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Editorial ***Open Access***

Emotional Intelligence: What is it and why it matters

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The surprising superiority of human race in a world that have much more powerful physical contender can be pointed towards their mental abilities to surpass other species. Our unmatched intelligence has paved the way to the top spot in dominion hierarchy. The earliest use of the word "Intelligence" can be traced back to the 13th century in the writing of English poet John Gower. Human intelligence can be regarded as a multifaceted concept which includes but is not limited to the capability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly, and learn from experience. In a sense, this is like a toolbox that helps us to solve problems. This magnificent toolbox has so many tools at our disposal like receiving information both from outer world (exteroception) as well as from within (interoception), retaining and recalling information, processing this information to recognize and use pattern, implementation of acquired senses into action, rectifying courses based on outcome and so on. All of these are under the term of general intelligence (GI) that can be expressed as the overall capacity of a person for adaptation through effective cognition and information processing[1].

A subset of the components of the general intelligence is emotional intelligence (EI). The concept of emotional intelligence was pioneered by Salovey and Mayer[2] which they defined as "the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought"[3]. Simply put, emotional intelligence enables us to understand our own feeling and why do we feel that way; so that, we can regulate our emotions for the best possible outcome. At the same time, emotionally intelligent people also are sensible about the feelings of people around them. Thus, emotional intelligence can be viewed as the ability to perceive, understand, manage and express emotion. The reasons behind the widespread attention of this phenomenon of EI amidst public as well as academic arena are manifold. We now have ample evidence to believe that, emotional intelligence plays a somewhat deterministic role in achieving success in leadership roles, academic performance, personal relationship and many more avenues of life. Study have shown that, higher EI is correlated with greater individual performance, above and beyond of what is associated with one's general intelligence[4]. Many studies have been carried out to investigate the importance of EI in medical profession and some key findings of those studies includes: females have higher EI, physicians with high EI score also have patients with high self-reported satisfaction score and higher the EI in a healthcare professional lower is the risk of burnout[5-7].

Although the concept of emotional intelligence is in its infancy in comparison to the already well studied general intelligence, but there are already tools in use to measure up the level of "emotional quotient (EQ)" which is analogous to the intelligence quotient (IQ). One interesting difference between IQ and EQ is that, EI can be viewed as a skillset rather than a trait; making EQ a changeable and upgradable variable by training. There is substantial number of studies that favors the concept of plasticity of emotional intelligence[8-9]. To herness the power of an emotionally intelligent mind, first we need to understand how it works. While it is beyond the scope of an editorial to dive deep into the matter, it would be unfair to deprive readers about the basic outline for EI improvement. In his phenomenal work on EI, Goleman had proposed the four branches model of emotional intelligence namely: a) Self-awareness b) Self-management c) Social awareness d) Relationship management. So, it all starts with a person being aware of his own feeling, almost watching himself as a neutral third person.

The management of "self" includes assessing the impulsiveness, inner drive, motivation or lack of it and to use it in a way that serves the best and is in alignment of his moral edifice. Empathy is one of the key components of social awareness along with active listening and social orientation which helps us to get rid of our own cognitive framework and to understand the world from another person's point of view. One of the building blocks of relationship management is to be able to resolve conflict and to stay sane in an unfavorable condition using all of the previously mentioned tools and technics. Thus, mindfulness helps a lot to have a clear understanding of self, to identify what "triggers" certain emotions and how those emotional states affect the physical expression. Journaling can aid to pen down the "knowing thyself" experience and will provide much more clarity. Breathing exercise, specially to practice deep controlled breathing has been proven to calm down the mind, relieve stress and increase focus. Anticipation is

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another marvelous brain mechanism to practice stress management and calculated optimism inside your head as human brain cannot differentiate events that take place in reality versus in imagination. Another insight regarding EI is practicing objectivity in any situation without attaching "personal values".

We need to try to assess a situation getting out of our own emotional brain. Many life problems would have been solved if only we could detach our ego from the equation of events. To sum up, it is definitely worth investing time and effort to acquire higher emotional intelligence. If we train ourselves to be more emotionally intelligent, it will make the world a better place to live in. As a concluding remark, we want to quote author Steven Kotler on the issue of IQ vs EQ: "IQ gets you hired but EQ gets you promoted".

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Original Article ***Open Access***

Socio-demographic and Associated Determinants affecting Quality of Life among Ischemic Heart Disease (IHD) Patients following Angioplasty

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Abstract

Background: Ischemic Heart Disease (IHD) is an increasingly medical and public health problems and leading cause of mortality in Bangladesh. The emergence of ischemic heart disease (IHD) epidemic in Bangladesh and other developing countries has attracted less comment and little public health response. **Objective:** This study aimed to assess Socio-demographic and associated determinants affecting Quality of Life among Ischemic Heart Disease (IHD) patients following angioplasty after three months or more. **Methodology:** This cross-sectional study was conducted among 220 respondents at Cardiology OPD, Military Hospital. Respondents were selected through random sampling technique. Data on socio-demographic characteristics and quality of life and associated factors among ischemic heart diseases patients following Angioplasty were collected using questionnaires following proper maintaining of ethical issues. **Results:** The study found that out of 220 respondents 94.5% male and 5.5% female. Majority of the respondents were married (96.5%), retired (55.0%) and Muslims (98.6%). Majority of the respondents 37.7% age were within 52 to 59 years, 28.6% earn 10001 to 20000 taka, 33.2% cases were up to SSC level. Regarding the disease related factors of the respondents 83.6% cases had hypertension, 58.6% cases were diabetic, 24.1% cases had Heart failure, 34.5% were obese and 98.2% suffered from hyperlipidemia. About current symptoms related information of the respondents 84.1% did not suffered from tightness of chest, 91.4% had no symptom of shortness of breath, 96.4% respondents had no complaint of stabbing pain in heart and 68.7 had no symptom of feeling exhausted. Comparison of individual domain score, between Diabetic and non-diabetic respondents through individual t test, quality of life score was higher among non-diabetic respondents. **Conclusions:** Socio-demographic and associated determinants need to consider to maintain Quality of Life among Ischemic Heart Disease (IHD) patients following angioplasty. Disease and co-morbidities as associated determinants also require to improve quality of life. *[Journal of Army Medical College Jashore, July, 2024;5(2):30-34]*

Keywords: Socio-demographic; Quality of life; ischemic heart disease; angioplasty

Introduction

Ischemic Heart Disease (IHD) has no geographic, gender or socioeconomic boundaries. The global burden of disease due to IHD is rising, principally due to a sharp rise in the developing countries that are, experiencing rapid health transition. Contributory causes include the ageing of the world population, life styles change due to urbanization, progressive industrialization and burgeoning globalization[1]. IHDs are the number one cause of death globally, more people die annually from IHDs than from any other cause. An estimated 17.5 million people died from IHDs in 2012, representing 31.0% of all global death[2]. Of these deaths, an estimated 7.4 million were due to ischemic heart disease (IHD) and 6.7 million due to stroke[3]. At least three quarters

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of the world's death from IHDs occur in low and middle-income countries.

The most important behavioral risk factors of ischemic heart disease and stroke are tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol. The effects of behavioral risk factors may show up in individuals as raised blood glucose, raised blood lipids and overweight and obesity[2]. ischemic heart disease is an increasingly medical and public health problem and the leading cause of mortality in Bangladesh. Like other south Asians, Bangladeshis are unduly prone to develop IHD, which is often premature in onset, follows a rapidly progressive course.

Bangladesh has been experiencing epidemiological transition from communicable disease to noncommunicable disease (NCD). The overall mortality rate has decreased significantly over the last couple of decades. But death due to chronic diseases, specially the fatal four like ischemic heart disease (IHD), cancer, chronic respiratory disease and diabetes are increasing in an alarming rate[3]. According to the WHO data published in April 2011, ischemic heart disease deaths in Bangladesh reached 163769 or 17.1% of total deaths[1]. The age adjusted death rate is 203.69 per 100000 of population rank Bangladesh 25 in the world[4]. Ischemic heart disease is as severe chronic illness and quality of life is dramatically impaired due to heart dysfunction, lifelong medication and heavy economic as well as psychological burden[5].

Percutaneous Coronary intervention (PCI), commonly known as Coronary angioplasty, a widely used treatment for IHD, as an effective strategy to alleviate patient's symptoms and improve their physical activity and quality of life[6]. This study aimed to assess socio-demographic and associated determinants affecting Quality of Life among ischemic heart disease (IHD) patients following angioplasty after three months or more.

Methodology

Study Settings and Population: This Descriptive Cross-sectional study was carried out to assess quality of life and associated factors among ischemic heart diseases patients following Angioplasty after 03 months or more of coronary angioplasty at cardiology department of CMH Dhaka during. The period from July 2023 to October 2023. The study population were patients having IHD following Coronary angioplasty reported at cardiology outpatient department of CMH Dhaka, Dhaka Cantonment for follow up after three months or more. Inclusion Criteria was angioplasty patients reported at OPD of Combined Military Hospital Dhaka after three months or more of angioplasty who would have given consent and willing to participate. Exclusion Criteria was patients who developed post coronary angioplasty complication, unable to respond and severely ill patients.

Study Procedure: Total 220 sample were taken. non-probability sampling of purposive type was applied to select the sample. Data were collected through a semi-structured questionnaire and observational checklist. Questionnaire and observational checklist were prepared with these specific objectives. The final version of questionnaire was designed and developed in such a way that it was able to collect all relevant information pertaining to objectives and variables of the study and it were socio-demographic information of the respondents and a semi-structured questionnaire duly customized as per WHOQoL SF 26 for face-to-face interview. Before collecting data, consent from the respondents was taken by the researcher. It was made clear to the respondents that they were at liberty to answer or not answer the question. The respondents were given full assurance on some ethical point of view that under no circumstances finding of the interview will be disclosed to any unauthorized person.

Statistical Analysis: All data were compiled and edited meticulously after through checking and rechecking for consistency and completeness. All omissions and inconsistencies were corrected and removed methodically before entering into SPSS (Statistical Package for Social Sciences version 23 by the researcher himself. In the SPSS data were also checked for errors and were corrected in the data file. For the errors, each variable was checked for that were out of range by analyzing the frequency of the categorical and continuous variable separately in SPSS where errors were checked for by looking for the minimum and maximum value of descriptive statistics, valid cases and missing in the frequency output table in SPSS. Data were analyzed separately for three sections of the questionnaire like all answers from respondents were checked for its completeness, correctness and internal consistency to exclude missing or inconsistent data, the data were analyzed by using software (Statistical Package for Social Sciences) version 23 and calculation and the analyzing data were presented through some descriptive statistics like Mean, Median, SD and percentages. In order to find out association between the variables, some interferential statistics like ANOVA (ANOVA, or Analysis of Variance, is a test used to determine differences between research results from three or more unrelated samples or groups.), t-test was considered as appropriate. The data were presented in the form of tables, graphs and charts accordingly.

Ethical Consideration: Informed consent of participants was taken both verbal and written, before collection. Their privacy regarding information was maintained strictly and formal approval of the study protocol from Protocol Approval Committee of AFMI.

Results

Table 1 showing out of 220 Respondents 208 (94.5%) were Male and 12 (5.5%) Female. Majority of the respondents 83 (37.7%) were within 50-59 group. Mean Age 57.95, SD ±9.83367, Maximum age 89 years and minimum age 32 years. Majority of the respondents 217 (98.6%) were Muslim and.02 (0.9%) were Hindu and 01 (0.5%) was Buddhist

majority of the respondents 96.8% were married, 2.7% were widower, 0.5% were widow. Regarding family type. Majority of the respondents 44.5% were nuclear, 35% were extended and 20.5% were joint family.

Table 1: Distribution of Respondents by Socio-Demographic Characteristics (n=220)

Age Group	Frequency	Percent
• 30 to 39 Years	9	4.1
• 40 to 49 Years	29	13.2
• 50 to 59 Years	83	37.7
• 60 to 69 Years	64	29.1
• 70 Years and above	35	15.9
Gender		
• Male	208	94.5
• Female	12	5.5
Religion		
• Muslim	217	98.6
• Hindu	02	0.9
• Buddhist	01	0.5
Marital status		
• Married	213	96.8
• widow	01	0.5
• Widower	06	2.7
• Unmarried	00	00
Type		
• Nuclear	98	44.5
• Extended Nuclear	77	35.0
• Joint	45	20.5

Table 2 showing, regarding family income of all participants, majority of the respondents 28.6% earn 10001-20000 taka, 25.0% earn 20001 to 30000 taka, 18.2% earn 30001 to 40000 taka, 25.0% earn above 40000 taka and 3.2% earn below 10000 takas.

Table-2: Distribution of respondents by Socio-economic characteristics (n=220)

Monthly Family Income	Frequency	Percent
Up to 10000 BDT	07	3.2
10001 to 20000 BDT	63	28.6
20001 to 30000 BDT	55	25.0
30001 to 40000 BDT	40	18.2
More Than 40000 BDT	55	25.0
Total	**220**	**100.0**
Mean± SD	33627.2727 ± 19569.97005	

Among the respondents, majority 55% were retired persons followed by 30% service holder, 8.2% were business persons, 5% were housewife and 1.8% were other persons (Figure I).

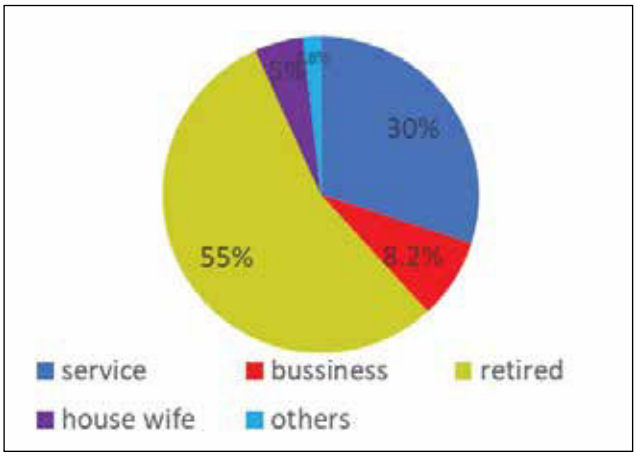

Figure I: Pie chart showing up distribution of the respondents by occupation (n=220)

The diagram showing, among the respondent's, majority 33.2% were up to SSC level, 28.6% were up to class viii, 20% were up to HSC, and 18.2 were Degree and above (Figure II).

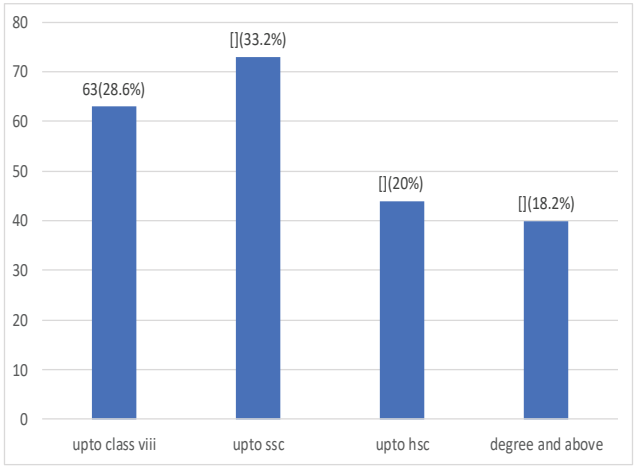

Figure II: Simple bar diagram showing up distributions of the respondents by education (n=220)

Table 3 showed the distribution of the variables on associated to quality of life those are risk factors of IHD. Multiple response analysis was done considering of coexistence of variables in same respondent. Among the respondents, 83.6% had hypertension, 58.6% were diabetes,

Table 3: Distribution of the Respondents by Co-morbidities as Associated Determinants of Quality of Life (Multiple Response)

Comorbidity	Frequency	Percent
Hypertensive	184	83.6
Diabetic mellitus	129	58.6
Heart failure	53	24.1
Obesity	76	34.5
Hyperlipidemia	216	98.2

Table 4: Distribution of the respondents by disease related symptoms as factors associated to Quality of life

Symptoms	Not at all	A little bit	Moderately	Quite a bit	Extreme	Total
Tightness of chest	84.1	7.7	8.2	00	00	**100**
Stabbing pain In Heart	96.4	3.1	0.5	00	00	**100**
Feeling exhausted	68.7	22.7	7.7	00	0.9	**100**
Shortness of breath	91.4	3.6	4.5	00	0.5	**100**

24.1% were Heart failure, 34.5% were obese, and 98.2% were hyperlipidemia.

Table 4 showed the distribution of the respondents by disease related information. Four questions were asked on disease related information such as Tightness of chest, stabbing pain in heart, Feeling exhausted and Shortness of breath. The responses were categorized in five-point scale as 'Not at all', ' A little bit', 'Moderately', 'Quite a bit' and extreme. Regarding tightness of chest, 84.1% answered not at all,7.7% were a little bit, 8.2%s were moderately. stabbing pain in heart, 96.4% were answered not at all, 3.1% were a little bit, 0.5% were moderately. feeling exhausted, 68.7% were answered 'not at all', 22.7% were 'a little bit', 7.7% were moderately' and 0.9% were extreme. shortness of breath, majority of the respondents answered 'not at all'. 3.6%, 4.5 % and 0.5% respondents answered 'a little bit', 'moderately', extreme respectively.

Discussion

This study was a cross-sectional study. A total of 220 patients were purposively selected among the study population. The post coronary angioplasty patients attending out patient's department of Cardiology at CMH Dhaka for follow up were the sample of the study. The objective the study was to assess quality of life and associated factors among ischemic heart diseases patients following Angioplasty reported after 03 months or more attending at OPD of Cardiology, CMH Dhaka.

In this study, majority of the respondents were belonged to the age group 50 to 59 years (37.7%). The mean age of the respondents was 57.95 ± 9.83 and maximum age was 89 years and minimum age was 32 years. A study was conducted at cardiac center, BSMMU, Dhaka where the mean age of 100 patients was S5.24 ± 6.2 years which was nearer to the present study[9]. Another study conducted in Baghdad on HRQoL of patients after PCI which reflected that the highest frequency of patients in the age group of 54 to 60 years which was closer to the present study[7].

In this study, male respondents were 94.5% and female were 5.5% among the total respondents. A study carried out on QoL of PCI patients where the majority of patients were male (86.0%) which was closely similar to present study[8]. Another study conducted in Chine's patient after PCI with stent where the male respondents were 75.0% and female were 25.0% which was not same with our study[5]. It might be due to more female presence in their study.

The present study showed that 96.8% respondents were married, 0.5% widow, 2.7% widower and 0.0% unmarried. A study carried out which showed that 86% of the respondents were married and 5% were widower. which was not similar to our study[10].

This study revealed that education level of the respondents was 28.6% cases were up to class viii. 33.2% cases were up to SSC level, 20.0% cases were up to HSC level, 18.2% cases were degree and above. which was similar to the study[13]. Most of the respondents were class nine to SSC level because they were mainly service and retired Armed forces solders as their education level criteria for service were class nine to SSC level and following group of education status were above HSC level because this procedure needs specialized care and more cost involvement and this procedure was mostly availed by more educated and upper-class group.

This present study showed that 44.5% respondents resided in nuclear family followed by 20.5% resided in joint family and 35.0% resided in extended nuclear family. In a socio-demographic study of Bangladesh, it was found that 53.8% resided in nuclear family and 46.2% resided in joint family[11]. This finding was not similar to the finding of the present study. The reason may be majority of the respondents of the present study lived in urban area in nuclear family.

Regarding family size of the respondents 44.5% were two members and 20.5% were above two members and 35.0% were above four members. The respondents were mixture of maximum old and minimum new generation member of Bangladesh which correlates the family member size of the study.

In this study regarding occupation of the respondent's majority 55.0% were retired, 30.0% were service holder, 8.2% were business persons, 5.0% housewife and 1.8% were others. A study conducted on HRQoL of post PCI patients in Baghdad which reflected that the majority 43.0% respondents were service holder followed by 33.0% were retired and 9.0% housewife which was not similar to present study[7]. Serving and retired armed force personnel were freely entitled to treatments at CMH, so they reported major portion of the study. This study showed that mean family income of the respondents was Mean TK 33627.2727 ± 197569.97.

As per BBS, household family income and expenditure survey 2010, monthly family income was TK 11480[12]. This difference was due to the fact that coronary angioplasty care was mostly availed by high income group and educated

people. In this study, regarding religion of the respondent's majority 98.6% cases were Muslims, 0.9% cases were Hindus, 0.5% cases were Buddhist. A study carried out which showed that 99% of the respondents were Muslims, 0.9% were Hindus and 0.5% were Buddhist which was similar to the study[13].

Regarding disease associated co-morbidities variable of IHD of the respondents of the study 83.6% cases had hypertension, 58.6% cases suffered from diabetes mellitus, 24.1% cases suffered from heart failure, 98.0% cases had hyperlipidemia and 34.5% cases were obese. A study conducted in Dhaka on PTCA cases where the 36.0% patients suffered from hypertension. About 20.0% cases had diabetes mellitus, and 14.0% cases had family history of heart failure9 which was not similar to present study due increase NCD day by day. Another study conducted on RQ0l of PCI which revealed that 52.9% cases had hypertension, 13.9% cases suffered from diabetes mellitus and 20.2% cases had family history of heart failure[5]. The findings of family history of heart failure were nearly closer to present study.

Regarding disease related current symptoms associated to quality of life of IHD of the respondent's following angioplasty of the study, shows tightness of chest, 84.1% cases answered not at all, 7.7% cases were a little bit, 8.2% were moderately. Stabbing pain in heart, 96.4% cases were answered not at all, 3.1% were a little bit, 0.5% were moderately. Feeling exhausted, 68.7% were answered 'not at all', 22.7% were 'a little bit', 7.7% cases were moderately' and 0.9% cases were extreme. Shortness of breath, majority of the respondents answered 'not at all'. 3.6% cases, 4.5.0% cases and 0.5% cases answered 'a little bit', 'moderately', extreme respectively.

Conclusion:

This descriptive cross-sectional study aims to asses Socio-demographic and associated determinants affecting Quality of Life among Ischemic Heart Disease (IHD) patients following angioplasty Finally, study demands wide scale exploration among ischemic heart disease (IHD) patients from many more Cardiac Centers to make findings more generalized.

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Conflict of interest
No conflict of interest.
Financial Disclosure
The author(s) received no specific funding for this work.
Authors' Contributions
Hossain MZ, Waheduzzaman S, Ferdous A conceived and designed the study, analyzed the data, interpreted the results, and wrote up the draft manuscript. Ferdous A, Mazumder MK, Any OH, Zahan R was involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
Any inquiries regarding supporting data availability of this study should be directed to the corresponding author and are available from the corresponding author upon reasonable request.
Ethics Approval and Consent to Participate
Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants. All methods were performed according to the relevant guidelines and regulations.

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Original Article ***Open Access***

Study on Depression among Diabetic Patients

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Abstract

Background: Diabetes mellitus is associated with depressive symptoms, and comorbid depression in those with T2DM has been associated with adverse clinical profiles. **Objective:** The purpose of the study was to assess the pattern and severity of depression in diabetic patients. **Methodology:** This cross-sectional study intends to determine the severity of depression among diabetic patients with a pattern of distribution according to different socio-demographic characteristics. This study was conducted in the endocrine and psychiatry outpatient departments of Combined Military Hospital, Dhaka from 1st January to 30th June 2015. In the following study, 100 diagnosed diabetic patients were included purposively according to selection criteria. The Beck Depression Inventory Scale (BDI-II) was employed to identify and categorize depression severity and further the distribution of severity was demonstrated according to variation of socio-demographic characteristics. Data was collected through a pretested semi-structured questionnaire through face-to-face interviews. **Results:** According to the results, 64.0% of participants were below the age of 40 years and among them, 63.0% had depressive symptoms whereas 34.0% had moderate and 9.0% of patients were identified with a severe degree of depression. Moderate to severe degrees of depression were found to be highest among participants who were diagnosed with DM for 1 to 5 years and least in participants having DM for more than 15 years. **Conclusion:** According to the findings, diabetes mellitus has shown an early onset among the young population and newly diagnosed patients suffer more from various degrees of depression. Screening of depression is therefore exceedingly obligatory for diabetic patients and should be brought under treatment accordingly to lessen the detrimental consequence of DM while accompanied by depressive disorders. *[Journal of Army Medical College Jashore, July, 2024;5(2):35-39]*

Keywords: Depression; diabetes;

Introduction

The incapacity of the body to use insulin results in diabetes mellitus (DM), a chronic metabolic disease. It can be classified as either type 1 or type 2 diabetes mellitus[1]. Globally, DM is becoming more common; by 2030 almost 438 million people are predicted to be affected by diabetes. Diabetes accounts for more than 70% of morbidity and 88% of mortality in low- and middle-income nations[2,3]. One of the most typical and severe mental illnesses among individuals with diabetes mellitus is depression. Although depression can affect anyone, diabetics may be particularly vulnerable supported by previous studies[4,5]. Between 12 and 28% of people with diabetes have anxiety and depression, and this number is significantly higher than in the general population as negative mood rankings seem to be linked to elevated sugar levels[6-9].

Earlier studies conducted in Bangladesh revealed that between 15.3% to 36% of diabetic patients additionally suffered from depression[10-12]. Increased morbidity and mortality are independently linked to depressive or anxiety disorders and diabetes. When these conditions coexist, expenses, morbidity, and mortality increase as well[13]. Bangladesh constitutes one of the top ten nations with a

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large percentage of adult cases of undiagnosed T2DM and the burden of T2DM results in significant costs for both patients (US $88 annually) and providers (US $54–64 annually)[14,15]. Even though T2DM patients have a high rate of comorbid depression, depression is frequently misdiagnosed and untreated in primary healthcare settings even though the data points to a significant role depression plays in the progression of diabetes[16,17]. Nonetheless, distinct environmental factors (epigenetic factors) might ultimately activate shared pathways that support depression and DM2. Low socioeconomic status is a significant factor that contributes to the risk of type 2 diabetes but seems to be a contributing factor to depression as well[18,19].

This study can provide insights into tailoring treatment plans, allowing clinicians to address both conditions simultaneously for more effective outcomes. Moreover, to optimize medication management by considering the potential impact of antidepressants on diabetes and vice versa, ensuring a balanced approach to treatment. Addressing depression clinically helps to prevent complications such as poor glycemic control, reducing the risk of diabetic complications. So integrating mental health assessments into diabetes care promotes a holistic approach, enabling clinicians to provide comprehensive care that addresses both physical and mental health aspects. At the policy level, this study can have a significant role. Understanding the intersection of diabetes and depression aligns with national health priorities, enabling policymakers in Bangladesh to make informed decisions and allocate resources effectively to address these prevalent health concerns and ultimately contributing to reducing the economic burden associated with healthcare costs and productivity losses, promoting a healthier, economically stable population by ensuring comprehensive healthcare. The purpose of the study is to assess the pattern and severity of depression in diabetic patients.

Methodology

This was a cross-sectional descriptive study. A semi-structured questionnaire containing items to elicit socio-demographic information (e.g. age, gender, resident, marital status, occupation, monthly income, level of education, etc.), and relevant information about co-occurring physical and psychological illnesses. This study was conducted in endocrine and psychiatry outpatient departments of Combined Military Hospital, Dhaka from 1st January to 30th June 2015. A selected purposive sampling method was applied and 100 patients were taken for this study.

The Beck Depression Inventory scale (BDI-II) was used to assess the symptoms of depression. The BDI scale is split into 21 domains and within each domain separate symptoms are rated from 0 (Absent) to 3 (Severe)[20]. After getting approval of the research proposal from the respected faculty members AFMI, formal permission was obtained from the concerned authority to conduct the research activity in Combined Military Hospital (CMH), Dhaka.

Before data collection, the concerned authority was briefed about the purpose of the research and they extended their cordial support. Adult diabetic patients from both genders were included in this study. Patients (subjects) and key relatives were informed about the scope and limitations of the study. Written (or verbal) consent was obtained from the patient (subject) is from parents if the patient (subject) was unable to give reliable information. Confidentiality of the patient (subjects) about personal information was strictly maintained. The study did not cause any environmental hazards. Psychiatric cases were advised to attend psychiatry outpatient for treatment. At the end of data collection, a review to detect and gather missed data was carried out. Then the code filled up in each completed data sheet at the end of each working day. The collected data were entered into the computer with the help of the software SPSS (Statistical Package for Social Science) for Windows version 21.0.

For descriptive analysis of data, various descriptive statistics like frequencies, measures of central tendency like mean, median, mode and measures of dispersion like standard deviation were shown in tabular forms. The mean and standard deviation (SD) were calculated for continuous variables whereas frequency and percentage for categorical variables.

Results

Table 1 shows that 41 % of the patients were from 31-40 years of age and the mean age was 38.70 years; SD ± 07.616, very less of the patients were from > 51 years of age (7%) (Table 1). Results from this table also show that the majority of the respondents had SSC (23%) followed by primary (22%) or equivalent level of education.

Table 1: Distribution According to Age and Level of Education of The Respondents (n= 100)

Variables	Frequency	Percent
Age Group		
21 to 30 Years	17	17
31 to 40 Years	47	47
41 to 50 Years	29	29
51 and Above	7	7
Mean age ± SD	38.70 ± 07.616 Years	
Level of Education		
Illiterate	3	3
Primary	22	22
JSC/ Equivalent	15	15
SSC/Equivalent	23	23
HSC/ Equivalent	16	16
Graduate	19	19
Post-Graduate	2	2

According to Figure I, about 60.0% of patients were male, and 40.0% of patients were female. Data from that figure also shows that 62.0% of respondents were from urban whereas 38.0% were rural residents.

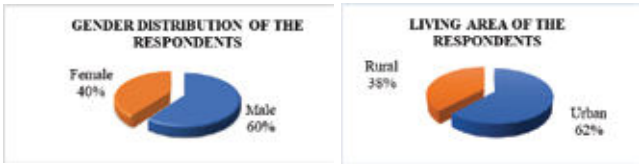

Figure I: Distribution of the Respondents according to Gender and Living Area (n= 100)

The results also showed that 63.0% of the patients had depressive symptoms who were suffering from diabetes for 1 to 5 years and 33.0% of patients had depressive symptoms with a history of diagnosed diabetes for 6-10 years (Table 2).

Table-2: Distribution of respondents by Socio-economic characteristics (n=220)

Duration of Diabetes Mellitus	Frequency	Percent
1 To 5 Years	63	63
6 To 10 Years	33	33
11 To 15 Years	3	3
15 Years above	1	1
Total	**100**	**100.0**

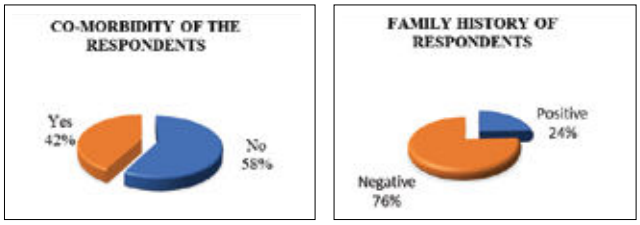

Figure II: Distribution of the respondents according to co-morbidity and family history of psychiatric illness (n= 100)

About 24.0% of patients had a positive family history of psychiatric illness and 42.0% of patients had co-morbidity (Figure II).

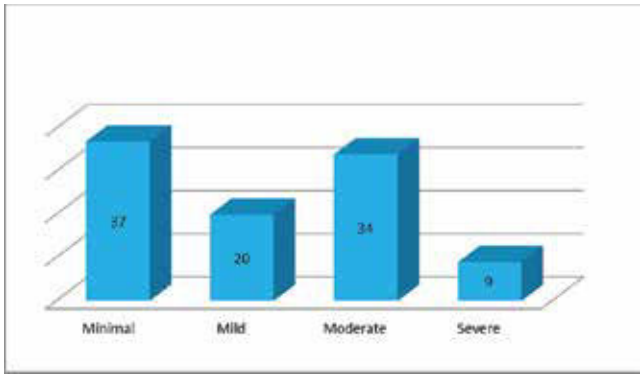

Figure III: Distribution of Respondents According to the Severity of Depression (n= 100)

Table 3: Distribution of Depressive Symptoms According to The Socio-Demographic Characteristics and Duration of Diabetes Mellitus (n= 100)

Attributes	Minimal symptoms of depression	Mild symptoms of depression	Moderate symptoms of depression	Severe symptoms of depression
Educational Status				
Illiterate	0	2	0	1
Primary	6	6	7	3
JSC/ Equivalent	2	4	7	2
SSC/Equivalent	8	4	10	1
HSC/ Equivalent	6	3	7	0
Graduate	13	1	3	2
Post-graduate	2	0	0	0
Occupation				
Service	14	14	20	3
Student	5	1	5	0
Housewife	15	4	7	4
Retired	3	1	2	2
Duration of diabetes				
1 to 5 Years	24	13	20	6
6 to 10 Years	13	6	12	2
11 to 15 Years	0	1	1	1
15 Years Above	0	0	1	0

Figure III shows the distribution of the respondents according to the severity of depression symptoms. This bar diagram shows that 37.0% of patients had minimal absent of depressive symptoms, 20.0% of patients had mild, 34.0% of patients had moderate and 9.0% of patients had severe symptoms of depression. So, the respondents who were suffering from depression had mostly moderate levels of symptoms. Table 3 shows more depressive symptoms present in the early onset of the disease (1-5 years). Depression was more in the initial stage of diabetes. It indicates that the less the duration of DM, it occurs the more symptoms of depression. Most of the patients were literate and had depressive symptoms. Moderate depressive symptoms were more common among the SSC-passed group (10%) followed by the same in frequency who had primary (7%) and JSC level of education.

Table 3 also had showed that 51.0% of patients were service holders having depressive symptoms, 30.0% of patients were housewives, 11.0% of patients were students and 8.0% of patients were retired having depressive symptoms. So, service holders had more frequency of depressive symptoms.

Discussion

This cross-sectional descriptive study on 100 diabetic patients was carried out in the outpatient department of Combined Military Hospital, Dhaka from January to June 2015 to find out the prevalence of depression among diabetic patients in a tertiary care hospital in Bangladesh. Our study showed that 63% of the screened patients are potential cases of depression. There is an established link between diabetes and depression. The prevalence of co-morbid depressive symptoms in diabetic patients has been reported to range from 9% to 60%, depending on the screening method[6]. The difference may be explained by the different socio-cultural backgrounds of patients and different tools used to evaluate depressive symptoms. The high BDI II scores found in this study should be understood as not being indicative of depression. Conversely, elevated scores suggest the existence of depression-related symptoms, necessitating additional clinical consultation to arrive at a conclusive diagnosis. Among the patients in our study who may have been depressed, the majority were female, had several co-occurring illnesses, were not well educated, and had poor medication compliance. Between patients with diabetes and those who also have co-morbid depression, several sociodemographic factors were compared. A total of 47 percent of patients are between the ages of 31 and 40, while 29 percent are between the ages of 41 and 50, 17 percent are between the ages of 21 and 30, and 7 percent are between the ages of 51 and above.

According to sex distribution, 60% are male and 40% are female. This difference was statistically significant. It reflects that males come to hospital for treatment and females are neglected. Married patients are always in stress with their families and also very depressed due to the future of their children because of diabetic illness. Of all patients 62% live in urban areas and 38% in rural areas. Data was collected from central Dhaka city so the maximum patients live in urban areas. Occupation of the patients showed that 51% are service holders, 30% are housewives, followed by 8% retired and 11.0% are students. The Combined Military Hospital is a service hospital for armed forces personnel and most patients who come from urban areas. In the urban area, people are engaged in different jobs. According to socioeconomic conditions, 73% belong to the middle group (monthly income of Taka 5000 to Taka 10000) followed by 21% lower group (monthly income up to Taka 5000) and 6% to the upper class (monthly income above taka 25000). Bangladesh is a country of lower to middle group of income people. Of all patients, 24% patients had a family history of psychiatric illness. A positive family history is a very important factor for any kind of psychiatric illness including depression.

About 63% of the patients with diabetes had the disease for one to five years, followed by 33% of patients with the disease for six to ten years, 37% of patients with the disease for eleven to fifteen years, and 1% of patients with the disease for sixteen years or more, all had depression. Depression presents the highest 47% among the 31-40 years age group followed by 29% 41-50 years age group,17% in the 21-30 years age group, and 7% in the above 51 years age group. The difference between age groups was statistically significant. Similar results were found in another study where they found that diabetics as young patients who have depression nearly three times more than older[7]. Depression was found more among the patients who take education up to secondary level (73%), followed by up to HSC level (87%), and found lowest among the patients who have graduated and above (31%). Similar to results from other studies, having a high level of education lowers the likelihood of being diagnosed as a depressed patient[8, 9]. Eighty percent of patients who were not receiving diabetes treatment also had depression. There was a significant correlation found between treatment non-adherence and depression, according to a systematic review of treatment adherence among people with diabetes and depression[10]. Compared to male patients (55%), female patients were found to be 75.0% more depressed. There was a statistically significant difference between the patients who were male and female. According to Egede et al., diabetic patients who were female had a higher risk of depression than those who were male[7].

According to a study, women comprised over 70.0% of those with scores of at least 16. The prevalence of depression in women is in line with previous research findings. A meta-analysis conducted by Anderson et al. revealed that diabetes doubles the risk of depression and that it is more common in women (18%) than in men (28.2%), this finding has been confirmed in several recent studies[11–16].

There are some limitations of the study. The study had been conducted within a short period, so further studies need to be planned to establish the findings from this study. Study samples were collected from one hospital in a metropolitan area hence it may not represent the whole population of the country. The sample size was small. Depressive symptoms along with treatment and treatment outcome could not be evaluated. A purposive sampling method is used.

Conclusion:

Results of this cross-sectional study showed that diabetes mellitus was prevalent at a young age and depression was found with variable degrees of severity which was unaddressed. This frequency was found to be more among new patients diagnosed for diabetes mellitus. According to these findings, it is suggested that screening of depression in diabetes patients should be done regularly as global studies showed the likelihood of depressive symptoms is approximately double compared to the general population which is often linked with adverse clinical profiles, including poorer glycemic control. Despite their importance, recognizing and addressing depressive symptoms in diabetic patients remains a significant clinical challenge that is recommended to be emphasized at the policy level.

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Authors' Contributions
Hassan MK, Islam MA conceived and designed the study, analyzed the data, interpreted the results, and wrote up the draft manuscript. Islam MA, Hasan MK, Kamal AKM was involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
Any inquiries regarding supporting data availability of this study should be directed to the corresponding author and are available from the corresponding author upon reasonable request.
Ethics Approval and Consent to Participate
Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants. All methods were performed according to the relevant guidelines and regulations.

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Original Article ***Open Access***

Demographic Study of Oral Squamous Cell Carcinoma Patients Attending Tertiary Level Hospital in Sylhet District of Bangladesh

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Abstract

Background: Oral cancer is one of the most prevalent cancers in the world. Cancers arising from the oral cavity are mostly squamous cell carcinoma. **Objectives:** This study aimed to evaluate the epidemiologic profile of patients with oral squamous cell carcinoma (OSCC). **Methodology:** This cross-sectional observational study was conducted at the Department of Pathology, Sylhet MAG Osmani Medical College, from July 2021 to June 2022. A total of 53 (small biopsy and resected) OSCC cases were processed; paraffin blocks were made and stained with routine hematoxylin and eosin (H&E) stain. The sections were examined microscopically and the tumors were graded histologically. **Results:** Out of 53 cases of OSCC, the male-to-female ratio was 1:1.30. Thirty cases were female and twenty-three were male. Most of the cases (35/53) were found in the buccal mucosa (66.0%) followed by the tongue (18.9%). The mean age of the patients was 55.9 ± 14.5 years. 50.9% of patients were Grade I, 43.4% were Grade II and 5.7% were Grade III OSCC. **Conclusion:** OSCC is an emerging health concern. Strategies must be made to improve the present scenario of health care service. Build-up awareness, early diagnosis, management and follow-up of oral cancer must be implemented. *[Journal of Army Medical College Jashore, July, 2024;5(2):40-44]*

Keywords: OSCC, demography, epidemiology

Introduction

Cancer is the 2nd leading cause of death in developing countries[1]. Globocan 2020 predicted 19.3 million new cases and 10 million cancer deaths were estimated to occur in 2020 worldwide[2]. Oral cancer includes cancers of the lips, tongue, oral cavity, oropharynx, hypopharynx and pyriform sinus[3]. Oral cancer has taken the 6th position among the most common cancers worldwide[4]. More than 50000 people are diagnosed globally each year and about 30000 mortalities annually[5]. The highest prevalence was seen among the South Asian population[6]. Approximately 85% to 95% of all oral cancer is squamous cell carcinoma[6]. In 2020 the incidence rate of lip & oral cavity cancer in Bangladesh was 8.9% and it was the 3rd and 5th most frequent cancer for men & women respectively[2]. The elderly population, which is older than 50 years, is commonly affected[7]. One study conducted in Dhaka Dental College in 2012 showed that 22% of admitted patients suffered from oral cancer[8].

Though the examination of the oral cavity does not require any special instrument, around 50% of patients with oral cancer present lately with advanced-stage disease, 40% of cases present with regional metastases and 6% with distant metastases at the moment of diagnosis[9]. The proportion of patients presenting with late-stage disease has not reduced in the past four decades[10]. Late presentation of oral cancer requires more radical treatment which leads to poor prognosis. It is also associated with additional treatment burden and worse health-related quality-of-life outcomes. The TNM system, developed by the American Joint Committee on Cancer (AJCC), divides cancer patients into several phases according to the underlying tumor's features. The letters T, N, and M stand for tumor size, lymph node involvement, and metastasis, respectively.

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Oral cancer affects males more frequently than females, although the ratio is equalizing nowadays. In recent times, an increased number of cases has been reported in elderly females as well as young females and middle-aged and older persons are predominantly affected by it[11]. However, the incidence of OSCC in persons under the age of 45 is increasing[12]. The predominant location of oral squamous cell carcinoma varies on gender. In the case of males, the border of the tongue, floor of the mouth/ventral tongue and alveolar mucosa/gingiva are the most frequent sites of oral squamous cell carcinoma while in the case of females, the most frequent sites are the border of the tongue, alveolar mucosa/ gingiva and buccal mucosa/ buccal sulcus. carcinoma in our oral cavity is the border of the tongue, alveolar mucosa/gingiva and floor of the mouth/ ventral surface of the tongue[13].

The incidence rate of different types of cancer varies widely depending on geography, dietary habits, socioeconomic conditions & lifestyles[14]. The International Agency for Research on Cancer (IARC) stated that cancer-related deaths in Bangladesh were 7.5% in 2005 and projected to be 13% in 2030[15]. Such an increasing death rate with a high number of patients leads to the increasing demand for studies on OCC in Bangladesh. Therefore, this study was conducted to describe the demographic and clinicopathological profile of cases of OSCC reported at the Pathology Department in Sylhet MAG Osmani Medical College, Sylhet, Bangladesh from July 2021 to June 2022.

Methodology

Study Design and Study Population: This cross-sectional observational study was carried out in the Department of Pathology Sylhet MAG Osmani Medical College, Sylhet, Bangladesh from July 2021 to June 2022. The sample size was 53 and the sampling technique was convenient sampling.

Study Procedure: Among 53 cases, 41 tissue samples were taken from the Department of Otolaryngology & Head-Neck Surgery and the Department of Oral & Maxillofacial Surgery, Sylhet MAG Osmani Medical College, Sylhet, Bangladesh and 12 paraffin blocks were collected from other private hospitals of Sylhet city. These samples were chronologically grossly examined, and then tissue processing, hematoxylin and eosin staining, and microscopic examination were done. Detailed clinical information was obtained by taking history and recorded in a data collection sheet. Filling up of the data sheet was performed in all cases either from the patient or patient's attendant's statement and the patient's clinical and investigation files.

Statistical Analysis: SPSS version 21 was used as a tool for data analysis. Frequency tables, bar diagrams and pie charts were employed for the descriptive statistics.

Ethical Consideration: The Ethical Institutional Review Board (IRB) granted formal ethical approval for the study's conduct. Every respondent gave their informed written consent before data collection after being fully briefed about the study's objectives. Every participant received the same respect and treatment. Confidentiality and privacy were carefully preserved, and the interviews took place separately. The participants were made aware of their right to withdraw from the study at any time before the interview. They were reminded that the data collected for the study would only be used by the research team and would not be shared with anybody else.

Results

A total of 53 cases of histopathologically confirmed OSCC were included in this study. Among these fifty-three (53) studies cases, 30.2% of the patients were from the 51-60 age group. The mean age of the patients was 55.9 ± 14.5 years. 56.6% of patients belonged to females with a male-female ratio is 1:1.30. Most of the tumors were found in buccal mucosa (66.0%) followed by tongue (18.9%). Rest was in the retromolar area (7.5%), lip (5.7%) and angle of mouth (1.9%).

Distribution of the study cases according to gender: Out of fifty-three (53) cases, 30 (56.6%) of the study cases were female. The remaining 23 (43.4%) cases were male and the ratio of males and females is 1:1.30 (Figure I).

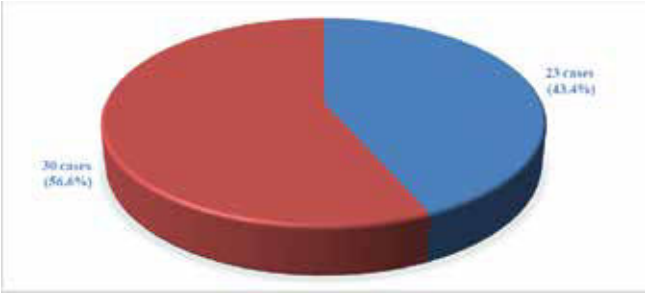

Figure I: distribution of the study cases according to gender (n=53)

Distribution of the study cases according to age: In this study, fifty-three (53) samples were included. Among them, most of the study cases were in the age group 51 to 60 years (16 cases, 30.2%). The least number of the study cases were in the age group ≤40 years (10 cases, 18.9%). The age range

Table 1: Distribution of the Study Cases according to Age Group (n=53)

Age Group	Frequency	Percent
≤ 40 Years	10	18.9
41 to 50 Years	12	22.6
51 to 60 Years	16	30.2
More Than 60 Years	15	28.3
Total	**53**	**100.0**
Mean ± SD	55.9 ± 14.5	
Range(min-max)	25-105 years	

from 25 to 105 years and the mean age was 55.9 ± 14.5 (Table 1).

Distribution of the study cases according to the anatomic site of OSCC: Out of fifty-three (53) study cases, the most frequent anatomic site of OSCC was buccal mucosa 35 (66.0%) followed by tongue 10(18.9%), retromolar area 04 (7.5%), lip 03(5.7%) and at angle of the mouth 01 (1.9%) (Table 2).

Table 1: Distribution of the Study Cases according to Age Group (n=53)

Anatomic Site	Frequency	Percent
Buccal mucosa	35	66.0
Retromolar area	04	7.5
Lip	03	5.7
Tongue	10	18.9
Angle of the mouth	01	1.9
Total	**53**	**100.0**

Distribution of the study cases according to histologic grades of OSCC: Histological grading of OSCC was done according to Broder's criteria recognized by WHO. Out of fifty-three (53) cases, 27 (51%) cases were Grade-I, 23 (43%) cases were Grade-II and 03 (6%) cases were Grade-III (Figure II).

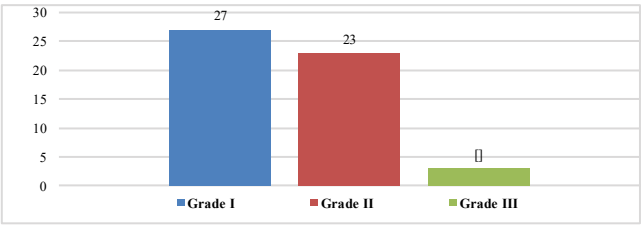

Figure II: distribution of the study cases according to histologic grades of OSCC (n=53)

Distribution of histological grade of OSCC and gender of the patients: The distribution of histological grade and gender of the patients was done. It shows female predisposition (Figure III).

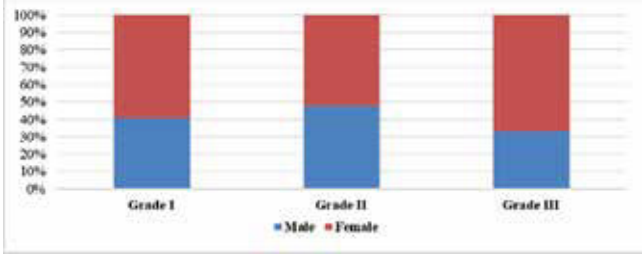

Figure III: distribution of histological grade of OSCC and gender of the patients

Association between the anatomical site of OSCC and gender of the patients: The most common sites of OSCC, in both male and female patients were found to be buccal mucosa (66%), tongue (19%) and retromolar area (7.5%). The association between anatomical site and gender of the patients was done and the result was not statistically significant (p=0.11) (Table 3).

Table 3: Association anatomical site and gender of the patients (n=53)

Ana Site	Female	Male	Total	P
Buccal mucosa	23 (77%)	12 (52%)	35 (66%)	0.11
Tongue	4 (13%)	6 (26%)	10 (19%)	-
Retromolar area	2 (6.7%)	2 (8.7%)	4 (7.5%)	-
Lip	0 (0%)	3 (13%)	3 (5.7%)	-
Angle of mouth	1 (3.3%)	0 (0%)	1 (1.9%)	-

Association between the histological grade of OSCC and the gender of the patients: There was no statistically significant association between the patients' histological grade and gender (p=0.9) (Table 4).

Table 4: Association histological grade and gender of the patients (n=53)

Hist Grad	Female	Male	n	P
G-1	16 (53%)	11 (48%)	27 (51%)	0.9
G-2	12 (40%)	11 (48%)	23 (43%)	-
G-3	2 (6.7%)	1 (4.3%)	3 (5.7%)	-

Distribution of the study cases according to histological grade of OSCC and age:
This study examines the onset of oral squamous cell carcinoma (OSCC) and it shows the appearance of Grade-I OSCC in individuals as young as 25 years and the later onset of Grade-III around the age of 50 (Table 5). It highlights how age may influence the aggressiveness and progression of the disease.

Table 5: Distribution of histological grade of OSCC and age (n=53)

Hist Grad	Age			
	Min	Max	Mean±SD	n
G-1	25.0	75.0	51.2 ± 12.7	27
G-2	35.0	105	61.0 ± 15.5	23
G-3	50.0	70.0	60.0 ± 10.0	3

Association between histological grade of OSCC and age group of the patients: The association between the patients' histological grade and age group was done, and the result was not statistically significant (p=0.475) (Table 6).

Table 6: Association histological grade and age group of the patients (n=53)

Pearson chi-square test	Value	df	P
X2	5.552	6	0.475
N	53		

Discussion

This article provides significant insights into the demographic patterns and possible clinical grades of OSCC in a specific population. This study is crucial in understanding the epidemiology of OSCC in Sylhet, Bangladesh, and can help formulate targeted health strategies.

The study demonstrated that a particular age group and gender are more susceptible to OSCC. Understanding the age and gender distribution helps target preventive measures and raise awareness among high-risk groups. In the present study, out of 53 cases, females (56.6%) were affected more than males (43.4%); this gender predominance was also observed by Kadeh et al[16]. However, in contrast to the findings of the study, Hussein et al. reported that males were more affected than females[5]. A study conducted by Sultana and Malik observed that both males and females were equally affected[14].

In this study, most cases (30.2%) belonged to the age group of 51-60 years and the mean age was 55.9 years. Hussein et al.; and Sultana and Malik reported that the mean age was 49.1 years, and 52 years respectively[5,14]. These are almost similar to our study.

These variations of age and gender might be due to patterns of socioeconomic characteristics, lifestyle, behavioural factors and environmental factors. More well-designed large-scale epidemiological studies will be required to explain the reasons for variation. Determining such parameters can help with the development of regional OSCC preventive initiatives.

The demographic study highlights common clinical presentations and the stage at which patients typically seek medical help. Early diagnosis is critical for better prognosis, and the findings may suggest a need for better screening programs and early detection initiatives in the region. The majority of OSCCs in the present investigation originated from the buccal mucosa 35 (66%) and the tongue 10 (19%). Regardless of lymph node involvement, Talukder and Goswami concluded that only 24.4% of cases originate from the tongue and 46.5% from the buccal mucosa[17]. However, Zhou et al reported that the tongue was the most common site accounting for 54.7% of OSCC[18]. gingiva and buccal mucosa with gingivobuccal sulcus were the commonest sites of OSCC observed by other studies[16,19]. The association between anatomical site and gender of the patients was done though the association was not statistically significant (p=0.11). Similar findings were reported by Tandon A. et al[20].

In the present study, out of 53 study cases, most of the cases were Grade-I (51%) OSCC followed by Grade II (43%) and Grade III (6%). Predominantly Grade-I OSCC was also observed by Khan HR, Patil BU, Gangane NM; Kadeh H, Saravani S, Moghadam, EM; Talukder and Goswami which were 50%, 46%, and 59% respectively[16,17,19]. Zhou et al. reported that Grade-II OSCC was 50% which was not in concordance with this study[18]. According to Hussein et al., Grade-III OSCC was 42.67%, which is not consistent with the results of this investigation[5]. This could be a result of the study's lack of multicenter design, a small sample size, and enrollment of tiny biopsy specimens.

In the present study, the association between histological grade and gender of the patients was observed and the result was not statistically significant (p=0.9).

The association between the patients' histological grade and age group was done, and the result was not statistically significant (p=0.475).

Conclusion

This study confirms previously established demographic factors such as age, gender, and site distribution for OSCC in the Sylhet division of Bangladesh. There is more risk of OSCC in middle-aged group participants predominantly female. Buccal mucosa and tongue were the most common sites for OSCC. The clinicopathological profile of OSCC patients showed that the majority of patients presented with well-differentiated carcinoma. The burden of oral cancer has been increasing in our countries, especially in Sylhet; hence, findings could support the development of policies aimed at controlling cases and increasing national-level public awareness programs is a demand of the time for prevention, early detection and diagnosis. Policies must be developed to control instances and increase national-level public awareness campaigns due to the rising incidence of oral cancer in our countries, particularly in Sylhet. Prevention, early detection, and diagnosis are priorities at this point.

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No conflict of interest.
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Authors' Contributions
Khaliduzzaman F and Rahman MS conceived and designed the study, analyzed the data, and interpreted the results. Zaber M, Faroque AA and Karim SN wrote up the draft manuscript. Khaliduzzaman F was involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
For any inquiries concerning the availability of the study's supporting data, which are provided upon reasonable request, feel free to contact the corresponding author.
Ethics Approval and Consent to Participate
The Institutional Review Board granted the study ethical approval. Every study respondent provided written informed permission. All work was carried out following the applicable rules and regulations.

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Original Article ***Open Access***

Study of Acne Scar Formation and Its Correlation with the Severity and Management of Active Acne

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Abstract

Background: Acne vulgaris is a persistent dermatological condition that manifests with a range of skin lesions, including open and closed comedones, pustules, papules, and cysts, depending on its progression. Inadequate treatment choices or the presence of severe acne vulgaris can result in the development of atrophic scars. **Objective:** The purpose of the present study was to assess the formation of acne scars and its connection to both the severity of active acne and its treatment. **Methodology:** This cross-sectional study was conducted at the Dermatology and Venereology outpatient department of Khwaja Yunus Ali Medical College and Hospital, Enayetpur, Sirajgonj, Bangladesh spanning a duration of 12 months. The research involved assessing the nature, locations, and extent of acne scars, along with documenting information regarding the severity of acne and its treatment. The study encompassed patients from various age groups seeking treatment for acne scars. **Results:** In this study, the largest proportion (40.5%) of participants fell within the age group of 31-40 years, with an average age of 27.99±8.21 years. The majority of the participants were male (63.5%), while 36.5% were female. Acne vulgaris predominantly affected the facial region, with the cheeks (91%), forehead (43%), jaw (51%), chin (27%), and nose (16%) being the most commonly involved areas. Additionally, the back (57%), chest (24%), and arms (11%) were also affected, although to a lesser extent. Among the observed acne lesions, comedones were the most prevalent (53.5%), followed by papules (52%), pustules (43%), nodules (29%), and cysts (2.5%). The severity of acne varied, with 20.5% classified as mild, 27.5% as moderate, and 52% as severe. The majority of acne scars observed were of the ice pick type (90.5%), followed by rolling scars (83.5%), boxcar scars (52.0%), and hypertrophic/keloidal scars (9.0%). In terms of acne scar grading, 19% were macular, 14.0% were mild, 28.0% were moderate, and 39.0% were severe. **Conclusion:** The research identified that a significant portion of individuals with ongoing acne tends to postpone treatment, resulting in a higher likelihood of developing acne scars. Notably, ice pick scars emerged as the predominant type of acne scars, with a higher prevalence among males. *[Journal of Army Medical College Jashore, July, 2024;5(2):45-49]*

Keywords: Acne; treatment; keloidal; post-acne scars

Introduction

Acne is a prevalent, chronic inflammatory skin condition that typically affects the majority of teenagers and young adults. The development of acne vulgaris is attributed to a complex interplay of factors. The key factors identified in the pathogenesis of active acne lesion formation and scarring include: increased sebum production, abnormal keratinization of hair follicles, the inflammatory impact of Propionibacterium acnes and other natural skin flora, and immune responses[1-4].

While numerous topical and systemic treatments have been employed for acne vulgaris, a significant number of patients exhibit poor compliance with these therapies. Some individuals refrain from using these treatments due to factors such as time constraints, personal preferences against medication use, or fear of potential side effects[3-5]. However, it's important to note that acne vulgaris poses a

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significant cosmetic concern for many young individuals and often necessitates extended treatment to prevent complications, such as scarring[1,3,5].

The utilization of lasers in the treatment of active acne vulgaris has been a subject of debate, with varying assessments of their efficacy. For instance, one study demonstrated the effectiveness of Diode laser therapy in clearing lesions after three sessions spaced two weeks apart, while another study using Pulse Dye Laser (PDL) reported the clearance of inflammatory acne vulgaris lesions after just one session. However, an additional study employing Diode laser did not yield significant improvement in facial acne[1-3]. Given that laser treatments are expensive, yield inconsistent results, and are not universally accessible, there is a pursuit for a simpler, more readily available, and cost-effective alternative therapy for active acne vulgaris, such as the use of acids as peeling agents[2,3,5].

Scarring represents one of the most distressing consequences of acne, driving many patients to seek surgical interventions[2,4,5]. These scars are often accompanied by significant psychosocial challenges that can profoundly impact an individual's quality of life. Research indicates that as many as 95.0% of individuals with active acne display some degree of facial scarring, with the extent and severity of scarring being influenced by delayed treatment and the severity of the acne itself. Acne scarring can be broadly categorized into two types: excessive tissue formation, encompassing hypertrophic and keloid scars, and more commonly, tissue loss, including ice pick, rolling, and boxcar type scars[2-4]. The surgical management of acne scarring is tailored to the specific morphological characteristics of the scars[4-5]. This study was aimed to assess the presence of acne scarring and explore its relationship with the severity of active acne and the corresponding treatment strategies.

Methodology

Study Settings and Population: This cross-sectional study was conducted at Khwaja Yunus Ali Medical College, Enayetpur, Sirajgonj, Bangladesh over a span of 12 months. The study enrolled patients of all age groups seeking treatment for acne scars.

Study Procedure: Data collection involved recording patient demographics, including the age of initial acne onset, its average duration, lesion locations (with the aid of photographic examples for patients' recognition of features), family history of acne vulgaris, the time gap between acne onset and treatment, and treatment specifics for active acne. Severity assessment of acne followed the grading system developed by Lehmann et al6. Additionally, information regarding drug exposure, sun exposure, seasonal variations, stress, and premenstrual flare history was collected. Factors suggestive of hormonal imbalances, such as obesity, hirsutism, and alopecia, were also noted. The second section of the study focused on documenting the morphology, quantity, and locations of post-acne scars. Severity grading of acne scars was carried out using Goodman and Baron's qualitative global scarring grading system[7].

Statistical analysis: Statistical analysis of the gathered data was performed using the Statistical Package for the Social Sciences (SPSS), version 25.

Results

This study shows maximum (40.5%) were age group 31-40 years. The average age was 27.99±8.21 years. Majority (63.5%) were male and 36.5% were female (Table 1).

Table 1: Sociodemographic characteristics of the study subject (n=200)

Characteristics	Frequency	Percent
Age Group		
• ≤20 years	41	20.5
• 21 to 30 years	78	39.0
• 31 to 40 years	81	40.5
Mean±SD	27.99±8.21	
Gender		
• Male	127	63.5
• Female	73	36.5

Face was involved in all the patients with acne vulgaris, which included the cheeks (91%), forehead (43%), jaw (51%), chin (27%), and nose (16%). This was followed by the involvement of the back (57%), chest (24%), and arms (11%) (Table 2).

Table 2: Distribution of site of acne (n=200)

Site	Frequency	Percent
Face	200	100
• Cheek	182	91
• Forehead	86	43
• Jaw	102	51
• Chin	54	27
• Nose	32	16
Back	114	57
Chest	48	24
Arm	22	11

The most common type of lesion predominantly observed was comedones (53.5%) followed by papules (52%), pustules (43%), nodules (29%), and cysts (2.5%) (Table 3).

Table 3: Distribution of type of acne (n=200)

Type	Frequency	Percent
Comedones	107	53.5
Papule	104	52.0
Pustule	86	43
Nodule	58	29
Cyst	5	2.5

About 20.5% were mild acne, 27.5% were moderate acne and 52% severe acne (Table 4).

Table 4: Distribution of severity of acne (n=200)

Severity	Frequency	Percent
Mild	41	20.5
Moderate	55	27.5
Severe	102	52

Maximum (90.5%) were ice pick followed by rolling (83.5%), boxcar (52.0%) and hepertrophic or kleoidal scar (9.0%) (Table 5).

Table 5: Distribution of Type of acne scars (n=200)

Type of Acne Scars	Frequency	Percent
Ice pick scar	181	90.5
Rolling	167	83.5
Boxcar	104	52
Hypertrophic/keloidal scar	18	9

About 19.0% were macular acne scar, 14.0% were mild acne scar, 28.0% were moderate acne scar and 39.0% were severe acne scar (Table 6).

Table 6: Distribution of Severity of acne scar (n=200)

Severity	Frequency	Percent
Macular	38	19
Mild	28	14
Moderate	56	28
Severe	78	39

The study revealed 62% severe acne scarring with 10% moderate scarring among 200 patients (Table 7).

Discussion

Acne scarring, a common and persistent complication arising from acne vulgaris, afflicts a significant portion of the population. Despite its widespread occurrence, no single treatment approach has demonstrated universal effectiveness, posing a considerable challenge for healthcare providers[7,8]. However, there exists a range of methods for addressing acne scars, each with its own advantages and disadvantages. The choice of the most suitable treatment for an individual patient should take into account various factors, including the scar type, treatment efficacy, potential side effects, the expertise of the treating physician, and the patient's expectations[3,7,9]. This current study explores the relationship between the severity of acne scarring and the treatment of active acne. The study's findings are presented and compared with relevant previously published research.

In this study, it was noted that there were more male participants compared to females, with a male-to-female ratio of 1.70:1. This discrepancy may be attributed to the higher prevalence of severe acne vulgaris in male patients, which can progress to acne scarring, as documented in previous studies[5,10]. These studies reported a male-to-female ratio of 1.56:1. The average age at which patients presented with acne scars in our study was 27.99±8.21 years. Our research also revealed that acne primarily affected the face in the majority of patients, followed by the back, chest, and arms. This distribution aligns with the understanding that acne is a disorder of the pilosebaceous unit, with lesions often appearing in regions rich in this unit[11]. These observations correspond with findings reported in the existing literature, which similarly highlight the predominance of facial acne lesions, followed by involvement of the back, chest, and arms. Acne is recognized as a polymorphic disease[7,8,9,10], and the most prevalent lesion type in our study was comedones (53.5%). This outcome is consistent with data from other research conducted worldwide[5]. These findings are in line with those reported by Kilkenny et al[10].

In this study, the Lehman grading system for acne revealed that a majority of patients who had acne scarring had a previous history of severe acne, accounting for 52% of cases. This finding aligns with the observations made by Goodman et al.[8] who also utilized the Lehman grading system and noted that most individuals with acne scarring had a history of severe acne, constituting 54% of their cases. Additionally, our study indicated that male patients tended to have more severe acne vulgaris compared to females (P=0.0001), which consequently resulted in more pronounced scarring.

According to various reports, early and effective intervention for acne vulgaris represents the most suitable approach to prevent scarring[12]. In our study, we observed that among the 80 patients who underwent treatment, 50 had delayed treatment by one year, and an additional 20 patients had never received any form of treatment. Among this group, 13 patients who had never received treatment developed severe-grade acne scarring, while 7 patients developed moderate-grade acne scarring. These findings are in accordance with similar research conducted globally, which has also noted the correlation between delayed treatment and

Table 7: Comparison between severity of acne vulgaris and severity of acne scarring (n=200)

Severity	Frequency	Macular	Mild	Moderate	Severe	P value
Mild	42	34(80.9%)	4(9.5%)	2(4.7%)	0(00)	
Moderate	54	14(25.9%)	18(33.3%)	12(22.2%)	10(18.5%)	p<0.01
Severe	104	0(0.0%)	0(0.0%)	42(40.4%)	62(59.6%)	

the development of acne scarring[8]. Chuah and Goh[13] reported comparable results, revealing post-acne scarring in 48% of patients who had delayed treatment for one year after the onset of their acne vulgaris, as well as in 12 patients (12%) who had never received any treatment.

Post-inflammatory hyperpigmentation is a frequently encountered complication among individuals with darker skin tones who have acne vulgaris. In our study, we observed this condition in 52% of our patients. Similar incidences of post-acne hyperpigmentation were also reported by Taylor et al.[14] and Yeung et al.[15] in their respective studies. Regarding the types of acne scars observed in our study, ice pick scars were the most prevalent, accounting for 90.5% of cases, followed by rolling scars (83.5%), boxcar scars (52%), and keloidal scars (9%). Adityan and Thappa[16] similarly identified ice pick scars as the most common type of acne scar, affecting 65.57% of their patients. Notably, keloidal scars were observed in four patients on the mandibular region and in six patients on the upper back, shoulder, and chest, with the majority of these cases occurring in male patients (9 patients). Additionally, our study revealed that patients expressed a greater concern for the treatment of facial acne scarring compared to scars on the chest and back.

In our study, we assessed the severity of acne scarring using the qualitative grading system developed by Goodman and Baron. We found that 19% of patients had macular grade scarring, 28% had mild scarring, 56% had moderate scarring, and 78% had severe scarring. Similar findings were reported by Goodman et al.[8] where 22 patients had macular grade scarring, 12 had mild scarring, 29 had moderate scarring, and 37 had severe scarring. Additionally, Chuah and Goh[13] observed that the majority of their patients had moderate-grade acne scarring (54%), with 22 patients having macular grade scarring, 12 with mild scarring, 29 with moderate scarring, and 37 with severe scarring.

Persistent inflammation in acne is responsible for damaging dermal collagen, which subsequently results in the formation of acne scars. Existing literature indicates that the severity of scarring tends to be greater in cases with more pronounced inflammation[17]. In our study, we observed severe acne scarring in 4 out of 28 patients who had received oral antibiotic treatment. A significant contrast in the severity of acne scarring was evident when comparing the outcomes of oral retinoid treatment to those of oral antibiotics. Moreover, the literature suggests that the early use of topical retinoids as part of acne therapy can substantially reduce chronic inflammation, consequently diminishing the severity of acne scarring[18]. A similar study also reported that severe acne scarring was observed in only 1 out of 11 patients (9.09%) who had undergone oral isotretinoin treatment, compared to 17 out of 45 patients (37.78%) who had received oral antibiotic treatment[8].

In our study, it was noted that out of 104 patients with severe acne, all of them eventually developed acne scarring. Among these, 42 individuals (40.4%) exhibited a moderate grade of acne scarring, while 62 patients (59.6%) had severe-grade scarring. A similar investigation reported that among 52 patients with severe acne, 22 developed moderate-grade acne scarring, and 32 patients developed severe-grade scarring. Additionally, Lehmann et al.[6] observed a significant association between the initial acne grade and the overall severity of scarring ($P < 0.01$).

This study highlights the characteristics of acne scarring and the link between the severity of acne and delayed treatment with the severity of acne scarring. It underscores the importance of raising public awareness through educational initiatives focused on early acne treatment, as a means to mitigate the risk and severity of post-acne scarring.

Conclusion

The majority of individuals with active acne tend to postpone treatment, resulting in a higher likelihood of developing acne scarring. Ice pick scars are the predominant type of acne scars, with keloidal scars being more prevalent in males. Early initiation of oral retinoid treatment may contribute to reducing the severity of acne scarring. Promoting public education is crucial to encourage individuals to seek timely and suitable acne treatment, which can effectively decrease the occurrence and severity of acne scarring and alleviate its psychosocial repercussions.

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Conflict of interest
No conflict of interest.
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Authors' Contributions
Dr. Arpan Kumar Basak and Dr. Joya Debnath conceived and designed the study, analyzed the data, interpreted the results, and wrote up the draft manuscript. Dr. Tahmina Monowar was involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
Any inquiries regarding supporting data availability of this study should be directed to the corresponding author and are available from the corresponding author upon reasonable request.
Ethics Approval and Consent to Participate
Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants. All methods were performed according to the relevant guidelines and regulations.

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Original Article ***Open Access***

Birth Weight of Babies Born in a Tertiary Hospital in Bangladesh

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Abstract

Background: Birth weight stands as a critical determinant in the intricate web of factors influencing infant and child mortality, making it a pivotal focal point for research in the realm of maternal and child health. The weight at which a newborn enters the world is not merely a numerical measure; it encapsulates the potential trajectory of an individual's survival, growth, and long-term well-being. **Objective:** This study embarks on an exploration within the confines of a specific cohort of newborns, seeking to understand the prevalence of low birth weight and unravel the intricate web of risk factors shaping the birth weights of these infants. **Methodology:** This descriptive cross-sectional study was conducted at Ad-din Sakina Medical College Hospital in Jashore town to assess the weight distribution of 820 newborn babies. **Results:** The mean weight of newborns was 2935 grams, with 55.2% having a birth weight greater than 3000 grams, emphasizing a trend toward healthy birth weights. **Conclusion:** These results provide a comprehensive overview of the demographic and health-related characteristics of the study population, laying the groundwork for further analysis and interpretation in subsequent sections of the study. *[Journal of Army Medical College Jashore, July, 2024;5(2):50-54]*

Keywords: Birth weight; infant health; maternal health

Introduction

Birth weight is a major determinant of child's health and nutrition[1]. Birth weight is the first weight of the fetus or newborn obtained soon after the birth. It should be ideally measured within the first hour of life to avoid significant postnatal weight loss occurring. Low birth weight (LBW) is defined as weight at birth of less than 2500 gram while very low birth weight (VLBW) is defined as birth weight of less than 1500 grams. It is primarily resulted from either prematurity (birth before 37 weeks of gestation) or intrauterine growth restriction (IUGR)[2]. Birth weights below 3000g are considered sub-optimal, with the lower extreme end, below 2500g (5.5lb), having the most documented adverse health outcomes. On the upper end of the birth weight distribution, birth weights over 4000g are associated with increased maternal morbidity, complicated labor, and maternal death. Outcomes at the lower end of the birth weight scale most likely reflect intrauterine growth deprivation or conditions leading to preterm delivery, while the upper end reflects unusual fetal growth. Thus, there is an optimum birth weight range associated with trouble-free delivery, where neonatal survival is maximized and maternal death is minimized[3].

In most of the developing countries, low-birth biased due to majority of births taking place outside the healthcare facilities, and mothers are unable to provide the data because infants are mostly not weighed at the time of birth. According to the UNICEF (2004) estimates, more than 20 million infants are born with low weight in the world and low-birth are concentrated in two regions of the developing world: Asia (72%) and Africa (22%)[4]. Newborn mortality and disease are directly related to birth weight (BW), and insufficient or excess weight at birth is always accompanied by an increase of these risk factors[5]. LBW is getting a public health importance due to the numerous factors like its high incidence, association with mental retardation and mortality and morbidity, human wastage and suffering, very high cost of special care and intensive care units and its association with socioeconomic underdevelopment[6] and Low birth weight stems primarily from the mother's poor nutrition and health over a long period of time, teenage

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pregnancy, high prevalence of infections, and pregnancy complications.

Low birth weight is also associated with many socio-economic factors such as place of residence, education, mothers' age and occupation, birth order, family income and many maternal conditions such as nutritional status, cigarette smoking and health status. These risk factors can be prevented by a lifespan approach (before, during, and after child birth) to the health of women that takes full account of socioeconomic and environmental as well as medical issues and public education campaigns and also by some key preventive interventions like improved food intake of pregnant women, ante natal care (ANC), micronutrient supplementation, prevention and treatment of such infections as malaria, reduction of teenage pregnancy, and maternal education[7]. LBW is a leading cause of prenatal and neonatal deaths, and as such it remains a worldwide issue and one of the most important public health problems, particularly in developing countries[8]. Low birth weight (less than 5 lbs. 8 oz., or 2,500 grams) is the single most important factor affecting neonatal mortality[9].

A low birth weight baby is a clinical and diagnostic challenge[10]. Many countries in the world have succeeded in lowering their rates of infant mortality[11]. Because of the tremendous advances in care of sick and premature babies, more and more infants are surviving despite being born early and being born very small. During past decade, several intervention programmes including Safe Motherhood and Reproductive Health, have been launched all over to improve the health status of mothers and children[12].

Methodology

Study Design and Population: This descriptive cross-sectional study aimed to assess the weight of newborn babies at Ad-din Sakina Medical College Hospital in Jashore town. The study was conducted in the month of November 2018 and included all newborns at Ad-din Sakina Medical College Hospital in Jashore.

Study Procedure: The study utilized a purposive selection of the study site and a convenient sampling method, with a total sample size of 820 newborns. Face-to-face interviews were conducted using semi-structured questionnaires with mothers, and interviewers underwent training in interview skills, research ethics, and study objectives. To ensure participant privacy, all interviews were conducted in a confidential manner.

Statistical Analysis: Data collected were analyzed using the SPSS statistical program version 25.

Ethical Clearance: Ethical considerations were prioritized, and written informed consent was obtained from all participants before their involvement in the interview process.

Results

This descriptive cross-sectional study aimed to investigate the birth weight of infants among patients at Ad-din Sakina Medical College Hospital. Various demographic factors, such as weight of the baby, age of mothers, number of children, and the educational and socioeconomic status of parents, were explored.

Table 1: Table 1: Weight Distribution of the Baby (n=820)

Baby Weight	Frequency	Percent	Status
1000 to 1500 Gram	4	0.5	LBW 84(10.3%)
1500 to 2000 Gram	22	2.7	NBW 736(89.7%)
2000 to 2500 Gram	58	7.1	
2500 to 3000 Gram	283	34.5	
More than 3000 Gram	453	55.2	
Total	**820**	**100.0**	

The distribution of baby weights reveals a majority 453(55.2%) with a weight greater than 3000 grams, while 383(34.5%) fall within the 2500 to 3000 gram range. Smaller proportions are found in the 2000-2500 gram 58(7.1%) and 1500 to 2000 gram 22(2.7%) categories, with a minimal percentage 4(0.5%) in the 1000 to 1500 gram range (Table 1).

Table 2: Age distribution of mothers (n=820)

Mother's Age	Frequency	Percent (%)
Less Than 18 Years	12	1.5
18 to 22 Years	269	32.8
22 to 26 Years	281	34.3
26 to 30 Years	138	16.8
30 to 34 Years	94	11.5
More Than 34 Years	26	3.2

The mean age of the mothers was 24 years, ranging from 15 to 40 years. The mother' age distribution indicates a predominantly young demographic with the majority falling between 18 and 30 years old. The age group of 22 to 26 years represents the largest portion at 281(34.3%), followed by 18 to 22 years at 269(32.8%). Additionally, there is a gradual decrease in percentages for older age groups, with only a small percentage 26(3.2%) being above 34 years old (Table 2).

Table 3: Mother's Weight (kg) distribution (n=820)

Weight of Respondents	Frequency	Percent
Less Than 40 Kg	4	0.5
40 to 50 Kg	107	13.0
50 to 60 Kg	356	43.4
60 to 70 Kg	281	34.3
70 to 80 Kg	65	7.9
More Than 80 Kg	7	9.0
Total	**820**	**100.0**
Mean (Range)	57.80(35 to 85)	

The mean weight of the respondent was 57.80 kg ranging from 35 to 85 kg. 356(43.4%) were of 50 to 60 kg followed by 281(34.3%) were of 60 to 70 kg. 107(13%) were of 40 to 50 kg. 65(7.9%) were of 70 to 80 kg. 7(0.9%) were of above 80 kg. Only 4 respondents were below 40 kg (Table 3).

Table 4: Height (CM) of the Mothers (n=820)

Height	Frequency	Percent
Less Than 140 cm	11	1.3
140 to 150 cm	103	12.6
150 to 160 cm	572	69.8
160 to 170 cm	133	16.2
More Than 170 cm	1	1.0
Total	**820**	**100.0**
Mean (Range)	154.0(120 to 170)	

The average height of the mothers was 154 cm, spanning from 120 to 170 cm. The majority, comprising 572(69.8%) of respondents, fell within the height range of 150 to 160 cm. A significant proportion, 133(16.2%), reported heights between 160 to 170 cm, while 103(12.6%) were in the 140 to 150 cm range. Only a small percentage, 11(1.3%), had heights below 140 cm, and a solitary respondent exceeded 170 cm in height (Table 4) .

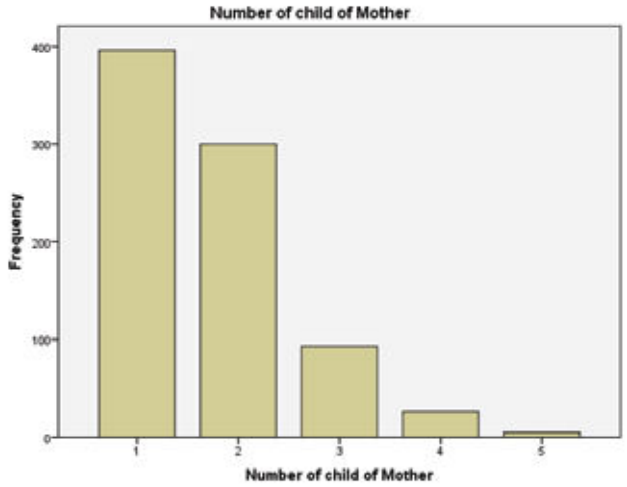


Figure I: Number of children (Parity) of the mother (n=820)

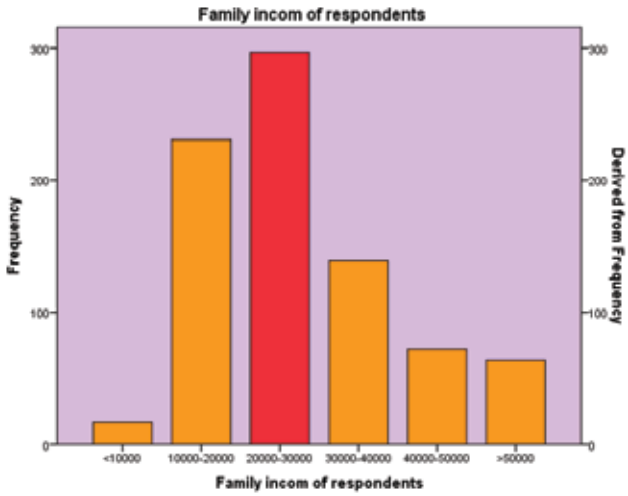
About 19.0% were macular acne scar, 14.0% were mild acne scar, 28.0% were moderate acne scar and 39.0% were severe acne scar (Table 6).

The education distribution of mothers and fathers' reveals that a significant portion of both parents has attained a higher level of education, with 229(27.9%) of mothers and 224(27.3%) of fathers falling into the 12 to 13 years of education category. Additionally, 170(20.7%) of mothers and 309(37.7%) of fathers have education levels exceeding 13 Class. The 10 to 12 years' category is also substantial, constituting 238(29.0%) for mothers and 168(20.5%) for fathers. Lower education levels (0 to 5 years and 0 to 1 years) have comparatively lower percentages for both mothers (0.7% and 0.9%) and fathers (0.1% and 1.2%) (Table 5).

Table 5: Educational status of parents (n=820)

Class	Mother's Education		Father's Education	
	Frequency	Percent	Frequency	Percent
0 to 1	7(0.9%)		10	1.2
1 to 5	6(0.7%)		1	0.1
6 to 10	170(20.7%)		108	13.2
10 to 12	238(29.0%)		168	20.5
12 to 13	229(27.9%)		224	27.3
More Than 13	170(20.7%)		309	37.7

The distribution of respondents based on their family income reveals a mean income of 26,255 TK, spanning from 6000 to 250000 tk. The largest proportion of respondents, totaling 297 (36.2%), fell within the income bracket of 20,000 to 30,000 TK, indicating the most common income range among participants. Following closely behind, 231 individuals (28.2%) reported incomes ranging from 10,000 to 20,000 TK. Additionally, 139(17%) respondents fell within the 30,000 to 40,000 TK income ranges, while 72(8.8%) respondents reported incomes between 40,000 to 50,000 TK. There were 64(7.8%) participants with incomes exceeding 50,000 TK, and only 17(2.1%) respondents reported incomes below 10,000 TK (Figure II).



Majority, 667(81.3%), of the respondents were reported to be in a healthy physical condition. However, a portion of the population exhibited specific health concerns, with 104(12.7%) experiencing anemia, 12(1.5%) facing jaundice, and 32(3.9%) dealing with edema. A small percentage, 5(0.6%), reported other health-related issues (Table 6).

Table 6: Physical condition of the Respondents (n=820)

Mother's Physical condition	Frequency	Percent
Healthy	667	81.3
Anemia	104	12.7
Jaundice	12	1.5
Edema	32	3.9
Others	5	0.6
Total	**820**	**100.0**

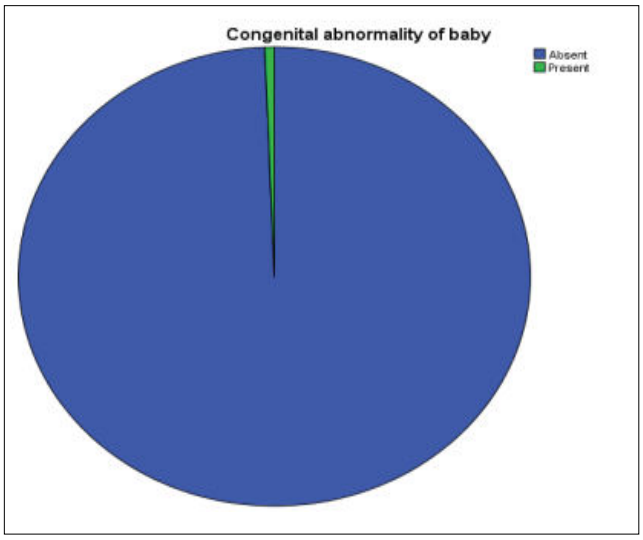


Figure III: Congenital abnormality of the child (n=820)

The vast majority, 99.4%, of babies did not exhibit congenital abnormalities. Conversely, a small percentage, 0.6%, had congenital abnormalities (Table III).

Discussion

The birth weight of infants is not only a critical indicator of their health but also reflective of various demographic factors influencing maternal and fetal well-being. A recent descriptive cross-sectional study conducted at Ad-din Sakina Medical College Hospital aimed to delve into the birth weight patterns among patients, alongside exploring demographic variables such as maternal age, education, socioeconomic status, and physical condition. The findings shed light on important insights that can inform healthcare practices and interventions aimed at maternal and child health. The study, encompassing 820 participants, revealed a varied distribution of baby weights. A majority 736(89.7%) of infants weighed more than 2500 grams, categorizing them as normal birth weight (NBW). Conversely, 84(10.3%) were classified as low birth weight (LBW), weighing between 1000 to 2500 grams.

The incidence of low birth weight babies in our study (10.3%) stands significantly lower than the rates observed in a hospital-based study conducted in Pokhara, Nepal, by Shalini C et al (2012)[12]. Their study reported a 34.37% prevalence of low birth weight, a figure notably higher than our findings. This stark difference in LBW incidence between our study and the study by Shalini C et al (2012) underscores the importance of understanding regional disparities and contextual factors that may influence birth weight outcomes. The maternal age depicted a predominantly youthful cohort, with the mean age being 24 years. The majority of mothers fell within the age range of 18 to 30 years, with a peak in the 22-26 years bracket (34.3%). Notably, there was a gradual decline in percentages among older age groups, emphasizing the prevalence of younger mothers within the study population. Notably, a study by Nazari M et al (1995)[14] found no significant difference in maternal age between low birth weight (LBW) and normal birth weight (NBW) infants. Among primiparous mothers, our study identified a prevalence of 48.3%, aligning with similar rates reported by Agarwal G et al. (2012)[1] (42.86%) and Negassi Teklehaimanot et al (2014)[7] (47.4%).

These consistent findings emphasize the robustness of our results in contributing to the understanding of factors influencing birth weight outcomes. Examining the socio-economic landscape, the educational status of parents and family income collectively shape the fabric influencing newborn health. Families with a singular child dominated the landscape, indicating a dynamic where parents may focus more intensely on individual child development. The mean family income of 26,255 TK provides insight into the economic backdrop, with a substantial proportion falling within the 20,000 to 30,000 TK range, reflecting a middle-income family. The study delved into the health of mothers, revealing that a majority (81.3%) reported as healthy. and Conley D (2001)[13] reported the existence of biosocial interactions between hereditary predisposition and socio-economic environment.

The distribution of physical conditions, including anemia, jaundice, and edema, highlighted various health dynamics experienced by mothers during the crucial period of childbirth. This understanding serves as a cornerstone for healthcare practitioners, enabling them to provide targeted support and care for mothers with specific health needs. Beyond physical health, the exploration extended into constitutional diseases and congenital abnormalities. A noteworthy 88.4% of mothers were free from constitutional diseases, creating a positive backdrop for infant development. The prevalence of asthma, hypertension, diabetes mellitus, and other constitutional diseases indicates the need for specialized care for a subset of mothers. Remarkably, 99.4% of infants were free from congenital anomalies, portraying a predominantly healthy cohort.

Conclusion

The holistic insights garnered from this study present a rich tapestry of information that holds immense implications for healthcare practices and policy formulations in Jashore town.

Understanding the multifaceted nature of factors influencing newborn weight equips healthcare practitioners with the knowledge to tailor interventions, fostering better maternal and child health outcomes. The complexity inherent in the factors influencing newborn weight. However, this study serves as a foundational step, paving the way for further research to delve deeper into the nuanced relationships between these factors. Future investigations could unravel the specific interplay of demographics, socioeconomic status, and health conditions, offering even more refined guidance for healthcare strategies. This study transcends numerical findings; it encapsulates the narratives of families, mothers, and newborns at a critical juncture. It beckons for continued exploration, fueled by a collective commitment to ensuring the health and well-being of the tiniest members of our society.

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No conflict of interest.
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Authors' Contributions
Islam conceived and designed the study, analyzed the data, interpreted the results, and wrote up the draft manuscript. Rahman, Zahan, Rashid were involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
Any inquiries regarding supporting data availability of this study should be directed to the corresponding author and are available from the corresponding author upon reasonable request.
Ethics Approval and Consent to Participate
Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants. All methods were performed according to the relevant guidelines and regulations.

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Original Article ***Open Access***

Clinico-Demographics Profiles of Patients with Primary Intracerebral Haemorrhage: Experience of 60 Cases in Bangladesh

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Abstract

Background: Clinical and demographics profiles are varied among the patients with primary intracerebral haemorrhage. **Objective:** The purpose of the present study was to see the clinico-demographics profiles of patients with primary intracerebral haemorrhage. **Methodology:** This cross-sectional study was conducted in the Department of Neurosurgery at Dhaka Medical College Hospital, Dhaka, Bangladesh from January 2006 to December 2007 for a period of two (02) years. All patients with primary intracerebral haematoma admitted in the Department of Neurosurgery in study period managed conservatively or surgically is the study population. CT-scan evidence of PICH and patients with the GCS (5-15) in admission Haematoma volume 30 cc or above were included in this study. All the selected patients were evaluated on the basis of detailed history, clinical examination and CT scan findings. **Result:** A total number of 60 subjects were recruited for this study. The mean age with the SD of the study population was 51.7±12.88 years. The ratio of male and female was 1.5:1. The complain of headache, vomiting, altered level of consciousness and convulsion were reported in 11(18.3%) cases, 33(55.0%) cases, 58(96.7%) cases and 7(11.7%) cases. The most common location of haematoma was found in temporo-parietal which was 14(23.3%) cases. The most of the study population were presented with more than 60 volume of haematoma which was 22(36.7%) cases. Ventricular extension of haematoma was present in only 6(10.0%) cases **Conclusion:** In conclusion middle age male are the most commonly suffering from primary intracerebral haemorrhage with the complains of headache, vomiting, altered level of consciousness and convulsion. *[Journal of Army Medical College Jashore, July, 2024;5(2):55-58]*

Keywords: Clinico-demographics Profiles; Primary Intracerebral Haemorrhage; Bangladesh

Introduction

Spontaneous intracerebral haemorrhage (SICH) are common in daily clinical practice and are associated with high mortality and severe disability rates[1]. Their incidence is growing as a consequence of a substantial change in age structure in Western population increase of elderly population leading to a higher economic impact due to need for rehabilitation and care. Multiple clinical risk factors have been associated with higher incidence of PICH and controversy still remains about management[2]. Of estimated 37000 Americans who experienced an ICH, 35-52 were dead at one month; half of the death occurred within the first 2 days[3]. Only 10.0% of the patients were living independently at one month; 20.0% cases were independent at 6 month[4].

The classic presentation of SICH is sudden onset of focal neurological deficit progressing over hours with accompanying headache, nausea, vomiting, altered consciousness and elevated blood pressure[5]. Supratentorial haemorrhage is commonly accompanied by vomiting and altered consciousness but is rarely seen in ischaemic stroke.

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Elevation in blood pressure occurs in as many as 90.0% of patients with SICH. Seizure occur in 10.0% of patients[6]. The focal neurological deficit of course depends on haematoma location. Patient with supratentorial haemorhage present with contralateral sensory or motor deficits, aphasia, neglect, gaze deviation and haemianopia. Infratentorial haemorrhage manifest with signs of brain stem dysfunction, cranial nerve abnormalities, ataxia, nystagmus and dysmetria[7]. Blood may rupture into the ventricles and cause hydrocephalus. Rarely, blood finds its way into subarachnoid space. A large haemorrhage can raise ICP. Depending on clot location, this can result in brain herniation, compression of brainstem and death[8].

In one fourth of patients with intracerebral hemorrhage who are initially alert, deterioration in the level of consciousness occurs within the first 24 hours after onset of the hemorrhage[9]. The presence of a large hematoma and ventricular blood increases the risk of subsequent deterioration and death. Expansion of the hematoma is the most common cause of underlying neurologic deterioration within the first three hours after the onset of hemorrhage. Worsening cerebral edema is also implicated in neurologic deterioration that occurs within 24 to 48 hours after the onset of hemorrhage[10]. Infrequently, late deterioration is associated with progression of oedema during the second and third week after the onset[11]. The purpose of the present study was to see the clinico-demographics profiles of patients with primary intracerebral haemorrhage.

Methodology

Study Settings and Population: This cross-sectional study was conducted in the Department of Neurosurgery at Dhaka Medical College Hospital, Dhaka, Bangladesh from January 2006 to December 2007 for a period of two (02) years. All patients with primary intracerebral haematoma admitted in the Department of Neurosurgery in study period managed conservatively or surgically is the study population. Patients or attendants refused to operate were included in, the conservative group. CT-scan evidence of PICH and patients with the GCS (5-15) in admission haematoma volume 30 cc or above were included in this study. Patients of PICH treated with GCS less than 5 and patients with secondary intracerebral hemorrhage like aneurysm, AVM, trauma tumour were excluded from this study.

Study Procedure: All the selected patients were evaluated on the basis of detailed history, clinical examination and CT scan findings. A data collection sheet was prepared including the variable of age & sex of the patients, clinical presentations. The data were collected by the researcher himself.

Statistical Analysis: A master sheet was prepared and data were analyzed by SPSS statistical program. The summarized data were than presented in tabulated form. Qualitative data were expressed as frequency and percent.

Ethical Consideration: Ethical permission was taken from DMCH ethical committee. Data were collected and edited manually.

Results

A total number of 60 subjects were recruited for this study after fulfilling the inclusion and exclusion criteria. Highest number of patients were in 51 to 60 age group (33.0%) followed by 30 to 40 years, 40 to 50 years and 60 to 70 years which was 12(20.0%) cases, 11(18.3%) cases and 9(15.0%) cases respectively. The mean age with the SD of the study population was 51.7±12.88 years (Table 1).

Table 1: Age Distribution of Study Population (n=60)

Age Group	Frequency	Percent
30 to 40 Years	12	20.0
40 to 50 Years	11	18.3
50 to 60 Years	20	33.3
60 to 70 Years	9	15.0
70 to 80 Years	7	11.7
More than 80 Years	1	1.7
Total	**60**	**100.0**

In the present study, male was predominant than female which was 33(55.0%) cases and 27(45.0%) cases respectively. The ratio of male and female was 1.5:1 (Table 2).

Table 2: Gender Distribution of Study Population (n=60)

Gender	Frequency	Percent
Male	33	55.0
Female	27	45.0
Total	**60**	**100.0**

The complain of headache was reported in 11(18.3%) cases. The vomiting was found in 33(55.0%) cases. Altered level of consciousness was observed in 58(96.7%) cases. Convulsion was found in 7(11.7%) cases. History of hypertension was given in 45(75.0%) cases of study population. Hemiparesis was reported in 26(43.3%) cases. History of diabetes mellitus was found in 5(8.3%) cases (Table 3).

Table 3: Clinical characteristics of Study Population (n=60)

Clinical Characteristics	Frequency	Percent
Complain of Headache	11	18.3
Vomiting	33	55.0
Altered Consciousness	58	96.7
Convulsion	7	11.7
H/O Hypertension	45	75.0
Hemiparesis	26	43.3
H/O DM	5	8.3

Multiple response analysis was done

Discussion

This present study was carried out in the department of Neurosurgery, DMCH, Dhaka. We included 60 patients in two group based on selection criteria. The age ranged were 30 to 86 years with mean age was 51.7±12.88 years. Primary intracerebral haemorrhage is due to spontaneous rupture of small vessel damaged by hypertension or amyloid angiopathy[10]. The vasculopathy of chronic hypertension affects the perforating arteries 100 to 400 micrometer in diameter, which arises directly from much larger trunks to enter the brain at right angles and which are end arteries[12]. These vessels are subjected directly to changes in blood pressure, unlike cortical vessels which are protected by a series of bifurcations and have collateral for run off.

These small arteries accumulate lipid and protenicious materials in their walls lipohyalinosis that in turn can cause a scarring (hyalinosis) or alternatively, a focal necrosis and even Charcot-Bouchard or military aneurysms[13]. Target arteries include the lenticulostriate arteries, the thalamoperforator arteries and the paramedian branches of the basilar artery as well as the superior and anterior inferior cerebellar arteries, in whose distributions SICH may develop[14]. This process is more common in proximal part of the artery explaining why putaminal haemorrhages are more common than in the caudate.

Intracerebral haemorrhage constitutes about 13.0% of stroke cases in United States[12]. In Asian population the frequency may be as high as 30.0% cases[15]. No study regarding incidence of ICH in our country is available. With population of more than 143 million, increasing life expectancy and improvement of diagnostic facilities including availability of CT scan in many district centers contributes in increase in the number of detection of intracerebral haemorrhage patients[16]. The place of surgery in the treatment of intra cerebral haematoma is still controversial.

Highest number of patients were in 51 to 60 age group (33.0%) followed by 30 to 40 years, 40 to 50 years and 60 to 70 years which was 12(20.0%) cases, 11(18.3%) cases and 9(15.0%) cases respectively. The mean age with the SD of the study population was 51.7±12.88 years. Regarding the age of the patients of this present study, it correlates with other study. Ahmed et al[7] in Pakistan 58.8 years.

In the present study, male was predominant than female which was 33(55.0%) cases and 27(45.0%) cases respectively. The ratio of male and female was 1.5:1. The complain of headache was reported in 11(18.3%) cases. The vomiting was found in 33(55.0%) cases. Altered level of consciousness was observed in 58(96.7%) cases. Convulsion was found in 7(11.7%) cases. History of hypertension was given in 45(75.0%) cases of study population. Hemiparesis was reported in 26(43.3%) cases. History of diabetes mellitus was found in 5(8.3%) cases. Regarding hypertension group A 21 (70%) patients had history of hypertension and group B 24 (80%) patients had history of hypertension. Therefore, it assumed that hypertension was the predominant cause of primary intracerebral haemorrhage and group A 9(30%) patients and group B 6(20%) patients found no history of hypertension. 45(70.0%) patients had history of hypertension which correlated to other study of PICH having hypertension (70.0% to 90.0%) of patients[11,14].

Conclusion

In conclusion middle age is the most vulnerable age group for the primary intracerebral haemorrhage. In this study population male is predominant than female. Furthermore, the most commonly presenting complains of primary intracerebral haemorrhage are headache, vomiting, altered level of consciousness and convulsion. Further large scale multicenter study should be carried out to get the real scenario.

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Conflict of interest
No conflict of interest.
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Authors' Contributions
Talukder MMH, Islam MR conceived and designed the study, analyzed the data, and interpreted the results. Uddin K, Alam MS, Hoque MA wrote up the draft manuscript. Hossain SS was involved in the manuscript review and editing. All authors read and approved the final manuscript.
Data Availability
For any inquiries concerning the availability of the study's supporting data, which are provided upon reasonable request, feel free to contact the corresponding author.
Ethics Approval and Consent to Participate
The Institutional Review Board granted the study ethical approval. Every study respondent provided written informed permission. All work was carried out following the applicable rules and regulations.

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