Original Research Article

Incidence of hepatitis B virus infection and associated risk factors among pregnant women in SSMC, Mitford Hospital

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ABSTRACT

Background: Hepatitis B is a global health problem, affecting approximately 2 billion people worldwide, and remains a significant cause of chronic hepatitis, liver cirrhosis, and hepatocellular carcinoma, with pregnant women at particular risk due to vertical transmission. Therefore, this study aimed to provide a comprehensive assessment of the incidence of HBV infection and associated risk factors among pregnant women in a tertiary care hospital in Bangladesh.
Methods: This cross-sectional analytical study at the Department of Obstetrics and Gynaecology, Sir Salimullah Medical College and Mitford Hospital (SSMCMH), Dhaka, Bangladesh, from August 2020 to January 2021, included 288 pregnant women who were interviewed for demographic, obstetric, and HBV risk factors, screened for HBsAg by rapid ICT with ELISA confirmation, and analyzed using Excel, Epi Info 6, and SPSS 17 (p<0.05), with ethical approval, confidentiality, and statistician-supervised quality assurance.
Results: Of 288 pregnant women screened, 13 (4.5%) were HBsAg-positive. Positive women were older (30.7±3.4 years), all housewives, with business as the most common husband's occupation. Significant risk factors were HBV-positive husband [4 (30.8%)] and family HBV history [2 (15.4%)]. Most positive women were para 2 [7 (53.8%)], had first para-abortion [8 (61.5%)], third gravida [5 (38.4%)], gestational age ≤37 weeks [9 (69.3%)], and irregular antenatal care [9 (69.2%)]. Among ICT-positive women, 12 (92.3%) were confirmed HBsAg-positive by ELISA.
Conclusions: Hepatitis B virus remains prevalent among pregnant women in Bangladesh, highlighting the need for routine screening and identification of associated risk factors to ensure effective maternal and neonatal protection.

Keywords: Incidence, Hepatitis B virus, Pregnant women, Risk factors

INTRODUCTION

Hepatitis B is a global health problem and the leading cause of chronic hepatitis, liver cirrhosis, and hepatocellular carcinoma.[1] Approximately 2 billion people worldwide have evidence of past or current HBV infection, with 240 million chronic carriers of HBsAg.[2] HBV results in around 650,000 deaths annually due to viral hepatitis-induced liver disease.[2] The prevalence of hepatitis B is highest in sub-Saharan Africa and East Asia, where 5-10% of the adult population is chronically infected.[3,4] About 5% of women worldwide are chronic carriers of HBV.[5] Among pregnant women, HBV prevalence is approximately 5%, varying from 0.6% in low-prevalence areas to over 20% in regions with high incidence, such as the Far East and Africa.[6]

In Bangladesh, the prevalence among the general female population is likely less than 4%, while data among young children (0-4 years old) show a mean prevalence of 3.03%.[7] These figures suggest that vertical transmission is one of the primary modes of HBV spread. Infection may occur during the intrauterine or perinatal period.[1] Most fetal infections occur via maternal blood exposure during uterine contractions, rupture of fetal membranes, or through vertical transmission perinatally via contact with

an infected birth canal.[5,8] As a double-stranded DNA virus of the Hepadnaviridae family, HBV is of particular clinical significance to obstetricians, because viral hepatitis during pregnancy is associated with both maternal complications and high rates of vertical transmission, resulting in fetal and neonatal hepatitis.[9] Transmission from chronic carriers exceeds 90% and accounts for up to 40% of global carriers in endemic areas.[10,11] If neonates are infected, 80-90% become chronic carriers and are at risk of developing cirrhosis and hepatocellular carcinoma in adulthood.[12]

Previous studies have identified several factors associated with HBsAg seropositivity, including use of sharp materials, unsafe blood transfusions, ear piercing, abortion, place of delivery, history of tooth extraction, cesarean section, tattoos, and family history.[13-17] However, risk factors for chronic HBV carriers in the reproductive-age population remain largely unknown.[18] Mother-to-child transmission can be effectively prevented through vaccination of the newborn.[19] This intervention, however, requires knowledge of the HBsAg status of the pregnant woman. Despite this, there is limited information on the prevalence of HBV and associated risk factors among pregnant women in Bangladesh.

In Bangladesh, Shamsuzzaman et al studied hepatitis B among pregnant women attending rural healthcare facilities and found HBsAg positivity in 0.4% of participants, with higher prevalence among older age groups.[20] Rumi et al reported a 3.5% HBsAg positivity among pregnant women attending a public hospital for delivery, with most carriers being asymptomatic and potentially undetected without universal screening.[21] Akhter et al found 3.6% HBsAg positivity among pregnant mothers and documented transmission to infants.[22]

Therefore, the purpose of this study was to provide a comprehensive assessment of the extent of HBV infection and associated risk factors among pregnant women in a tertiary care hospital in Bangladesh.

METHODS

This cross-sectional analytical study was conducted at the Department of Obstetrics and Gynaecology, Sir Salimullah Medical College and Mitford Hospital (SSMCMH), Dhaka, Bangladesh, from August 2020 to January 2021.

A total of 288 pregnant women admitted to the obstetric ward were included to estimate the incidence of Hepatitis B virus (HBV) infection and identify associated risk factors. Participants were selected based on the following criteria:

Inclusion criteria

Pregnant women admitted to the obstetric ward at SSMC MH.

Exclusion criteria

Patients previously vaccinated for HBV infection, taking antiviral drugs, co-infected with HIV, seriously ill or requiring immediate care, and did not provide consent to participate in the study.

After obtaining written informed consent, participants were interviewed using a pre-designed semi-structured questionnaire to collect demographic data, obstetric history, and potential HBV risk factors, including blood transfusion, IV drug use, tattooing, surgeries, dental procedures, miscarriages, sharp/needle injuries, toothbrush sharing, and family history of HBV infection. All participants were initially screened for HBsAg using a rapid immunochromatographic test (ICT), and ICT-positive cases were further confirmed with a third-generation enzyme-linked immunosorbent assay (ELISA). Five milliliters of venous blood were collected, allowed to clot, centrifuged at 3,000 rpm at room temperature, and serum samples were stored at -20°C until analysis with specific monoclonal and polyclonal antibodies. Participants who remained reactive were considered HBV positive, and all samples were anonymized and code-labeled.

Statistical analysis

Data were compiled, checked for errors, and entered into Microsoft Excel. Analyses were conducted using Epi Info version 6 and SPSS version 17, with quantitative variables expressed as mean±standard deviation and categorical variables as frequencies and percentages. Comparisons between HBsAg-positive and negative groups were performed using appropriate statistical tests, with $p<0.05$ considered statistically significant. Ethical approval was obtained from the local Ethical Committee, and privacy, confidentiality, and anonymity were maintained throughout the study. Data collection, processing, and analysis were supervised by a statistician to ensure quality and accuracy.

RESULTS

Figure 1 shows the hepatitis B surface antigen (HBsAg) status among 288 pregnant women screened using the immunochromatographic test (ICT). HBsAg positivity was detected in 13 women (4.5%), while 275 women (95.5%) tested negative.

Table 1 summarizes the demographic characteristics. Most women were aged 21-30 years [8 (61.5%) in Group 1, 155 (56.4%) in Group 2]; the mean age was significantly higher in Group 1 (30.69±3.40 years) than in Group 2 (25.65±5.54 years; p=0.001). All women in Group 1 were housewives [13 (100.0%)] versus 214 (77.8%) in Group 2. Munshiganj was the most common residence [4 (30.8%) vs 56 (20.5%)]. Islam predominated in both groups [11 (84.6%) vs 247 (89.8%)], secondary education was most frequent [12 (92.3%) vs 183 (66.5%)], and business was

the commonest occupation of husbands [10 (76.9%) vs 85 (31.6%)]. Apart from age, no other demographic variables differed significantly.

Table 2 shows past history among participants. Any surgery was reported by 6 (46.2%) in Group 1 and 105 (38.2%) in Group 2. A history of an HBV-positive husband [4 (30.8%) vs 0] and family history of HBV infection [2 (15.4%) vs 0] were statistically significant (p=0.001). Other factors, including blood transfusion, jaundice, and family liver disease, occurred at low frequencies and were not significant. IV drug use, dental procedures, sharp object use, and needle-stick injury were reported only in Group 2, while tattooing, sharing toothbrushes, and previous hepatitis were absent in both groups.
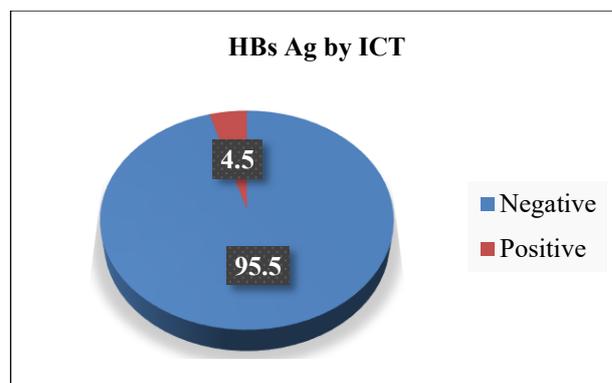

Figure 1: Distribution of HBsAg status among pregnant women by ICT screening (n=288).

Table 1: Distribution of the study patients by demographic profile (n=288).

Demographic characteristics		Group I (n=13)		Group II (n=275)		P value
		Frequency	Percentage	Frequency	Percentage	
Age (years)	≤ 20	0	0.0	70	25.4	
	21-30	8	61.5	155	56.4	
	>30	5	38.5	50	18.2	
	Mean ± SD	30.69±3.4		25.65±5.54		[a]0.001[s]
	Range (min, max)	25,35		18,40		
Occupation	Housewife	13	100.0	214	77.8	
	Teacher	0	0.0	9	3.3	
	Nurse	0	0.0	4	1.4	
	Maid	0	0.0	20	7.3	
	Health Worker	0	0.0	14	5.1	
	Student	0	0.0	8	2.9	
	Service Holder	0	0.0	6	2.2	
Residence	Munshiganj	4	30.8	56	20.5	
	Bongshal	0	0.0	17	6.2	
	Wari	2	15.4	7	2.5	
	Narinda	0	0.0	3	1.1	
	Keraniganj	1	7.7	82	29.8	
	Mitford	1	7.7	10	3.6	
	Kamrangichar	0	0.0	6	2.2	
	Gopalganj	0	0.0	2	0.7	
	Sutrapur	0	0.0	10	3.6	
	Jatrabari	2	15.4	6	2.2	
	Zinzira	0	0.0	4	1.5	
	Shariatpur	0	0.0	4	1.5	
	Kadamtali	1	7.7	2	0.7	
	Lalbag	0	0.0	8	2.9	
	Barishal	0	0.0	2	0.7	
	Babubazar	0	0.0	4	1.5	
	Nobabganj	0	0.0	2	0.7	
	Aganagar	0	0.0	4	1.5	
	Gandaria	0	0.0	12	4.4	
	Chawkbazar	0	0.0	4	1.5	
	Dohar	0	0.0	4	1.5	
	Magbazar	0	0.0	2	0.7	
	Kalatia	0	0.0	2	0.7	

Continued.

Demographic characteristics		Group I (n=13)		Group II (n=275)		P value
		Frequency	Percentage	Frequency	Percentage	
	Tatibazar	0	0.0	2	0.7	
	Banani	2	15.4	0	0.0	
	Manikganj	0	0.0	2	0.7	
	Shampur	0	0.0	2	0.7	
	Sakharibazar	0	0.0	2	0.7	
	Vola	0	0.0	2	0.7	
	Comilla	0	0.0	2	0.7	
	Kotowali	0	0.0	2	0.7	
	Zindababar	0	0.0	2	0.7	
	Chadpur	0	0.0	2	0.7	
	Jurain	0	0.0	2	0.7	
	Laxmibazar	0	0.0	2	0.7	
Religion	Islam	11	84.6	247	89.8	[b]0.549[ns]
	Hindu	2	15.4	28	10.2	
Educational status	Primary	1	7.7	80	29.1	[b]0.129[ns]
	Secondary	12	92.3	183	66.5	
	Graduate	0	0.0	12	4.4	
Occupation of Husband	Businessman	10	76.9	85	31.6	
	Carpenter	0	0.0	7	2.6	
	Teacher	0	0.0	16	5.9	
	Driver	1	7.7	39	14.5	
	Salesman	2	15.4	32	11.9	
	Farmer	0	0.0	10	3.7	
	Tailor	0	0.0	2	0.7	
	Health worker	0	0.0	12	4.5	
	Mechanic	0	0.0	2	0.7	
	Rickshaw puller	0	0.0	6	2.2	
	Shopkeeper	0	0.0	2	0.7	
	Fisherman	0	0.0	2	0.7	
	Service holder	0	0.0	50	18.6	
	Engineer	0	0.0	2	0.7	
	Doctor	0	0.0	2	0.7	

s = statistically significant, ns = not significant, [a]p value obtained by unpaired t test, [b]p value obtained by Chi-square test, Group I = HBsAg-positive by ICT, Group II = HBsAg-negative by ICT

Table 2: Distribution of the study patients by past history (n=288).

Past history		Group I (n=13)		Group II (n=275)		P value
		Number	Percent	Number	Percent	
Any surgery	Present	6	46.2	105	38.2	0.563[ns]
	Absent	7	53.8	170	61.8	
History of HBV-positive husband	Present	4	30.8	0	0.0	0.001[s]
	Absent	9	69.2	275	100.0	
Blood transfusion	Present	2	15.4	78	28.4	0.307[ns]
	Absent	11	84.6	197	71.6	
Jaundice	Present	2	15.4	47	17.1	0.872[ns]
	Absent	11	84.6	228	82.9	
Family history of liver disease	Present	2	15.4	13	4.7	0.091[ns]
	Absent	11	84.6	262	95.3	
Family history of HBV infection	Present	2	15.4	0	0.0	0.001[s]
	Absent	11	84.6	275	100.0	
IV drug abuse	Present	0	0.0	4	1.5	0. 661[ns]
	Absent	13	100.0	271	98.5	

Past history		Group I (n=13)		Group II (n=275)		P value
		Number	Percent	Number	Percent	
Any dental procedure	Present	0	0.0	19	6.9	0.326ns
	Absent	13	100.0	256	93.1	
Any sharp object use	Present	0	0.0	14	5.1	0.404ns
	Absent	13	100.0	261	94.9	
Needle-stick injury	Present	0	0.0	2	0.7	0.757ns
	Absent	13	100.0	273	99.3	
Tattooing	Present	0	0.0	0	0.0	
Sharing of toothbrush	Present	0	0.0	0	0.0	
Previous history of hepatitis	Present	0	0.0	0	0.0	

s = statistically significant, ns = not significant, p values calculated using Chi-square test

Table 3: Distribution of the study patients by obstetrical history (n=288).

Obstetrical history		Group I (n=13)		Group II (n=275)		P value
		Number	Percent	Number	Percent	
Parity	Para 1	5	38.5	139	50.5	0.023s
	Para 2	7	53.8	54	19.6	
	Para 3	1	7.7	2	0.7	
Parity (abortion)	1 abortion	8	61.5	61	22.2	0.013s
	2 abortions	0	0	14	5.1	
	3 abortions	0	0	2	0.7	
	No abortion	5	38.5	198	72	
Gravida	Primi	1	7.7	68	24.7	0.040s
	Second	2	15.4	92	33.5	
	Third	5	38.4	81	29.5	
	Fourth	4	30.8	30	10.9	
	Fifth	1	7.7	4	1.4	
Mode of termination of previous pregnancy	Vaginal delivery (home)	2	15.4	57	20.7	0.063ns
	Vaginal delivery (hospital)	5	38.4	32	11.6	
	Cesarean section	6	46.2	96	34.9	
	Curettage	6	46.2	47	17.1	
	Menstrual regulation (MR)	2	15.4	30	10.9	
	Laparotomy for ectopic pregnancy	0	0	8	2.9	
	Vacuum aspiration	0	0	0	0	
	Complete abortion	0	0	0	0	

s = statistically significant, ns = not significant, p values calculated using Chi-square test

Table 4: Distribution of the study patients by history of present pregnancy (n=288).

History of present pregnancy		Group I (n=13)		Group II (n=275)		P value
		Number	Percent	Number	Percent	
Gestational age (weeks)	≤ 37	9	69.3	92	33.5	
	> 37	4	30.7	183	66.5	
	Mean±SD	32.77±9.73		35.89±6.81		0.115ns
	Range (min-max)	12–39		12–41		
Antenatal care	Regular	2	15.4	78	28.4	
	Irregular	9	69.2	132	48.0	0.467ns
	Not received	2	15.4	61	22.2	

ns = not significant, [a]p value from unpaired t test (gestational age), [b]p value from Chi-square test (antenatal care)

Table 3 presents obstetrical history. Para 2 was most common in Group 1 [7 (53.8%)] and para 1 in Group 2 [139 (50.5%); p=0.023]. First para-abortion occurred in 8 (61.5%) in Group 1 and 61 (22.2%) in Group 2 (p = 0.013). Third gravida was most frequent in Group 1 [5 (38.4%)] and second gravida in Group 2 [92 (33.5%); p=0.040]. Caesarean section and hospital vaginal delivery were more common in Group 1 [6 (46.2%) and 5 (38.4%)] than Group 2 [96 (34.9%) and 32 (11.6%)], but these differences were not statistically significant (p=0.063).

Table 4 shows current pregnancy history. Gestational age ≤37 weeks was observed in 9 (69.3%) women in Group 1 and 92 (33.5%) in Group 2, with mean gestational ages of 32.77±9.73 weeks and 35.89±6.81 weeks, respectively (p=0.115, ns). Most women had irregular antenatal follow-up [9 (69.2%) vs 132 (48.0%)], while regular care was reported in 2 (15.4%) and 78 (28.4%). Differences were not statistically significant.

Table 5 shows ELISA confirmation among ICT-positive women. Most patients [12 (92.3%)] were confirmed positive by ELISA, while 1 (7.7%) tested negative.

Table 5: Confirmation of HBsAg status by ELISA among ICT-positive patients (n=13).

Confirmation by ELISA	Number of patients	Percentage (%)
Positive	12	92.3
Negative	1	7.7
Total	13	100.0

DISCUSSION

Hepatitis B is a global health problem and a leading cause of chronic hepatitis, liver cirrhosis, and hepatocellular carcinoma.[1] Approximately 2 billion people worldwide have evidence of past or current HBV infection, with 240 million chronic carriers of HBsAg. HBV causes an estimated 650,000 deaths annually due to viral hepatitis induced liver disease.[2] Prevalence is highest in sub-Saharan Africa and East Asia, where 5-10% of adults are chronically infected.[3,4] Globally, about 5% of women are chronic carriers of HBV.[5]

This cross-sectional study aimed to estimate the incidence of HBV infection and identify potential risk factors among pregnant women at SSMCMH. A total of 288 pregnant women admitted to the obstetrics ward of the Department of Obstetrics and Gynaecology, Sir Salimullah Medical College Mitford Hospital, Dhaka, from August 2020 to January 2021, were included. Thirteen patients were HBsAg-positive by ICT (Group I), and 275 were HBsAg-negative (Group II). Women previously vaccinated against HBV, taking antiviral drugs, co-infected with HIV, seriously ill, or those who did not consent were excluded. The study findings are discussed in comparison with relevant previously published studies.

HBV prevalence varies across regions and population groups due to differences in ethnicity, urbanization, geography, genetics, socioeconomic status, cultural practices, and modes of transmission.[23] In the present study, HBsAg positivity was 4.5% (95% CI: 2.11-6.89%), consistent with Kishk et al (5.0%) in North East Egypt and Eyong et al (5.7%) in South West Cameroon.[24,25] Similarly, Gedefaw et al reported 4.7% (95% CI: 2.7-7.7%) among pregnant women, while Araya et al found a prevalence of 5.5%.[26,27] A systematic review by Kebede et al reported a pooled prevalence of 4.7% (95% CI: 4.0-

5.4%), comparable to our findings.[28] In Bangladesh, prevalence among the general female population is likely <4%, with young children (0-4 years) showing a mean prevalence of 3.03%, suggesting vertical transmission as a primary mode.[7] Cetin et al reported 2.1% prevalence, lower than in our study, whereas Dortey et al and Tanga et al reported 7.7% and 7.9% prevalence in Ghana and South Western Ethiopia, indicating intermediate endemicity.[29-31]

In this study, 61.5% of Group I and 56.4% of Group II were aged 21-30 years. The mean age was significantly higher in HBsAg-positive women (30.69±3.4 years) than in HBsAg-negative women (25.65±5.54 years; p<0.05). Elkadeem et al reported mean age 27.93±5.75 years (range 18-46) in HBsAg-positive women, while Kishk et al observed mean ages of 28.6±7.0 years (HBcAb-positive) and 27.67±6.7 years (HBcAb-negative).[32,24] Several studies highlight protective effects of HBV vaccination in infancy. In Nigeria, Ndams et al found age-specific differences in HBsAg prevalence, highest among women 25-34 years, reflecting sexual transmission.[33,25] Contrarily, Eke et al found higher prevalence in 21-25 years, and Tanga et al reported highest prevalence (9.72%) among women aged 16-20 years, though differences were not statistically significant.[34,31]

Occupation has been identified as a risk factor for HBV infection.[35] In this study, all Group I women (100%) were housewives, versus 77.8% in Group II. Elkadeem et al, and Eke et al reported higher HBV prevalence among healthcare workers.[32,34] Dortey et al reported 70.6% informal sector employment among HBsAg-positive participants.[30] Tanga et al reported unemployed pregnant women had eight times higher odds of HBV infection, possibly due to greater awareness among employed women.[31]

Regarding residence, 30.8% of Group I and 20.5% of Group II lived in Munshiganj. Elkadeem et al reported higher HBV prevalence in rural areas, though not significant, whereas other studies observed significant rural predominance, likely due to lower education and home deliveries.[32,24,31] Urban populations may engage in riskier lifestyles, explaining conflicting findings.

Religion was predominantly Muslim in both groups (84.6% in Group I, 89.8% in Group II), with no significant difference. Gedefaw et al and Eyong et al reported similar distributions in their respective populations.[26,25]

In this study, most Group I women (92.3%) had secondary education versus 66.5% in Group II, though differences were not significant. Low education correlates with poor health literacy and higher disease prevalence.[35] Dortey et al found 35.3% of HBsAg-positive women had junior high education.[30] HBV prevalence generally decreased with higher education, consistent with prior studies.[13]

Regarding husbands' occupation, 76.9% in Group I and 31.6% in Group II were businessmen, similar to findings

by Dortey et al.[30] Several studies have shown that socio-demographic factors may or may not be associated with HBV infection, depending on region and study population.[30,36]

Past history analysis showed 46.2% of Group I and 38.2% of Group II had a history of surgery. Elkadeem et al and Mortada et al reported similar associations.[32,37] History of HBV-positive husband (30.8% in Group I) and family HBV history (15.4% in Group I) were significantly associated with HBsAg positivity, consistent with Elkadeem et al Blood transfusions were present in 15.4% of Group I and 28.4% of Group II.[32]

Dental procedures were reported only in 6.9% of Group II, suggesting no association with HBV infection.[38] Family history of liver disease was higher in Group I (15.4% vs 4.7%). Jaundice was reported in 15.4% of Group I and 17.1% of Group II. IV drug use was absent in Group I and 1.5% in Group II. No body tattoos were reported; cultural practices may explain this, though other studies link tattooing to HBV prevalence.[26] Sharp or needle-stick injuries occurred in Group II only. Sharing toothbrushes and prior hepatitis were absent in both groups.[31]

Bivariate analyses in other studies identified residency, education, parity, blood transfusion, tattooing, multiple sexual partners, unsafe injections, sharing sharps, and traditional tonsillectomy as significant factors.[25,26,31] HBV is blood-borne; sexual and perinatal transmission contribute to infection risk.

Obstetric history showed 53.8% of Group I were para 2 versus 19.6% in Group II (p<0.05). Abortion in first para occurred in 61.5% of Group I and 22.2% in Group II (p<0.05), consistent with Tanga et al and studies noting unsafe instruments during abortion increase HBV risk.[31,16] Third gravida was 38.4% in Group I versus 29.5% in Group II (p<0.05), supporting findings that multiparity increases exposure to HBV risk factors.[30,32]

Regarding previous pregnancy outcomes, 46.2% of Group I underwent cesarean section versus 34.9% in Group II; curettage was 46.2% versus 17.1%, MR 15.4% versus 10.9%, and home delivery 15.4% versus 20.7%. Differences were not significant. Unsafe home delivery has been associated with higher HBV prevalence.[31]

Gestational age ≤37 weeks was observed in 69.3% of Group I and 33.5% of Group II; mean gestational ages were 32.77±9.73 weeks and 35.89±6.81 weeks, respectively, with no significant difference [32]. Antenatal care was irregular in 69.2% of Group I and 48% of Group II; regular care was 15.4% versus 28.4%. Differences were not significant. Regular ANC, including HBV screening, is critical for maternal and fetal protection.[25,32]

In this study, HBsAg positivity was confirmed by ELISA in 92.3% of ICT-positive women. Monitoring HBsAg prevalence and associated risk factors is essential for evaluating public health strategies. In addition to routine childhood vaccination, universal antenatal HBV screening programs should be implemented to prevent vertical transmission and control disease burden.

The study had a few limitations. The study population was selected from a single hospital in Dhaka city, so the results may not fully reflect the situation across the country. The study was conducted over a very short period of time. The small sample size was a limitation; future studies should be conducted with a larger sample to provide more generalizable results.

CONCLUSION

This study was undertaken to determine the incidence of Hepatitis B virus infection and to identify associated risk factors among pregnant women at SSMC MH. Hepatitis B virus remains present in our country, highlighting the need for reliable epidemiological information. It has been cited as one of the key challenges to effective hepatitis B management during pregnancy in Bangladesh. Maternal prenatal screening programs and passive immunization of infants after delivery have been shown to significantly reduce HBV infection. Therefore, understanding the extent of HBsAg positivity and its associated risk factors among pregnant women in Bangladesh is crucial to ensure effective maternal treatment, neonatal immunoprophylaxis, and to reduce the incidence of HBV infection. There are relatively few studies in Bangladesh regarding the prevalence of HBV infection among pregnant women, most conducted about a decade ago. Consequently, this study aimed to estimate the incidence of HBV infection in pregnant women and to identify risk factors potentially associated with contracting HBV.

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