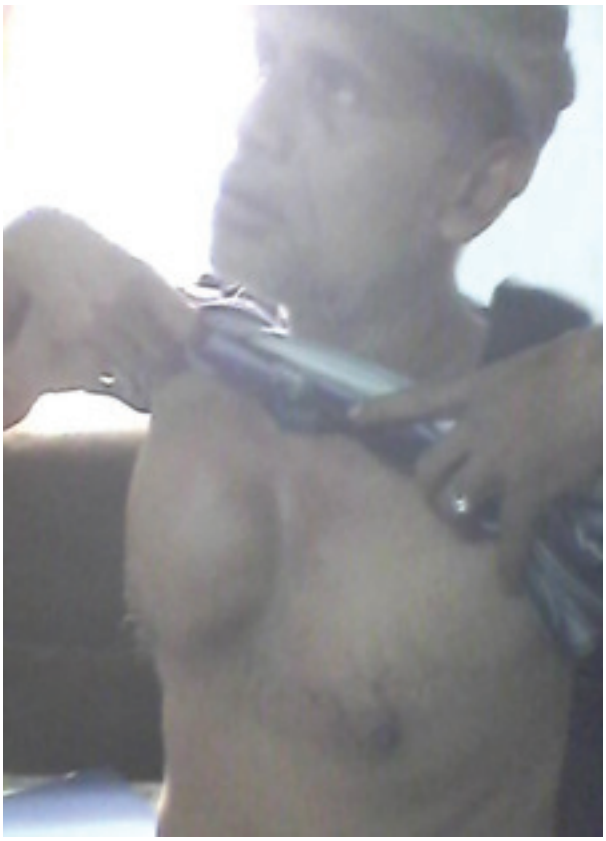
Ray Chest P/A view

Showing a rounded opacity in right para-hilar region including mid zone and part of upper zone with bony erosion at anterior part of right 2nd rib, rest of the lung fields appear clear and in right lateral view x-ray showing the lesion in anterior segment of retrosternal area. These appearances assume to be in a conclusion of right lung mass with adjacent bony erosion.

X-ray chest Rt. Lateral view



X-ray chest P/A view



Externally soft-tissue swelling in right upper part of chest at para-sternal area.

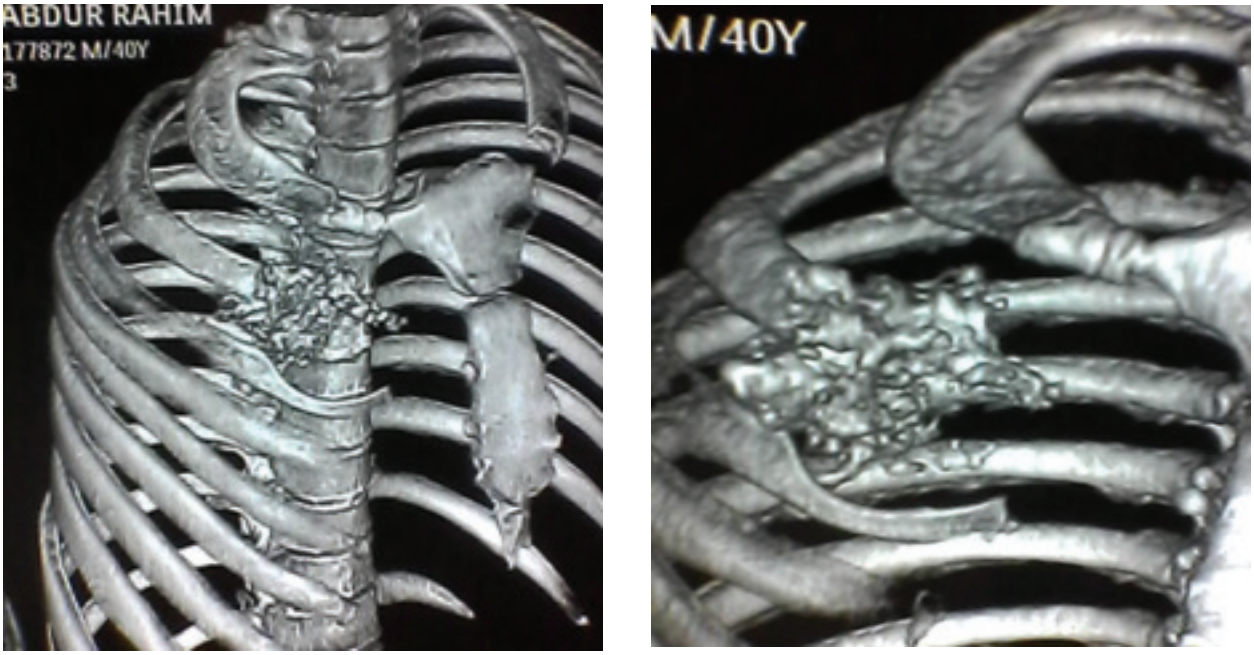
CT Scan of Chest Axial View

CT Scan of Chest Axial View

C T Scan of Chest Coronal View

CT Scan of Chest Axial View

CT scan of chest with mediastinal and lung window in axial and coronal images including bone window showing- a large rounded soft-tissue density mass with internal fleckes of calcification at anterior end of right 2nd rib with both internal and external extension with out invading the lung parenchyma but abutting the right 3rd rib



Bone window Of Chest CT Scan

DISCUSSION:

Primary chondrosarcoma particularly in its early stages presents difficult diagnostic problem as the presenting symptoms of minor pain or discomfort may be accompaniedby only minimal radiological change. This may be a poorly defined area of medullary translucency with possibly a little periosteal reaction or the presence of an abnormal soft-tissue mass. The cortex of flat bones tends to be thinner than that of long bones and chondrosarcomas of the ribs & pelvis penetrate it at an earlier stage. Mature cartilage elements frequently calcify and larger tumors are frequently lobulated & cauliflower like. Chondrosarcoma very rarely occurs in soft-tissue like tendon sheath & meninges. Cranial lesions also arise from sphenoid and clivus. Radiologically no criteria of malignancy are absolute. The demonstration of increase in size & ill-defined margins on plain x-ray film is highly suggestive. Cortical destruction is helpful. On MRI chondrosarcoma has acharacteristic multi-lobular configuration. The lobules of hyaline cartilage have intermediate signal intensity similar to that of muscle on T1 weighted image; they have homogeneous high signal intensity on T2 WI. The fibrous septa have low signal intensity on both T1 & T2 WI. But enhance after gadolinium administration. Calcification are common in low grade chondrosarcoma and are best seen by conventional radiography & CT.Endosteal scalloping is also been depicted with CT and plain radiography[1].

CONCLUSION:

The tumour does not respond to either radiotherapy or chemotherapy[3]. Prognosis for chondrosarcoma is relatively good if complete surgical excision is possible before dissemination, metastasis only occurs in the later stage by the hematogenous route[4]. Amputation may be needed as there are risks of local recurrence. Each surgical insult causes the tumor to become even more aggressive.

REFERENCES:

1. "Musculoskeletal tumours." Book- CT AND MRI of the whole body by JHON R. HAAGA; 5th edition, Volume-II, page 2143-2145.
2. Campbell's operative orthopedic-surgery, 7th edition, volume- II, page 782.
3. "Primary malignant bone tumour." Apley's System of Orthopaedics and fractures; by Louis Solomon, 8th edition page-185.
4. "Cartilage forming tumours." The textbook of RADIOLOGY AND IMAGING by David Sutton, 7th edition volume -2, page-1279.

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