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Editorial

Perinatal Mental Health

Pregnancy is a time of happiness and feeling of satisfaction in women's lives, with the welcoming of a new child in the family. However, pregnancy can also be a stressful and anxiety-provoking life event. Evidence shows that there is an increase in psychiatric morbidity, particularly depression and anxiety, which most of the women experience during this period[1]. Peripartum depression (antepartum and postpartum depression) refers to depression occurring during pregnancy or after childbirth. It is a consequential, but treatable mental illness. According to the standard diagnostic and statistical manual of mental disorders (DSM-5), postpartum depression (PPD) is one type of depressive disorder that occurs during pregnancy or within 4 weeks after childbirth[2]. According to the International Classification of Diseases 10 (ICD-10), PPD is characterized by a period of depressed mood during pregnancy or the puerperium that accompanied by symptoms which include sadness, anxiety, loss of interest or pleasure in daily activities, constant fatigue, poor concentration, disturbed sleep or appetite, feelings of guilt/low self-worth, social withdrawal, excessive crying and recurrent thoughts of suicide[3].

United Nations sustainable development summit, 2015, commits governments to develop national responses. These include, by 2030, reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and wellbeing (target 3.4); and strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol (target 3.5)[4].

A systematic review of 28 developed countries reported that the prevalence of PPD is about 6-13%[5]. An independent systematic review on low- and middle-income countries found the prevalence of maternal (antepartum and postpartum) common mental disorder (MCMD) was approximately 15-25%[6,7].

In Bangladesh, studies on the magnitude of peripartum depression remain scanty. Few studies conducted in different parts of the country showed that the magnitude of peripartum depression ranges from 22% to 39.4%[8-11]. Despite a potentially higher burden among mothers in LMIC, PPD is often understudied and given little importance in this region.

Worsening of a woman's mental health during the perinatal period may affect her well-being and that of her infant and family. Poor mental health is associated with higher risks of obstetric complications (e.g., pre-eclampsia, haemorrhage, premature delivery and stillbirth) and suicide[12,13]. In addition, women may be less likely to attend antenatal and postnatal appointments[14]. A woman's untreated mental health condition may lead to a poor birth outcome, such as low infant weight and greater risks for physical illnesses and emotional and behavioural difficulties in childhood[12,15]. Infants may also be at increased risk of difficulty in feeding and in bonding with their parents[14].

There are three forms of peri partum mental problems: Baby-Blues (85% of pregnant women experience it); usually there is no need for formal treatment. Family and social support and assurance are sufficient. In postpartum depression (6.5%-20%) there is need for specific formal treatment[16]. In Postpartum / Puerperal Psychosis (most severe form, 1-2 /1000 childbirths) symptoms can often begin within the day of delivery; mean time to onset within 2-3 weeks after delivery but almost always within 6-8 weeks of delivery. Common symptoms of mental disorder are: negative thoughts about baby, not able to take care own baby, thoughts about harm to baby or intent to harm, hallucination (mostly auditory), suicidal behavior, physically abusive to family members, delusion (mostly paranoid), grandiosity, over expenditure[16].

Some women may be at greater risk of poor mental health during the perinatal period because of external circumstances or other health conditions. These are: adolescent pregnancy, low educational opportunity, difficult birth experience, physical health condition, unwanted pregnancy, poverty, little or no social support, fertility difficulties, gender discrimination, natural disasters, substance use, poor nutrition and gender-based violence and other conflicts[17]. Post traumatic stress disorder related to pregnancy, delivery and childcare is also important.

Certain factors may help people to protect and promote mental health in the perinatal period. These

are strong social support (presence of earning family); educational opportunities; opportunities for generating income, positive child birth experience and high quality MCH services[17]. Management includes de-stigmatization, respectful care, promoting protective factors, psychoeducation to mother and family members, stress management, strengthening social support, promotion of functioning and life skills, recognizing mental health condition & risk reduction. Specific management, using pharmacological (Medicine & ECT) & non-pharmacological (counseling) treatment are important[16].

Although mental health conditions are common, most women do not receive the care they need[17]. Some reasons why women with mental health conditions are not identified and treated are lack of mental health specialists, particularly in LMICs, and little training in mental health of other health-care providers. When health-care providers in MCH services are trained to identify symptoms of mental health conditions and to deliver appropriate interventions during routine contacts during the perinatal period, they can address the treatment gap in PMH care and improve mental and physical health outcomes for women and their children[17].

In Bangladesh, maternal, newborn, adolescent and non-communicable disease directorates of Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) and other relevant authorities and stakeholders are trying to make adequate and user-friendly provision of care of mental health conditions during pregnancy and after childbirth. Obstetrical Gynaecological Society of Bangladesh (OGSB) and Family Health International (FHI-360) along with specialists in psychiatry conducted situation analysis through literature review[16]. A number of focus group discussions with various level of decision makers and service providers and case studies were undertaken[16]. A validated (PHQ-9) screening tool, algorithm for management and level of integration, roles of different service providers, cut-off point for referral, referral path way have been suggested[16]. Govt. of Bangladesh has developed a tele-medicine service to provide care by experts to the periphery from a central level; and has been implemented in selected health facilities and are being scaled up.

Mental health is an integral part and an important composite of all health care services including maternal health. All of us must be aware about the facts stated here and act accordingly as a team; and play our respective roles to support this important, but neglected area of health care services. Its inclusion in national strategies of mental and maternal health, with due importance, is crucial. All concerned at every level of health care services should be instrumental to integrate perinatal mental health in all possible preventive & treatment provisions. Maternal health services including antenatal and postnatal care must immediately initiate all necessary activities to integrate mental health (e.g. development of guideline and training manual, training of all categories of service providers, creation of service provision and referral linkage, supply of medicine, counseling services). Above all, family, society, educational and health institutes should nurture a culture of positive mental health for all.

Prof. Ferdousi Begum
President-OGSB

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Original Articles

For Postpartum Haemorrhage Prophylaxis between Carbetocin and Oxytocin - A Study in Tertiary Care Hospital

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Abstract

Postpartum haemorrhage is a major cause of maternal deaths and ill health in low- and middle-income countries. Active management of the third stage of labour, which is generally used to reduce blood loss at birth, consists of giving the mother a drug that helps the uterus to contract, early cord clamping and controlled cord traction to deliver the placenta. Different drugs have been tried and generally either intramuscular oxytocin or intramuscular syntometrine is given. Carbetocin is an oxytocin agonist. Oxytocin agonists are a group of drugs that mimic the oxytocin action, oxytocin being the natural hormone that helps to reduce blood loss at birth. The comparison between intramuscular carbetocin and oxytocin showed carbetocin less likely to have heavy bleeding and less likely to require other medications to produce uterine contractions. The study compared carbetocin against oxytocin given in third stage of labour. Therefore, this will be rationale to carry out a study to find out the safety and effectiveness of carbetocin over oxytocin as prophylaxis of post-partum haemorrahge.

Keywords: *Postpartum haemorrhage (PPH); Oxytocin; Carbetocin.*

Introduction:

Postpartum hemorrhage (PPH), defined as bleeding from the genital tract of 1000 mL or more in the first 24 hours following delivery of the baby[1]. Postpartum hemorrhage is an important cause of maternal morbidity and mortality worldwide, accounting for at least 150,000 maternal deaths every year. The World Health Organization (WHO) estimates that 20 million morbidities every year result from postpartum hemorrhage[2]. The decreased prevalence of postpartum hemorrhage in most developed parts of the world probably is due to better management of the third stage of labor. However, this is not true in developing countries. In Africa and Asia, where most maternal deaths occur, PPH accounts for more than 30% of all maternal deaths[3]. The risk of dying from postpartum hemorrhage depends on the amount and rate of blood loss and also on the health status of the mother. Carbetocin is a long-acting synthetic octapeptide analogue of oxytocin with agonist properties. The clinical and pharmacological properties of carbetocin are similar to those of naturally occurring oxytocin. Like oxytocin, carbetocin binds to oxytocin receptors present on the smooth musculature of the uterus, resulting in rhythmic contractions of the uterus, increased frequency of existing contractions and increased uterine tone. In pharmacokinetic studies, intravenous injections of carbetocin produced tetanic uterine contractions within two minutes, lasting six minutes, followed by rhythmic contractions for a further hour. Intramuscular injection produced tetanic contractions in less than two minutes, lasting about 11 minutes, and followed by rhythmic contractions for an additional two hours. The prolonged duration of

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activity after intramuscular compared with the intravenous carbetocin was significant (4). In comparison to oxytocin, carbetocin induces a prolonged uterine response when administered postpartum, in terms of both amplitude and frequency of contractions. The potential advantage of intramuscular carbetocin over intramuscular oxytocin is its longer duration of action. Its relative lack of gastrointestinal and cardiovascular side effects also proved advantageous compared to syntometrine and other ergot alkaloids. A systematic review of the literature for studies on this subject was conducted and performed a meta-analysis in order to assess the effectiveness and safety of carbetocin in the prevention of PPH[5]. Till now it is recommended that Oxytocin should be used as oxytocic agent either in form of intramuscular injection or intravenous infusion (6). However, it was noticed in medical audit that oxytocic agents were usually used for longer period like 4 hours on an average[7]. With the use of Carbetocin uterine contractions occur in less than two minutes after intravenous administration of optimal dosage of $100\mu g$. A single dose of carbetocin has been hypothysed to act as a 16 hours intravenous oxytocin infusion regarding the increase in uterine tone and the reduction of the risk of PPH. Several data of literature[7,8] suggest that prophylactic administration of carbetocin may be a good alternative to oxytocin to prevent post-partum haemorrhage. The purpose of this study is to determine the effectiveness and safety of carbetocin versus oxytocin for the prevention of post-partum haemorrahge.

Materials and Methods:
It was a Cross sectional comparative study done in Department of Obstetrics & Gynecology, Chittagong Medical College and Hospital (CMCH), Chattogram, Bangladesh from October 2019 to March 2020. Pregnant women admitted for delivery in CMCH, who were specially at risk of PPH, during the study period were selected as study population. Sample size was determined by power analysis for a two proportion.

Formula for sample size determination for two proportions

$$n = \frac{P_1(1-P_1) + P_2(1-P_2)}{(P_1 - P_2)^2}(Z_\alpha + Z_\beta)^2$$

P_1= Additional oxytocics given in 27.0% (0.27) in oxytocin group

Carbetocin reduced the use of additional oxytocics from 10.1 to 4.7% (7) and hypothesised that carbetocin could halve this figure to 6%, which was a clinically significant finding

P_2 = Additional oxytocics in 6.0% (0.06) carbetocin group

Assuming α =0·05, power=0·80, and equal sample sizes in the two groups.

$$n = \frac{0.27(1-0.27) + 0.06(1-0.06)}{(0.27-0.06)^2} x(1.96+0.85)^2$$

n = 45.01

= 45 in each group and the total sample size were 90= (45x2)

Sampling Method: The purposive sampling method was followed in this study.

Inclusion Criteria
Women with risk factors for PPH like multiple pregnancy, induction of labour, prolonged labour, precipitate labour, two or more previous caesarean section, presence of uterine fibroids, previous myomectomy, past history of PPH, fetal macrosomia and fetal malformations associated with polyhydramnios or undergoing elective or emergency caesarean section under regional anaesthesia.

Exclusion criteria:
1. Women having chance of PPH other than atonic cause like heart disease, severe PE, eclampsia, placenta previa, gestational age less than 37 weeks etc.

2. Women/attendants who were not interested to give consent to participate in the study.

3. Women having history of bronchial asthma or hypersensitive reaction or epilepsy.

4. PPH due to cervical tear and vaginal lacerations.

5. Women with history of hypersensitivity to carbetocin.

Outcome Variables
Outcome variables were estimated blood loss, vital signs during and after the operation, uterine tone, use of additional oxytotics, primary PPH, incidence of blood transfusion, adverse effect, difference in antepartum and postpartum haemoglobin and cost.

Procedures of Preparing and Organizing Materials

Data was collected by interview, physical & lab examination using a structured questionnaire containing all the variables of interest. Data processing work was of registration of schedules, editing, coding and computerization, preparation of dummy tables, analysis and matching data. The technical matter of editing, coding and computerization was looked by self.

Equipment to be used

A semi-structured case record form was prepared after pretesting which was containing patient profile & details about use of carbetocin or oxytocin in active management of third stage of labour.

Procedures of Collecting Data

Demographic, pregnancy and postnatal data were recorded by the researchers on the study proformas. Women in the carbetocin group (group I) received a bolus of 100 ìg IV carbetocin and in the control group (group II) received 10 IU of oxytocin IM bolus after delivery (vaginal delivery or caesarean section) of the baby. The primary outcome of this study was the evaluation of uterine tone (standardized as Very good, Good, Sufficient, Atony), uterine height (with respect to the umbilical point, UP) was monitored within 5 min, 2 hours of delivery of placenta. Also, the blood loss was checked immediately after delivery, defining as haemorrhage as blood loss in excess of 1000 ml or more (9). Blood loss was estimated by the surgeon in the usual way (visual estimation, by measuring soiled sanitary towel-30 ml, saturated sanitary towel-100 ml, saturated small swab 10X10 cm- 60 ml, in continence pad- 250 ml, saturated large swab 45X45 cm- 350 ml, 100 cm diameter floor spill- 1500 ml, PPH on bed only - 1000 ml, PPH spilling to floor - 2000 ml, full kidney dish- 500   as very good, Good, Sufficient, Atony). The later important outcome of this study was the need for additional uterotonic agents and the evaluation of the drop in haemoglobin level by comparing the haemoglobin concentration on admission with the measure at 24 hours after delivery.

Procedure of Data Analysis

Statistical analysis was carried out by using the Statistical Package for Social Sciences version 20.0 for Windows (SPSS Inc., Chicago, Illinois, USA). The mean values were calculated by frequencies and percentages. The quantitative observations were indicated by frequencies and percentages. The results were presented in tables, figures, diagrams. Chi-Square test was used to analyze the categorical variables, shown with cross tabulation. Student t-test was used for continuous variables. P values <0.05 was considered as statistically significant.

Ethical Implications

Ethical clearance was taken from the ethical committee of Chittagong medical college hospital for approval. Verbal consent was taken from the patients before enrolling them. The respondents were told that they were at liberty to participate and to decline to answer any question during the study. The respondents were given assurance that the findings of the interview or investigation or examination was not used/ disclosed to any unauthorized person or authority other than the research purpose.

Results:

Table I shows characteristics of the study population. The difference was not statistically significant (p>0.05).

Table II shows majority (84.4%) patients was gestational age 38-40 weeks in group I and 88.9% in group II. The mean gestational age was found 40.1±1.8 weeks in group I and 40.2±1.7 weeks in group II. The mean gestational age was not statistically significant (p>0.05).

Two third (66.7%) patients had normal vaginal delivery in group I and 29 (64.4%) in group II. The difference was not statistically significant (p>0.05).

Table V shows associated risk factors of the study patients. The difference was not statistically significant (p>0.05).

Table V shows 27 (60.0%) patients had labour pain in group I and 16 (35.6%) in group II, which was statistically significant (p<0.05) but other indication was not statistically significant (p>0.05).

Almost three fourth (73.3%) patients had contracted uterine tone within 5 min in group I and 30 (66.7%) in group II. All (100.0%) patients had contracted uterine tone after 2 hours in group I and group II respectively. The difference was not statistically significant (p>0.05).

26.7% patients need for additional utero tonic in group I and 33.3% in group II. The difference was not statistically significant (p>0.05).

12 (26.7%) patients had primary PPH in group I and 19 (42.2%) in group II. Blood transfusion of the study patients, 11.1% patients need blood transfusion in group I and 17.8% in group II, which was not statistically significant (p>0.05).

Table IX shows maternal condition 24 hours after delivery of the study patients. The mean pulse was statistically significant (p<0.05) but other maternal condition 24 hours after delivery were not statistically significant (p>0.05).

Table-I

Distribution of the study patients by demographic variable (n=90)

Characteristics	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Age (years)					
≤20	12	26.7	8	17.8	
21-30	29	64.4	33	73.3	
>30	4	8.9	4	8.9	
Mean±SD	24.5±4.6		24.8±3.6		[a]0.731[ns]
Range (min, max)	19, 40		19, 32		
Married for (years)					
≤5	36	80.0	37	82.2	
6-10	6	13.3	8	17.8	
>10	3	6.7	0	0.0	
Mean±SD	4.1±4.0		4.5±4.2		[a]0.644[ns]
Range (min, max)	1, 18		1, 10		
Area of living					
Rural	12	26.7	17	37.8	
Semi urban	16	35.6	12	26.7	[b]0.480[ns]
Urban	17	37.8	16	35.6	
Educational status					
Illiterate	19	42.2	24	53.3	
Primary	16	35.6	17	37.8	[b]0.203[ns]
SSC	10	22.2	4	8.9	
Economic status					
Low	31	68.9	32	71.1	[b]0.818[ns]
Middle	14	31.1	13	28.9	
Parity					
Primi	23	51.1	29	64.4	
					0.200[ns]
Multi	22	48.9	16	35.6	

ns= not significant; [a] P value reached from unpaired t-test; [b] P value reached from chi square test
Group I= Carbetocin; Group II= Oxytocin

Table-II

Distribution of the study patients by gestational age (n=90)

Gestational age (weeks)	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
38-42 (Term)	38	84.4	40	88.9	
>42 (Post term)	7	15.6	5	11.1	
Mean±SD	40.1±1.8		40.2±1.7		0.787[ns]
Range (min, max)	38, 44		38, 44		

ns= not significant; P value reached from unpaired t-test

Table-III
Distribution of the study patients by mode of delivery (n=90)

Mode of delivery	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
NVD	30	66.7	29	64.4	
LSCS	10	22.2	11	24.5	0.968^{ns}
Ventous	5	11.1	5	11.1	

ns= not significant; P value reached from chi square test

Table-IV
Distribution of the study patients by diagnosis (n=90)

Diagnosis	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Labour pain	27	60.0	16	35.6	0.020^{s}
Fetal distress	5	11.1	5	11.1	1.000^{ns}
Prolong labour pain	5	11.1	5	11.1	1.000^{ns}
Multiple pregnancy	6	13.3	5	11.1	0.748^{ns}
Diabetic mellitus	4	8.9	5	11.1	0.500^{ns}
CPD	4	8.9	3	6.7	0.500^{ns}
Less fetal movement	1	2.2	2	4.4	0.500^{ns}
Unfavorable cervix	1	2.2	2	4.4	0.500^{ns}
PROM	2	4.4	1	2.2	0.500^{ns}
IUD	1	2.2	3	6.7	0.308^{ns}
BOH	1	2.2	2	4.4	0.500^{ns}
Breech	3	6.7	2	4.4	0.500^{ns}

s=significant, ns= not significant; P value reached from chi square test

Table-V
Distribution of the study patients by associated risk factors (n=90)

Associated risk factors	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Induction of labour	12	26.17	13	28.9	0.814^{ns}
Augmentation	15	33.3	12	26.7	0.490^{ns}
Multigravida	22	48.9	16	35.6	0.200^{ns}
Prolong labour	5	11.1	5	11.1	1.000^{ns}
Multiple pregnancy	6	13.3	5	11.1	0.748^{ns}
DM with polyhydromnion	1	2.2	2	4.4	0.500^{ns}
DM with macrosomia	2	4.4	0	0.0	0.247^{ns}

ns= not significant; P value reached from chi square test

Table-VI
Distribution of the study patients by observation (n=90)

Observation	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Uterine tone within 5 min					
Contracted	33	73.3	30	66.7	0.490^{s}
Flabby	12	26.7	15	33.3	
Uterine tone after 2 hours					
Contracted	45	100.0	45	100.0	-
Flabby	0	0.0	0	0.0	

ns= not significant; P value reached from chi square test

Table-VII
Distribution of the study patients by need for additional utero tonic (n=90)

Need for additional utero tonic	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Yes	12	26.7	15	33.3	0.490^{ns}
No	33	73.3	30	66.7	
If yes					
Injection Ergometrine	12	26.7	15	33.3	
Tab misoprostol	11	24.4	12	26.7	
Balloon catheterization	1	2.2	3	6.7	

ns= not significant; P value reached from chi square test

Table-VIII
Distribution of the study patients by maternal blood loss and need for blood transfusion (n=90)

Maternal blood loss	Group-I (n=45)		Group-II (n=45)		P value
	n	%	n	%	
Average	33	73.3	26	57.8	0.120^{ns}
Primary PPH	12	26.7	19	42.2	
Need for blood transfusion					
Yes	5	11.1	8	17.8	0.368^{ns}
No	40	88.9	37	82.2	

ns= not significant; P value reached from chi square test

Table-IX
Distribution of the study patients by maternal condition 24 hrs after delivery (n=98)

Maternal condition 24 hrs after delivery	Group-I (n=49) Mean±SD		Group-II (n=49) Mean±SD		P value
Pulse (bpm)	89.0±5.7		91.6±5.7		[a]0.048[s]
Range (min, max)	80, 100		80, 100		
Systolic BP (mmHg)	114.2±8.9		116.2±9.8		[a]0.313[ns]
Range (min, max)	100, 130		100, 140		
Diastolic BP (mmHg)	77.3±6.9		78.9±8.0		[a]0.315[ns]
Range (min, max)	60, 80		70, 100		
Fundal height (weeks)	23.4±1.4		22.8±2.1		[a]0.114[ns]
Range (min, max)	20, 28		18, 24		
Anaemia					
Mild	1	2.2	5	11.1	[b]0.101[ns]
Absent	44	97.8	40	88.9	
PV bleeding					
Average	43	95.6	37	82.2	[b]0.044[s]
More than average	2	4.4	8	17.8	

s=significant; ns= not significant; [a] P value reached from unpaired t-test; [b] P value reached from chi square test

Discussion:

This cross-sectional comparative study was carried out with an aim to compare the efficacy of carbetocin over oxytocin in terms of intrapartum blood loss and the additional stat uterotonic needed at high risk of post-partum haemorrhage and also to evaluate the socio-demographic profile and clinical presentation of patients who are at risk of PPH.

In this research work it was observed that sociodemographic profile that is mean age, educational, social status and parity was not statistically significant in two groups (p>0.05). Mean age was found 24.5±4.6 years in group I and 24.8±3.6 years in group II. The mean marital age was found 4.1±4.0 years in group I and 4.5±4.2 years in group II. Reyes et al. (10) found the mean age was 26.52±9.12 years in Carbetocin group and 26.78±8.39 years in Oxytocin group. The difference was not statistically significant (p>0.05) between two groups, which is closely resembled with the present study, 51.1% patients had primi para in group I and 29(64.4%) in group II. The difference was not statistically significant (p>0.05) between two groups. Holleboom et al. (11) had undertaken a study and observed multigravida 28.3% and 23.1% in carbetocin and oxytocin group respectively. The difference was not statistically significant (p>0.05) between two groups. In another study, it was observed multigravida was 46.0% in oxytocin group.

Majority (84.4%) patients was gestational age 38-40 weeks in group I and 40(88.9%) in group II. The mean gestational age was found 40.1±1.8 weeks in group I and 40.2±1.7 weeks in group II. The mean gestational age was not statistically significant (p>0.05) between two groups. Holleboom et al. (11) found that the mean gestational age was found 38.9±1.0 weeks in Carbetocin group and 38.8±1.0 weeks in group Oxytocin group. The difference was not statistically significant (p>0.05) between two groups, which is consistent with the present study. Similarly, Larciprete et al. (6) and Reyes et al. (10) had observed the identical mean gestational age of their studied patients, thus support the present study. Two third (66.7%) patients had normal vaginal delivery in group I and 29 (64.4%) in group II. The difference was not statistically significant (p>0.05) between two groups. Similarly, Larciprete et al. (6) found two or more C/S was 33.3% in carbetocin group and 23.5% in oxytocin group.

Almost three fourth (73.3%) patients had contracted uterine tone within 5 min in group I and 66.7% in group II. All (100.0%) patients had contracted uterine tone after 2 hours in group I and group II respectively. The difference was not statistically significant (p>0.05). The uterine tone remained well contracted in both the groups even after 24 hours after caesarean section. Physician's subjective experience with carbetocin was

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rated as good in 92.0% of the cases[11]. In another study Larciprete et al. (6) observed there was a significant difference in the uterine tone. The uterine contractility was better in the carbetocin group at- 2, 12 and 24 hours after caesarean section, and the difference was statistically significant at 24 hours (p<0.05).

Twelve (26.7%) patients need for additional utero tonic in group I and 15 (33.3%) in group II. The difference was not statistically significant (p>0.05). In another study Reyes et al. (10) found need for additional uterotonics was 3.4% in oxytocin group, which differ with the current study. 26.7% patients had primary PPH in group I and 42.2% in group II. PPH was higher in group II but not statistically significant (p>0.05) between two groups. Holleboom et al. (11) showed the proportion of subjects with blood loss [500 ml (carbetocin 28.8%, oxytocin 26.9%) and [1,000 ml (carbetocin 7.8%, oxytocin 8.4%) was also comparable for both groups. Larciprete et al. (6) reported that there was no significant difference in the amount of estimated blood loss and in the incidence of primary post-partum haemorrhage (>1000 ml) in both groups. In fact, the investigators did not demonstrate any difference in the amount of blood loss after caesarean section and in the drop of haemoglobin level within 2 hours and 24 hours, but we showed in the oxytocin group a significant need (23.5%) of additional uterotonic agents. Previous studies have shown that carbetocin could induce maternal tachycardia and facial flushing[12], but none in our carbetocin subgroup had these adverse events.

This work shows that 11.1% patients need for blood transfusion in group I and 17.8% in group II. Need for blood transfusion was higher in group II, but not statistically significant (p>0.05) between two groups, which is similar with Reyes et al.[10] study, where they found 10.3% need for blood transfusions in oxytocin group. Holleboom et al.[11] administrated blood transfusions in 2.2% of the cases in the carbetocin group and 2.7% in the oxytocin group (p>0.05). Reyes et al. (10) found that 3 (10.3%) patients needed blood transfusion in Oxytocin group but not needed in Carbetocin group. The difference was not statistically significant (p>0.05) between two groups. In another study Attilakos et al. (7) observed that blood transfusion was needed 4 (2.1%) in carbetocin group and 5(2.6%) in oxytocin group. The difference was not statistically significant (p>0.05) between two

groups, which are comparable with the current study. In this series it was observed that all (100.0%) patients had stable hemodynamic status in group I and group II respectively.

Conclusion:
Primary PPH was more than one fourth in patients treated with carbetocin and 42.2% in patients treated with oxytocin group. All patients had stable haemo dynamic status in both groups. Blood pressure and fundal height were almost similar between two groups. Pulse rate was significantly higher in oxytocin group. PV bleeding was significantly less in carbetocin group. Additional oxytocics and need of blood transfusion were minimum in carbetocin group. Side effect were less in carbetocin group. Therefore, it can be concluded that a single injection of carbetocin appears to be more effective than a continuous infusion of oxytocin to maintain adequate uterine tone, with a similar safety profile.

Limitations of the Study

1. The study population was selected from one selected hospital, so that the results of the study may not reflect the exact picture of the country.

2. The present study was conducted at a very short period of time with limited fund.

3. The sample size was limited. If the study could be done in a large group of people then the results of the study would be more producible.

4. Potential bias in assessment of blood loss and use of additional oxytocics could not be eliminated.

5. The amount of blood loss was assessed clinically and not by quantitative parameters.

Recommendations
A single intravenous injection of 100 ìgm of carbetocin immediately after birth of the baby in pregnant women undergoing caesarean section under spinal anesthesia can be used effectively and safely. Further studies can be undertaken by including large number of patients.

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Psychological Impact of COVID-19 Pandemic on Pregnant Mothers – A Survey during the Early Days in Bangladesh

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Abstract

Objective: *The COVID-19 pandemic possess significant risk to public health, including mental health. During pregnancy, women may experience stress and anxiety associated with potential adverse obstetrical outcomes. Stress and anxiety level may also increase during infectious disease outbreaks. Currently, there is no known information on the psychological impact, the effect on individual's social and/or psychological aspects, and mental health of pregnant women during the COVID-19 pandemic. This study aimed to evaluate the psychological impact of the COVID-19 outbreak on pregnant mothers in Bangladesh in early days.*

Methods: *This was an observational descriptive (survey) study conducted on 60 pregnant mothers during June and July, 2020. The data were collected through online survey form and analysed through SPSS v.20.*

Results: *Mean age of the respondents was 26.7 yrs. Majority of them were from urban community and housewives. Most of the participants were well educated, 65% graduate or above. Twenty three (38.3%) had never visited a doctor during the pandemic period and another 31.7% had visited only once. Twelve mothers faced various pregnancy related complications, but among them three (3/12, 25%) never consulted any medical professional. 38.3% mothers said they faced problem with investigations as there was a fear of contracting the virus during a visit. Majority (78.3%) preferred private hospital to plan their delivery. Most of the mothers (51/60, 85%) said they had not used and/or known about the medications for Covid19, but 50 (83.3%) had bought a PPE. Thirty three (55%) used telemedicine, among them 75% were satisfied. Throughout this pandemic, the pregnant mothers felt depressed (48.3%), restless (31.7%) and undue stress (26.7%). Half the mothers were anxious watching news or any stories on social media about Covid19. Majority 65% did not face any covid related symptoms as they mostly stayed at home. Twenty (33.3%) respondents opined that all pregnant women should be tested for Covid19 regardless of symptoms. Most of the participant recommended telemedicine, availability of good emergency obstetric service and separate transport facility for pregnant mothers.*

Conclusion: *The above results can be used to formulate psychological interventions to improve mental health and psychological resilience of pregnant mothers during the Covid19 pandemic.*

Key-words: *Covid19, pandemic, Psychology, depression*

Introduction

In Bangladesh, an estimated 2.4 million babies was born under the shadow of the COVID-19 pandemic. Globally, the number was 116 million of these babies were projected to be born up to 40 weeks after COVID-19 was recognized as a pandemic on March 11.[1] New mothers and newborns was greeted by harsh realities, including global containment measures such as

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lockdowns and curfews; health centers overwhelmed with response efforts; supply and equipment shortages; and a lack of sufficient skilled birth attendants as health workers, including midwives, were redeployed to treat COVID-19 patients. Pregnant mother prepared to bring a life into the world as it became – a world where expecting mothers were afraid to go to health centres for fear of getting infected, or missing out on emergency care due to strained health services and lockdowns. Even though there were no significant change in the maternal mortality ratio and neonatal mortality rate, an analysis of data in the Directorate General of Health Services dashboard showed that since the beginning of the COVID-19 crisis, there was a significant reduction in the uptake of maternal and newborn health services from the health facilities. Only 33 district hospitals in Bangladesh were performing all key functions of emergency obstetric care out of 63.

The coronavirus disease 2019 (COVID-19) outbreak possess significant risk to public health, including mental health. A survey conducted in China showed that 53.8% of the respondents rated the psychological impact of the outbreak as moderate or severe, and 28.8% reported moderate to severe anxiety symptoms and stress levels.[2] During pregnancy, women may experience stress and anxiety associated with potential adverse obstetrical outcomes such as fetal death or fetal abnormalities. Stress and anxiety level may also increase during infectious disease outbreaks. Currently, there is no known information on the psychological impact, the effect on individual's social and/or psychological aspects, and mental health of pregnant women during the COVID-19 epidemic. This

study aimed to survey pregnant women to evaluate psychological impact and anxiety during the COVID-19 outbreak.

Method:

This was an observational (descriptive survey) study conducted on 60 pregnant mothers during June and July, 2020. The data were collected through online survey form and analysed through SPSS v.20.

Result:

Of those in the 18–35 age group, 76.6% were from the Dhaka division. Of the 60 respondents, 35 percent were housewives and 15 percent work for the government. Post-graduation completion rates were 40%, and honors/madrasa completion rates were 35% up to the fazal level. During the epidemic, 38.3% never went to the doctor. Among the responders, only 8.3% made three or more trips. Pregnancy-related problems affected 20% of women; these were primarily limited to fetal distress, reduced fetal movement, abdominal pain, heaviness, Gestational Diabetes Mellitus (GDM), Urinary Tract Infection (UTI) and PROM. During the COVID epidemic, 44 respondents reported feeling unduly stressed about their own and their unborn child's health. Early in the COVID era, 31.3% of respondents expressed concern about unexpected changes in doctors and availability of doctors. Twenty five (25%) were worried about whether or not they will be able to access transportation in an emergency. Half were concerned about catching the corona virus from other people. Of the responders, 23.5% reported having panic attacks and a fear of dying. Lockdown had been in place for months on end in the beginning.
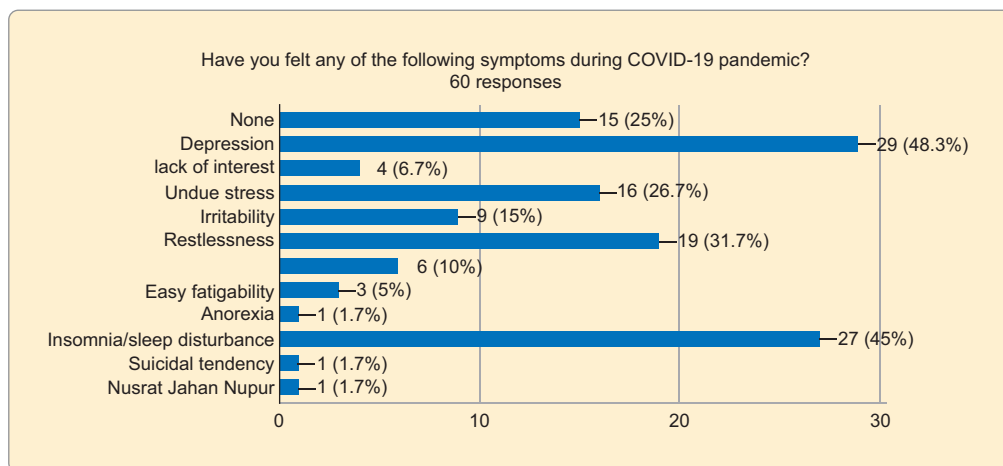
Fig.-1:
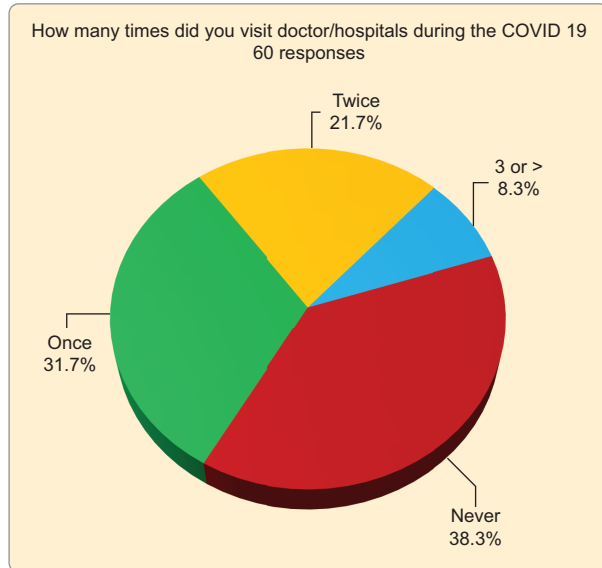
Fig.-2:
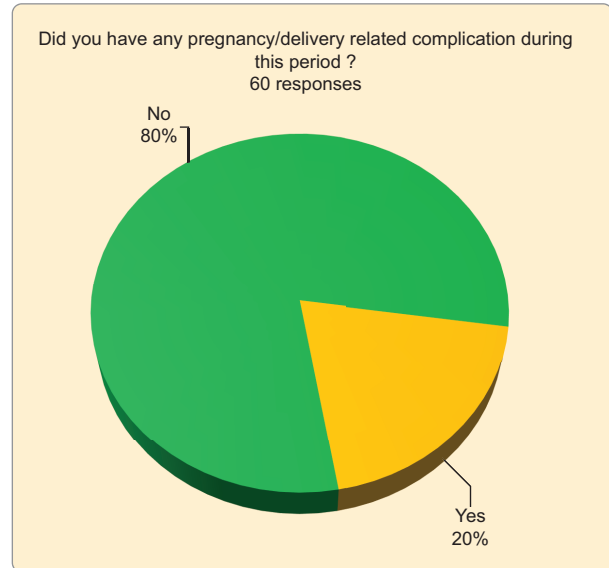
Fig.-3:

Expectant mothers and their families were alarmed because the majority of gynecologists had quit practicing in private practice and most hospitals had become COVID-exclusive. Of those in this survey, 26.7% experienced transportation issues and 38.3% encountered issues throughout their investigations. At private hospitals, 78.3% of births prefer to occur. 83.3% purchased a mask, gloves, personal protective equipment (PPE), and 15% purchased over-the-counter medication to prevent COVID-19 infection. During the lockdown, 63.3% of people used telemedicine for checkups, and 75% of them expressed satisfaction with the services. Due to lockdown and dread of death during the COVID-19 pandemic, 48.3% of expectant mothers had

depression, 31.7% were restless, 45% experienced insomnia and sleep disturbance, 26.7% became excessively agitated, and 15% became irritated.

Watching news or any stories regarding CIVID 19 on social media caused 38.3% of people to feel uneasy. Of those concerned about the virus infecting the fetus, 73.3% were worried about it, and 50% were unsure if it would affect breastfeeding.

10% of the 60 respondents said they had a neighbor, relative, or family member coming back from overseas, and 5% said their family members were in quarantine. 10% reported having interaction with COVID-19 suspicious patients in the past.

Fig.-4:

Fig.-5:

Fever, cough, and loose motion were among the COVID-19 symptoms that 10–11% of respondents reported having. According to 33.3% of respondents, COVID-19 testing should be mandatory for all expectant mothers.

Fig.-6:

Discussion:

A significant increase in depression and sleeplessness was seen in pregnant women during the COVID-19 pandemic. Because this study used an internet survey, the majority of respondents were educated, from the urban age range of 18 to 35, with 76.6% of them coming from the Dhaka division. In a study done in China, ethnicity made up 96.7% of the sample, with 43.3%

of participants being between the ages of 26 and 30 and 41.7% being between the ages of 31 and 40.In line with our findings, 12.3% of pregnant women had a lower education level and 75.7% had a higher education level.[3]Contrary to expectations, changes in the symptoms of affectivity, anxiety, and depression were not influenced by the sociodemographic variables. [4] In this study, 44 respondents reported feeling excessively anxious about the COVID-19 pandemic and their own and their unborn child's health. Of the responders, 23.5% reported having panic attacks and a fear of dying. In order to stop COVID infection, 83.3% purchased masks, gloves, PPE, and 15% purchased over-the-counter medication from a pharmacy. During the lockdown, 63.3% of people used telemedicine for checkups, and 75% of them expressed satisfaction with the services. Due to lockdown and dread of death during the COVID-19 pandemic, 48.3% of expectant mothers had depression, 31.7% were restless, 45% experienced insomnia and sleep disturbance, 26.7% became excessively agitated, and 15% became irritated. Watching news or any stories regarding COVID-19 on social media caused 38.3% of people to feel uneasy. Fifty percent of respondents were unsure if the infection would interfere with breastfeeding, and seventy-three percent had concerns about the virus infecting the fetus. But as of right now, there is no proof that the coronavirus can spread through nursing or in a vertical manner from mother to fetus. Furthermore, there is no proof that moms are more susceptible to a severe COVID-19 infection or that pregnant women are more prone to contract the virus.[5] The examination of the pandemic's secondary consequences, such as mental health issues, becomes more pertinent given the uncertainty

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created by the pandemic backdrop and the current lack of knowledge regarding the virus's transmission routes and effects on pregnant women. This study looked at the presence and evolution of psychopathological indicators of depression, anxiety, and affectivity in a sample of pregnant and non-pregnant women because of the potential negative psychological effects that the pandemic and social distancing could have on mothers and their children. During the COVID-19 pandemic or other similar disease outbreaks, pregnancy may be an additional risk factor for the development or exacerbation of some psychopathological disorder or the emergence of psychological distress.[6] When it comes to depression, the symptoms increased along with the pandemic. The prevalence of depression was reported 37% in Canada,[7] 25% in Colombia[8], 25.3% in Belgium.[9] Research indicates that the lengthening of the epidemic and pregnancy appear to be factors that exacerbate the intensity of depression symptoms.[6] Nearly 35% of the recruited pregnant women reported engaging in self-isolating behaviors in an effort to prevent the spread of COVID-19.[4] 10% of the 60 respondents said they had a neighbor, relative, or family member coming back from overseas, and 5% said their family members were in quarantine. 10% reported having interaction with COVID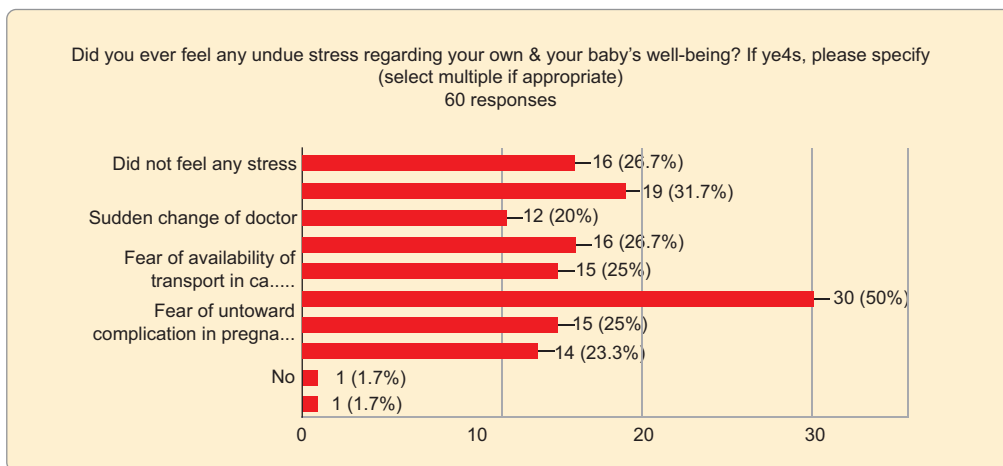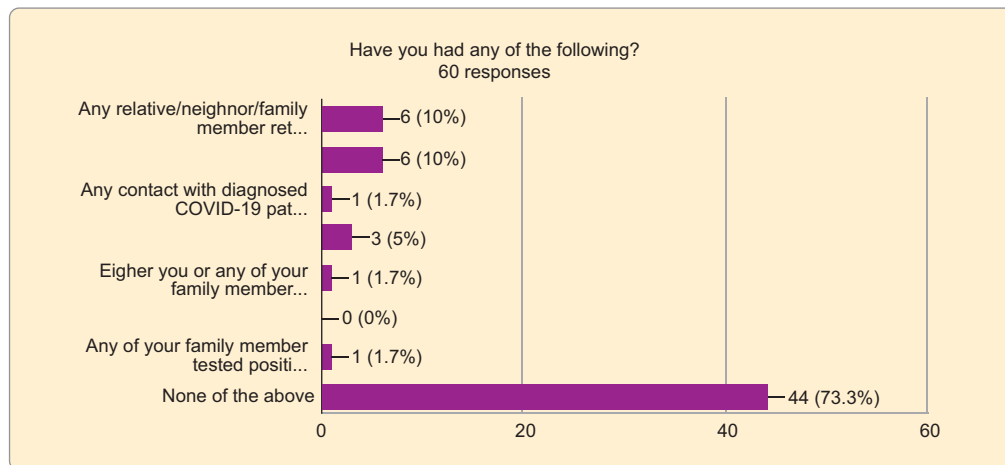-19 suspicious patients in the past. Fever, cough, and loose motion are among the COVID-19 symptoms that 10–11% of respondents reported having. According to 33.3% of respondents, COVID-19 testing should be mand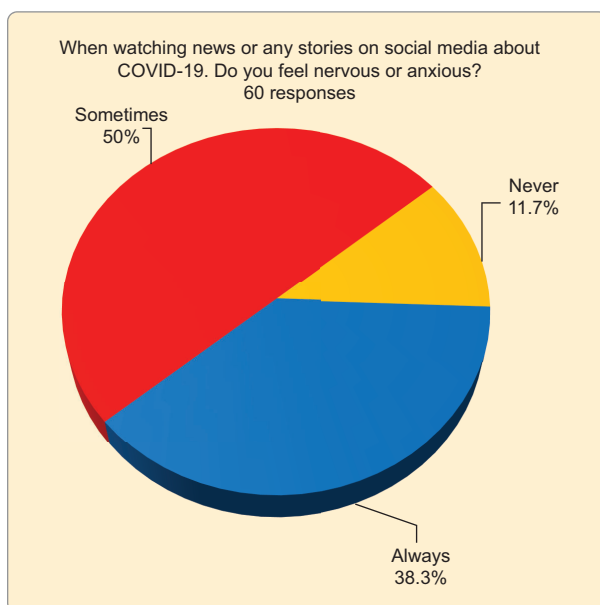atory for all expectant mothers. A significant increase in depression and sleeplessness was seen in pregnant women during the COVID-19 pandemic. The COVID-19 pandemic in China was shown to have caused minor types of depression, generalized anxiety, sleeplessness, and psychological stress in 35.3%, 19.0%, 29.6%, and 15.2% of subjects, respectively[3] and in US is 36.4%.[10] Since the COVID-19 outbreak was declared on January 20, 2020, strict measures to limit the spread of the disease have been implemented, including a ban on pointless social activities, a flexible work schedule, work from home through skype, zoom platform and quarantine regulations. When it came to the vertical transmission of the disease, nearly half of the women (46%) reported having considerable anxiety. The first trimester experienced greater anxiety and a more severe psychological impact during the COVID-19 pandemic than second or third trimester of

pregnancy.[11] Study participants 38.3% never went to the doctor after the outbreak. Among the responders, only 8.3% made three or more trips. Pregnancy-related problems affected 20% of women; these were primarily limited to fetal distress, reduced fetal movement, abdominal pain, heaviness, GDM, UTI, and PROM. In China, the first trimester was associated with a higher risk of depression and higher levels of depressive symptoms, whereas the third trimester was associated with higher levels of psychological stress and insomnia.[3] The trends align with earlier research carried out in Portugal[11] and Switzerland.[12] One explanation could be that during the pandemic, pregnant women only visited the hospital once for routine prenatal care during the first trimester, and that during that time, outside activities drastically declined as a preventive measure. Pregnant women's mental health may have suffered as a result of home quarantine and the ensuing social isolation. Among the third trimester, clinically recognized sleeplessness was more common among pregnant women.[3] Early in the COVID era, 31.3% of respondents expressed concern about unexpected changes in doctors and availability of doctors. 25% are worried about whether or not they will be able to access transportation in an emergency. Half were concerned about catching the corona virus from other people. Lockdown had been in place for months on end in the beginning. Expectant mothers and their families were alarmed because the majority of gynecologists had quit practicing in private practice and most hospitals had become COVID-exclusive. Of those in this survey, 26.7% experienced transportation issues and 38.3% encountered issues throughout their investigations. At private hospitals, 78.3% of births prefer to occur. Significantly higher rates of psychological stress in the third trimester could be caused by more hospital visits and anxiety about the possibility of infection during childbirth, particularly in a hospital that has been certified as a COVID-19 facility. More family support was a protective factor against the current incidence of the evaluated mental health disorders, although prior psychological status was a risk factor, according to logistic regression analyses. In line with our findings, depression was expected to emerge in the absence of social support in 22.2% cases. Reductions in assistance throughout pregnancy had a detrimental effect on the mental health of the mothers.[13] Family support could mitigate mental health issues for expectant mothers among the COVID-19 pandemic.

Conclusion:

Psychological impact on pregnant women in early days of COVID-19 was quite severe. Our findings can be used to formulate psychological interventions to improve mental health and psychological resilience during the COVID-19 epidemic.

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Pre-caesarean Anxiety Level in Obstetric Patients Undergoing Elective or Emergency Cesarean Section: A Comparative Study

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Abstract:

Introduction: A prevalent physiological reaction to stress is the manifestation of anxiety symptoms observed in individuals undergoing surgical procedures. Obstetric patients have been found to exhibit a higher degree of preoperative anxiety in comparison to the general surgical patients. The primary objective of this study was to evaluate and compare the levels of preoperative anxiety among obstetric patients who were scheduled for elective or emergency cesarean section.

Methodology: The present study was a cross-sectional comparative study undertaken at the Combined Military Hospital of Bogura, specifically within the Department of Obstetrics and Gynaecology, for one year, from January 2022 to December 2022. According to the American Society of Anesthesiologists, the study included a sample size of 200 obstetric patients classified as physical status II. These patients underwent either elective cesarean section (n=100) or emergency cesarean section. The study employed the Hospital Anxiety and Depression Scale (HADS) and the Visual Analogue Scale for Anxiety (VAS-A) as assessment tools. The study used a purposive sampling strategy

Result: In this study, 50% of subjects belonged to the <25 years age group and 50% to >25 years age group. Most patients, 120 (60%), lived in the urban area, and the rest, 80 (40%) lived in the village. Regarding economic and clinical characteristics, 50% of patients had no personal income, most of the patients (65%) were multigravida, 80% of patients had no chronic illness, 70% had no anesthetic exposure, 85% had no awareness about anesthesia, 60% had awareness about surgery, 50% had the urgency of emergency surgery and 50% had elective surgery. Concerning the factors of anxiety, 90% of patients had postoperative pain, 85% had a fear of being unable to recover, 80% of patients had a fear of complications, and 80% had unexpected results of the operation. Among the patients, 136(68.0%) had pre-caesarean anxiety when undergoing emergency caesarean surgery while 64 (32.0%) patients had pre-caesarean anxiety when undergoing elective surgery (p <0.0001).

Conclusion: It is recommended that all patients undergoing surgery, regardless of elective or emergency, have an assessment for anxiety during their standard preoperative anesthetic evaluation. Patients identified as having a significant level of anxiety should be booked for an additional counseling session.

Keywords: Anxiety, Elective c/s, Emergency Caesarean Section,

Introduction:

Cesarean section is one of the most common surgical procedures performed on obstetric patients, and regional or general anesthesia techniques are based on patients' indications[1]. However, in modern obstetrics anesthesia practice, the percentage use of regional anesthesia for cesarean section has become a marker of quality in terms of risk and benefits for both mother and fetus[2]. World Health Organization (WHO) recommended the optimal Cesarean Section rate should be between 5% and 15%[3]. Preoperative anxiety is often described as an uncomfortable, tense, unpleasant mood before surgery, an emotional response to a potential challenge or threat to reality. It results in complications by stimulating the sympathetic nervous system, causing tachycardia, increased blood pressure, arterial vessel contraction, decreased blood circulation to wounds, decreased tissue partial pressure, chronic pain, and

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depression.[4] Preoperative anxiety is a challenging concept in the preoperative care of patients. Most patients awaiting surgery experience anxiety, which is widely accepted as an expected response.[5] Untreated anxiety ended in major cardiac events like congestive cardiac failure, acute myocardial infarction, and pulmonary edema. In addition, it increases the readmission rate, causes poor quality of life and high rate of cardiac mortality, high postoperative pain, increased analgesic and anesthetic consumption, prolonged hospital stay, influence during anesthetic induction, delay patient recovery, and decreased patient satisfaction with the perioperative experience.[6] Anxiety is a set of behavioral manifestations. It is broadly of two types: state anxiety and trait anxiety. State anxiety is driven by episodes of anxiety that do not persist beyond the situation and is a temporary emotional state. This state varies over time. Trait anxiety is a condition in which an individual experiences a lifelong pattern of anxiety.[7] Worldwide, the prevalence rate of preoperative anxiety among adult patients ranged between 11 and 80%[8] and prevalence rates of preoperative anxiety in an African country ranged from 47% to 70.3%.[9] However, most studies showed a higher level of preoperative anxiety in obstetric patients compared to the general surgical population and reported 73.3–86%.[10] The State-Trait Anxiety Inventory (STAI) has been valid and reliable and it is currently taken as a gold standard tool. It has shown consistent results in different populations and ethnic groups in assessing anxiety.[11] Preoperative anxiety becomes a psychological issue when fear of surgery is so significant that it may begin to have physical symptoms like a rapid heartbeat, nausea, and chest pain. If patients are prone to anxiety, surgery can trigger a panic attack. Thus, healthcare providers need to examine and understand the mental health of patients undergoing surgical procedures. It is often accompanied by restlessness, fatigue, problems in concentration, muscular tension, and an uneasy feeling. In addition, preoperative anxiety is also associated with increased nausea, vomiting in the postoperative period, prolonged infection, and perioperative pain. [12] The present study assessed and compared preoperative anxiety in obstetric patients undergoing elective or emergency cesarean section.

Objective
General Objective
- To compare preoperative anxiety level in patients undergoing elective or emergency cesarean section.

Specific Objectives
- To find out the sociodemographic characteristics of the study population.
- To determine the clinical characteristics of the participants.
- To evaluate the possible factors of anxiety.

Methodology:
This cross-sectional study was conducted in Combined Military Hospital, Bogura, in the Department of Obstetrics and Gynaecology for 1 year; from January 2022 to December 2022. A total of 200 obstetric patients under going anesthesia physical status II according to the American Society of Anesthesiologists, undergoing elective (n=100) or emergency (n=100) cesarean section were included in the study. The Visual analog scale for anxiety (VAS-A) (Figure 1) and the hospital depression and anxiety scale (HADS) (Figure 2) were used as study tools. A purposive sampling technique was used in this study. A pre-formed data collection sheet collected all data. Informed written consent was obtained from the study
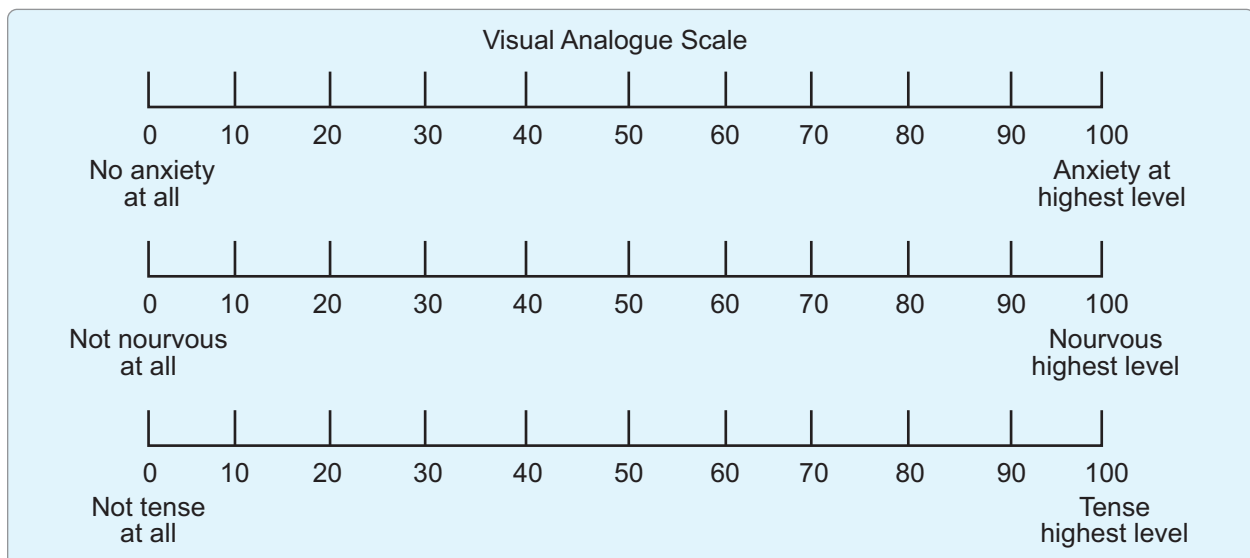
Fig.-1: *Visual Analogue Scale for anxiety*

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			**I feel as if I am slowed down:**
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			**I get a sort of frightened feeling like 'butterflies' in the stomach:**
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			**I have lost interest in my appearance:**
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			**I feel restless as I have to be on the move:**
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			**I look forward with enjoyment to things:**
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			**I get sudden feelings of panic:**
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			**I can enjoy a good book or radio or TV program:**
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

<u>Scoring:</u>
Total score: Depression (D) _____   Anxiety (A) _____
0-7   = Normal
8-10   = Borderline abnormal (borderline case)
11-21 = Abnormal (case)

Fig.-2: *Hospital anxiety and depression scale(HADS)*

subjects before commencing the study. Data clean-up and cross-checking were done for inconsistencies and missed values. Appropriate coding and editing were performed before data entry. The coded data were entered into Epi-info software version 7 and exported to SPSS version 24. A value of more than 11 on the HADS scale was taken as significant preoperative anxiety. Descriptive, inferential statistics were performed to observe the prevalence of anxieties. A Chi-square test was performed to compare the difference in anxiety level between the patients of elective and emergency cesarean section, where <0.05 considered the level of significance with 95% CI. The inclusion and exclusion criteria were as follows:

Inclusion Criteria
- Patients undergoing cesarean section, either elective or emergency.
- Patients who had given consent to participate in the study.

Exclusion Criteria
- Patients who did not give consent to participate in the study.
- Patients with chronic illnesses like-DM, HTN, hypothyroidism.

Result:

In this study, 50% of subjects belonged to the <25 years age group and 50% to the >25 years age group. Most of the patients (120, 60%) lived in the urban area and the rest (80, 40%) lived in the rural area. Regarding economical and clinical characteristics, 50% of patients had no personal income, 10.0% had <15000 BDT and 40.0% had >15000 BDT per month. [Table I]

Table-I
Sociodemographic characteristics of the study population (N=200).

Characteristics	N	%
Age		
<25	100	50.0
>25	100	50.0
Level of education		
Secondary and below	50	25.0
Graduate	150	75.0
Residence		
Urban	80	40.0
Rural	120	60.0
Economic status		
No income	100	50.0
<15000 BDT/month	20	10.0
>15000 BDT/month	80	40.0

Most of the patients (65%) were multigravida, 80% of patients had no chronic illness, 70% had no anesthetic exposure, 85% had no awareness about anesthesia, 60% had awareness about surgery, 50% had emergency surgery and 50% had elective surgery. [Table II]

Concerning the factors of anxiety, 90% of patients had fear of postoperative pain, 85% had a fear of unable to recovering, 80% of patients had a fear of complications, and 80% had fear of unexpected results of the operation. [Table III]

Among the patients, 67.29±8.51 had pre-cesarean anxiety when undergoing emergency caesarean surgery, while 48.35±10.29 patients had pre-caesarean anxiety when undergoing elective surgery [according to HADS]. 73.61±5.31 had anxiety before emergency surgery, while 52.43±4.16 had before elective surgery [according to VSA-A] (p <0.0001.) [Table IV].

Table-II
Clinical characteristics of the participants (N = 200).

Variables	Category	Frequency (N)	Percent (%)
Gravidity	Primigravida	70	35.0
	Multigravida	130	65.0
Postoperative pain	Yes	100	50.0
	No	100	50.0
Anesthesia exposure	Yes	60	30.0
	No	140	70.0
Awareness about anesthesia	Yes	30	15.0
	No	170	85.0
Awareness about surgery	Yes	80	40.0
	No	120	60.0
Type of the surgery	Emergency	100	50.0
	Elective	100	50.0

Table-III
Preoperative anxiety and possible factors (N=200).

Variables	Frequency (N)	Percentage
Fear of complications	160	80.0
Fear of postoperative pain	180	90.0
Fear of death	50	25.0
Unexpected results of operation	160	80.0
Harm from doctor's mistake	30	15.0
Fear of unknown	140	70.0
Fear of physical disability	60	30.0
Waiting for operation	30	15.0
Financial loss	60	30.0
Unable of recovery	170	85.0
Awareness during surgery	90	45.0
Cosmetics issues	40	20.0

Table-IV
Total anxiety count among the study subjects (N=200).

Study tool	Emergency cesarean section (N)	Elective cesarean section (N)	Significance
HADS	67.29±8.51	48.35±10.29	P<0.0001
VSA-A	73.61±5.31	52.43±4.16	

HADS= Hospital Depression and Anxiety Scale
VSA-A=Visual analog scale for anxiety

Discussion:
Some tools have been used in the assessment of levels of anxiety in adult surgical patients in developed countries, including the Depression, Anxiety, and Stress Scale (DASS), STAI, and the Visual Analogue Scale of Anxiety (VAS) [20]. In this study, 50% of subjects belonged to <25 years age group and 50% to >25 years age group. Most of the patients, 120(60%), lived in the urban area, and the rest, 80 (40%) lived in the village area. Concerning the factors of anxiety, 90% of patients had postoperative pain, 85% had a fear of being unable to recover, 80% of patients had a fear of complications, and 80% had unexpected results of the operation. Other reasons include fear of death, harm by a doctor's fault, fear of physical disability, financial loss, waiting for an operation, fear of unknown causes, and so on. According to a study, factors affect preoperative anxiety, including age, gender, marital status, level of education, the uncertainty of the exact day of surgery, fear of surgery, fear of anesthesia, fear of complications, fear of death, fear of disability, the patient's ability to understand the events that occur during surgery, concern about their family, financial loss, postoperative pain, unable of recovery, fear of unknown causes which were quite similar to this study. [13] In the present study, 67.29±8.51 had pre-cesarean anxiety when undergoing emergency cesarean surgery. In contrast, 48.35±10.29 patients had pre-cesarean anxiety who undergoing elective surgery [according to HADS], and 73.61±5.31 had fear before emergency surgery, while 52.43±4.16 had before elective surgery [according to VSA-A] (p <0.0001.). In our study, a high level of anxiety was seen in patients undergoing emergency cesarean section compared to elective patients and supported by a study done in India by Hasha, S.S. [14]. The patient might have no time to decide whether to give birth by vagina or cesarean section. It leads to fear and more anxiety. In contrast, elective patients had a lower anxiety level than emergency patients. This study also showed that previous surgical and anesthetic exposure decreased preoperative anxiety more than patients without exposure, and another study supported this finding. The possible reason might be if patients had exposure to surgery and anesthesia, minimizing misconception and fear of the unknown complications. However, in some studies,

patients with previous surgical and anesthetic exposure had high anxiety levels.[15] The investigators justified that patients may develop stressful complications, such as death, due to last anesthesia and surgical exposures. Preoperative pain like prolonged labour, and scar pain was highly associated with preoperative anxiety. Patients with moderate to severe pain had higher anxiety than those with mild pain.[16]

Limitations of the Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

Conclusion:

Every patient requiring surgery, whether elective or emergency, should be assessed for anxiety level in their routine preoperative anesthesia assessment. The patients found to have a high level of anxiety should be scheduled for an additional counseling session and medication if needed.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

Recommendations

All patients who are scheduled for cesarean section delivery should be assessed for the level of anxiety in their routine preoperative anesthesia evaluation, whenever it is possible. Moreover, further studies should involve a larger sample size including multiple centers.

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Analysis of Deliveries Using Robson's 10-Group Classification at a Semi-Urban Hospital

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Abstract:

Introduction: Cesarean section (CS) is an important indicator of access to, and quality of maternal health services. The World Health Organization recommends the Robson's ten group classification system.

Method: This is a prospective study carried out over a period of one year from Jan 2018 to Dec 2018. All caesarian section conducted during the study period were included in the study. Patients' demographic data age, parity, gravidity, pregnancy related information- gestational age, fetal presentation, number of fetuses, onset of labor, delivery details operative or vaginal delivery, indications of Caesarian section, type of C-section, fetal details - APGAR scores, all were recorded.

Based on patients' data, women were assigned to one of 10 groups as per Robson's 10-group classification system. This classification system categorizes women into ten mutually exclusive groups, considering the following criteria: parity, previous obstetric record of the woman, the course of labor including pre-labor duration and gestational age.

Result: Overall Caesarean section rate of 42%. Total number of deliveries in this one-year period was 1727 of which 715 women had lower segment caesarean section (41.4%). Group 5 contributed the most (19%) followed by Group 1 (6.5%) then Group 2(5.6%). Women in group 2(b)& 4(b) went into had a CS rate around 6.7%.

Conclusions: Robson 10 group classification is an important tool to classify the indication of caesarian section. Implementation of this classification system may help in reducing primary caesarian section as well as caesarian section done for relative indications & encourage VBAC without compromising health of mother & newborn.

Introduction:

Caesarean section (CS) is a major obstetric intervention for saving lives of women and their newborns from pregnancy- and childbirth-related complications. It is well-established that caesarean section (CS) rates have risen in both developed and developing world over the past three decades.[1-3]

Caesarean section also has its own risks for maternal as well as infant morbidity and for subsequent pregnancies.[4,5]These risks will outweigh the potential benefits associated with lowering the threshold at which the procedure becomes indicated at some point.[6]

Worries over such increases have led the World Health Organization to advise that Cesarean Section (CS) rates should not be more than 15%[7] with some evidence that CS rates above 15% are not associated with additional reduction in maternal and neonatal mortality and morbidity.[8]

However, regional variation is prevalent in CSR. According to the latest data from 150 countries, Latin America and the Caribbean region have the highest CSR (40.5%), followed by Northern America (32.3%), Oceania (31.1%), Europe (25%), Asia (19.2%) and Africa (7.3%).[9]

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In Bangladesh caesarian section rate has increased from 12%, in 2010 to 31% in 2016. Bangladesh Maternal Mortality & health care Survey (BMMS)

To address concerns over rising rates of CS and to provide a mechanism for audit and feedback, a 10-group classification system to examine CS within mutually exclusive groups of women with particular obstetric characteristics was proposed by Robson in 2001.[10]

Analyzing CS rates in different countries, including primary vs. repeat CS and potential reasons of these, provide important insights into the solution for reducing the overall CS rate. Robson, proposed a new classification system, the Robson Ten-Group Classification System to allow critical analysis according to characteristics of pregnancy.[11]

In an effort to reduce the rising CSR in developed countries, the need of a standardized classification system for C-section that would allow meaningful and relevant comparisons of CSR across different facilities, cities or regions was felt.[12] The Robson's 10 group classification, proposed by Dr Michael Robson in 2001, stratifies women according to their obstetric characteristics, thereby allowing a comparison of CSR with fewer confounding factors.[13]

The Robson classification system groups women in the obstetric population according to plurality, fetal presentation, parity, obstetric history (i.e., previous CS), course of labour and delivery, and gestational age, providing clinically relevant categories for analyzing and reporting rates of CS.[10]

Methods:

This is a prospective study carried out over a period of one year from January 2018 to 31st December 2018, in a semi urban hospital at Ashulia, Savar Dhaka.

All hospital deliveries conducted during the study period were included in the study. Exclusion criteria remained all women having laparotomy for uterine rupture or those with missing records were excluded during the study period. All relevant information which would help to classify the women according to the Robson's 10 classes were recorded.

Patients' demographic data, age, parity, gravidity, pregnancy related information- gestational age, fetal presentation, number of fetuses, onset of labor, delivery details operative or vaginal delivery, indications of CS, type of C-section, fetal details - APGAR scores, NICU admission were all recorded.

Fetal presentation was classified as cephalic, breech or transverse/oblique. Gestational age was categorized as a term e" 37 weeks or preterm < 37 weeks. Gestational age was assessed using early USG or LMP. Based on patients' data, women were assigned to one of 10 groups as per Robson's 10-group classification system (Table 1). This

Table-I

Robson's Ten Group Classification:

Group		Description
1		Nulliparous, single cephalic, ≥37 weeks, in spontaneous labor
2		Nulliparous, single cephalic, ≥37 weeks, induced or CS before labor
	2a	Nulliparous, singleton, cephalic, ≥37 weeks' gestation, induced labor.
	2b	Nulliparous, singleton, cephalic, ≥7 weeks' gestation, cesarean section before labor.
3		Multiparous (excluding previous cesarean section), singleton, cephalic, e" 37 weeks' gestation, in spontaneous labor.
4		Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, ≥37 weeks' gestation, induced or cesarean section before labor.
	4a	Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, ≥37 weeks' gestation, induced labor.
	4b	Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, ≥37 weeks' gestation, cesarean section before labor.
5		Previous cesarean section, singleton, cephalic, ≥37 weeks' gestation.
6		All nulliparous with a single breech.
7		All multiparous with a single breech (including previous cesarean section).
8		All multiple pregnancies (including previous cesarean section).
9		All women with a single pregnancy in transverse or oblique lie (including those with previous cesarean section).
10		All singleton, cephalic, < 37 weeks' gestation pregnancies (including previous cesarean section).

classification system categories women into ten mutually exclusive groups.

Percentages were calculated for the overall rate, the representation of the group's contribution of each group to the overall rate and percentage in each group.

The size of each group, frequency of caesarean sections, cesarean section rate and contribution of each group towards overall CS was calculated. The results were calculated in terms of frequencies and percentages.

All data obtained were recorded and analyzed using SPSS version 21. Results were then presented as tables.

Results:

This study was conducted on 1727 pregnant women who delivered during the period of one year. Out of which CS deliveries were 715.

Out of 2717 cases 964 women (56 %) fall in 16- 25 years' age group. 710 cases (41 %) were between 26 - 35 years, 53 cases (3 %) cases were in the age group of 36 - 45 years (Table-II).

Among 715 CS group 38 (5%) women had undergone caesarian section at < 37 weeks, whereas majority were in the 37 – 40 weeks of gestation 531 (74 %). 146 (21%) women presented at >40 weeks (Table-III)

The elective caesarean section and emergency caesarean section contributed 53% and 47% of the total caesarean sections respectively. (Table-IV)

Table-II
Distribution of patient by their age

Maternal age	Number	%
16-25	964	56
26-35	710	41
36-45	53	3

Table-III
Distribution of women according to gestational age

Gestation Age (Weeks)	Number (N)	Percentage
<37 weeks	38	5
37-40 weeks	531	74
>40weeks	146	21
Total	715	

Table-IV
Elective vs emergency caesarian section

Maternal Characteristics	Number	%
Type of CS		
Elective	382	53
Emergency	333	47

Analysis based on Robson's Ten Group Classification:

The total number of women delivered for the period of one year was 1727, out of which CS deliveries were 715. Overall, CS rate calculated in this specified period was 41.4%, (Table 5).

On analysis of indications of CS according to Robson's classification, different rate of each group was shown separately. (Table-6)

Group 5 (Previous cesarean section, singleton, cephalic, ≥37 weeks' gestation.) made the greatest contribution to the total CS rate. Group 1 (Nulliparous, single cephalic, ≥37 weeks, in spontaneous labor) had the second highest contribution to the CS rate and then group 2 (Nullipara single cephe"37 wks ind. or CS before labour), placed third. Hence, these three groups (5,1 and 2) contribute to more than 70% of all Caesarean sections carried out during the study period.

Group 5 was further analyzed according to the indications of CS. Out of 327 CS procedures, elective CS were 239 and emergency CS were 88.

Contribution from group 2(b) to overall caesarean section rate was 4.0% whereas it was 1.6 % for group 2(a).

Robson Group 4(b), (Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, e" 37 weeks' gestation, cesarean section before labor) had a CS rate of 2.4%.

On the other-hand Robson Group 4(a), (Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, e" 37 weeks' gestation, induced labor.) had its contribution of 0.5% to overall caesarean section rate.

The cesarean section rate for nulliparous breech (group 6) was 75 % while it was 80.6% for multiparous breech (group 7). Group 9 was the smallest group with maximum CS rate of 63%. CS rate for group 10 was 38.5%.

Table-V
Contribution of caesarian section according to Robson classification:

Robson Groups	No. of CS	Percentage %
Group 1	104	14.5
Group 2 (a)	33	4.6
(b)	74	10.34
Group 3	60	8.3
Group 4 (a)	08	1.1
(b)	42	5.8
Group 5	327	45.7
Group 6	06	0.8
Group 7	25	3.5
Group 8	9	1.2
Group 9	7	0.97
Group 10	20	2.8
Total	715	41.4

Table-VI
Indication of caesarean section by Robson classification system

Group	Number of CS Group	Number of women in group	Group Size[1] %	Group CS rate[2] %	Absolute group contribution to overall CS rate[3] (%)
Gr.1. Nullipara single ceph ≥37wks spon labour	113	298	18.6	37.9	6.5%
Gr.2a. Nulliparous, singleton, cephalic, ≥37 weeks' gestation, induced labor.	28	102	7.3	27.4	1.6
Gr.2b. Nulliparous, singleton, cephalic, ≥37 weeks' gestation, cesarean section before labor.	70	227	14.9	30.8	4.0
Gr. 3. Multipara (exclude previous caesarean sections) single cephe"37 wks spon labour	60	384	22.5	15.6	3.5
Gr. 4a. Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, ≥37 weeks' gestation, induced labor.	08	51	2.9	15.7	0.5
Gr.4b. Multiparous without a previous uterine scar, with singleton, cephalic pregnancy, ≥37 weeks' gestation, cesarean section before labor.	42	219	12.7	19.1	2.4
Gr.5. Previous caesarean section single ceph ≥37 wks	327	331	14.3	98.8	19
Gr.6. All nulliparous breeches	06	8	0.5	75	0.35
Gr.7. All multiparous breeches (including previous caesarean sections)	25	31		80.6	1.5
Gr.8. All multiple pregnancies (including previous caesarean sections	09	13	1.8	69.2	0.5
Gr. 9. All abnormal lies (including previous caesarean sections)	07	11	0.6	63.6	0.4
Gr.10. All single ceph<37 wks (including previous caesarean sections)	20	52	3	38.5	1.2
Total	715	1727			

Group size (%) = n of women in the group/total N women delivered in the hospital x 100
Group CS rate (%) = n of CS in the group/total N of women in the group x 100
Absolute contribution (%) = no of CS in the group/total N of women delivered in the hospital X100

Clinical indications of caesarian section: In our study period clinical indications for CS were grouped into nine different categories: hypertensive disorder (include gestational hypertension, eclampsia, preclampsia,); malpresentation (includes breech and transverse lie); disorder of amniotic fluid (covers both oligo and poly hydramnios); antepartum haemorrhage; prolonged and obstructed labour; fetal distress; previous CS; multiple pregnancies & others including maternal requests.

Previous CS—327 (46%), Foetal distress-179 (25%); Hypertensive disorder—57 (8%); APH-29 (4%) Malpresentation—38 (5%), Severe oligo & polyhydramnios-27(4%), Obstructed labour—21 (3%), Multiple pregnancy—9 (1%), Others including maternal request —28 (4%) (fig-1)
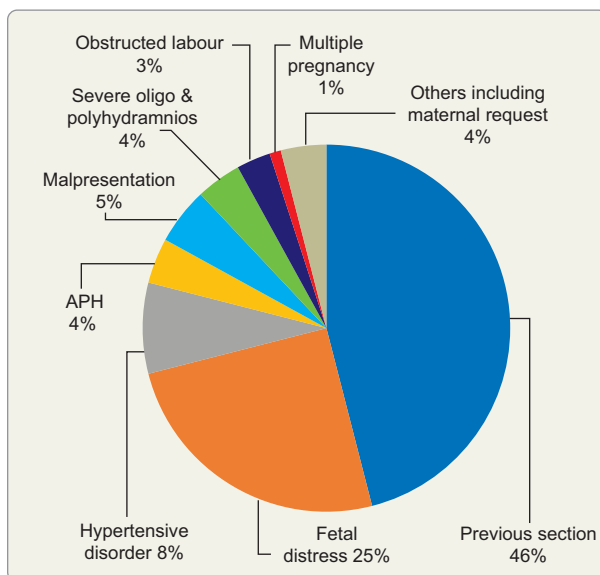

Fig.-1: *Clinical indication of caesarian sections*

Discussion:

Cesarean section is a key intervention to decrease maternal and neonatal morbidity and mortality. It is also one of the best indicators of the quality of maternal health services.[14] Despite its proven benefits, it has associated complications such as infection, bleeding, anesthetic accidents and even death. Future pregnancies can also be complicated by spontaneous preterm birth, uterine rupture, and abnormal placentation. These risks are higher for women in resource-limited settings with poor access to comprehensive obstetric care.[15,16]

Among the various classification systems for analysis of cesareans, the one by Robson and Denk has been found to be easy to understand, clear, mutually exclusive, reproducible and while also allowing prospective identification of categories.[17] After 2015, there have been many studies world over using the Robsons Ten Group Classification system (TGCS) to analyze cesareans.

The results of this analysis, based on 1727 women who gave birth in a semi urban hospital during one year, 2018.The study result showed that 46% of the total CS rate was contributed by Group 5 (327 repeat CS out of 715 women having caesarean section). Among 327 caesarian section 224 was elective after one CS. Another 54 women with one CS underwent repeat CS due to associated non recurrent indications either medical or obstetric including GDM, hypertensive disorder, oligohydramnios, APH, non-reassuring fetal status. It was seen that 49 CS out of 327 were done due to the indication of repeat more than one CS, giving an unavoidable fraction.

In the first half of the 20th century, a woman who had a CS was likely also to deliver by CS in subsequent pregnancies.[18] Currently, the rate of CS is many times higher among women who have had a previous CS (Robson Group 5), and this group makes a substantial contribution to the overall rate of CS.[19,20,21]

Therefore, the best way to reduce the overall rate of CS in these groups is to prevent the first procedure. [22]

The second most significant group was Group 1which contributed 6.5%. The group represents low risk women and the CS rate within this group is not expected to be higher than 3%.[23]

On analysis of indications of CS in primigravida group with spontaneous labor (Group 1), CS were performed following non-reassuring fetal status. Close monitoring of patients in this groups with adequate recording of foetal heart rate on partograph is required. Increasing the use of instrumental delivery by adequate training of staff is warranted to decrease primary caesarean among low-risk groups.[24] The interobserver difference in interpretation of CTG can be lowered by implementing frequent teaching workshops for the obstetric staff. [25]

Majority of women in groups 6 (nulliparous breech) and 9 (transverse or oblique lie) had caesarean births. This was not unusual, as these were women who had either foetal malposition or abnormal lie. Similar findings were reported in other studies.[26,27,28] It should be noted that the combined relative size of these two

groups was just 1.1% of total births, hence, their contribution to the total CS rate was minimal.

Among developed nations, a population based 10 year analysis from 2005-2014 in US reported an overall CSR was 31.6 with group 5 accounting for the most caesarean deliveries.[29] In most high income settings, groups 5, 2 and 1 are the major contributors to overall CSR unlike the studies from low-income settings.[30,31] The difference between high-income settings and our study may be due to fertility trends with stronger presentation of multiparous women (group 3) in our low-resource setting with high fertility rates. The fact that group 5 women were one of the major contributors both in high income and low-income settings indicates the importance of preventing primary caesarean if a meaningful reduction in overall CSR is to be achieved.[32] The practice of vaginal birth after C-section (VBAC) for non-recurrent indications in the previous C-section can be applied to reduce C-section in this group of patients.[33]

Conclusion:

All vaginal deliveries and cesarean sections should be universally categorized by the Robsons TGCS. The Robson 10-group Caesarean section classification system is a simple, standard tool to identify groups making the most signification contribution to the overall rate of CS. Groups contributing most to cesareans should be analyzed regularly and interventions initiated. Those interventions should be targeted at reducing primary cesareans and convincing patients for VBAC where possible. Institutional protocols for defining situations like fetal distress, non-progress of labour and failed induction should be available. Close monitoring of women in labour, increasing the use of instrumental delivery and practice of vaginal birth after C-section can significantly reduce the caesarian section rate. Inductions should be done only when necessary. All hospitals and health authorities use this standardized classification system as a key component of their quality improvement initiative for monitoring caesarian section rates. A regular audit should be done in all institutions to rationalize cesarean rates. Impact of interventions to reduce cesarean rates should be studied and documented.

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Anatomical and Functional Results of Modified Mccall Culdoplasty after Vaginal Hysterectomy in a District Hospital of Bangladesh

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Abstract

Genital organ prolapse is a less-reported problem in Bangladesh. Surgery is needed only if the condition causes symptoms or interferes with her normal activities. Removal of the uterus and attaching the uterosacral ligaments to the posterior vaginal cuff and the cul-de-sac peritoneum in order to close off the sac and prevent subsequent prolapse is known as McCall culdoplasty. It was a prospective clinical trial. A total of 125 women were included purposively in this study who were admitted at Chattogram General Hospital, Bangladesh, for stage 2-4 uterovaginal prolapse and underwent Modified McCall culdoplasty during vaginal hysterectomy in the year 2018 and they were followed up-in the immediate post operative period, after 6 months, 12 months and 24 months. Six gynaecologists who were experienced in this operation assessed the eligibility of patients. Mean age of the study population was 55±3.6 and BMI (Kg/m^2) was 22 ± 1.8. While median of parity was 4(3-6). Majority (64%) underwent VH ± Bilateral salpingo-oophorectomy (BSO) and McCall culdoplasty and Pelvic floor repair (Anterior colporraphy and posterior colpoperineorrhaphy). Along with VH bilateral salpingo-oophorectomy (BSO) and McCall culdoplasty, anterior colporraphy was done in 12% cases and posterior colpoperineorrhaphy was done in another 12% cases. Blood transfusion was needed in 10 patients. 2 patients underwent laparotomy and Colpotomy was performed in 1 case due to complications. Stage 1 vault prolapse was identified in 4 cases at 12 months and 9 cases at 24months. Only 1 patient developed stage 2 vault prolapse. Vaginal length to the extent of >7cm was maintained in 88 cases. Intromission dyspareunia was experienced by 4 patients. No cases complained of profound dyspareunia. The McCall culdoplasty did not lead to a disruption of the vaginal axis and gave excellent anatomical and functional results in maintaining support after vaginal hysterectomy especially in sexually active patients.

Index Terms McCall culdoplasty; vaginal hysterectomy; Pelvic organ prolapsed; Genital organ prolapsed; uterovaginal prolapse.

Introduction

Genital organ prolapse exclusively affects women. The global prevalence of this condition is estimated to be 40% in women aged more than 45 years[1]. It's an under diagnosed and less reported problem that increase with age, limits physical activity, feeling discomfort, reduces self-esteem, interferes with sexual life and has a influence on body image.

Enterocele and vault prolapsed account for up to 16% of the mid-term and long-term complications associated with curative surgery for uterovaginal prolapse in vaginal hysterectomy[2]. Both these

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complications can cause a recurrence of the original urogenital prolapse. Surgery is needed only if the condition causes symptoms or interferes with her normal activities. The aim of first surgery should be to restore the normal anatomy e.g. a normal vaginal length should be maintained with its axis directed towards S3 –S4[3]. The strongest support of uterus is provided by the middle tier e.g. cardinal ligament, the uterosacral ligament and pubocervical ligament[3]. 25% uterine vault & enterocele results from middle compartment defect. Uterine prolapse is almost always accompanied by some degree of enterocele, as the degree of uterine descent progresses, the size of the hernial sac increases. Post hysterectomy vault prolapsed (PHVP) may be the result of poor repair and inadequate identification of cuff support structure at the time of hysterectomy or may develop as a result of an enterocele that was overlooked[4]. The risk of requiring a repeat procedure for pelvic organ prolapse (POP) may be as high as 29%[4].

Removal of uterus is permissible in postmenopausal cases as it may harbor disease or may be a focus of problem in the future. In 1957 McCall described attaching the uterosacral ligaments to the posterior vaginal cuff and the cul-de-sac peritoneum in order to close off the sac and prevent subsequent prolapsed [5].

The aim of the study is to establish the safety and effectiveness of the McCall culdoplasty as a method for providing vaginal cuff support, with the primary goal of preventing the occurrence of vault prolapse in the future.

Materials and Methods
It was a prospective clinical trial. A total of 125 women were included purposively in this study that were admitted at Chattogram General Hospital and underwent Modified McCall culdoplasty during vaginal hysterectomy in the year 2018 and they were followed up-in the immediate post-operative period, after 6 months, 12months and 24 months.All women with uterine prolapse at stage 2 or higher, aged >40 years participated in this study. Women with coexisting prolapse of the anterior or posterior vaginal wall, or both, elongated cervix were included. Concomitant repair of anterior and posterior vaginal wall prolapses (colporrhaphy) and deficit perineum was done.

Modified McCall culdoplasty technique was used during hysterectomy. Peritonization was performed by closure of the pouch of Douglas by means of a vicryl 0 with intraperitoneal hitching of only uterosacral ligaments without taking the cardinal ligaments in the suture,thus keeping the ureters distant from the peritoneal suture.The effect of this suture was to suspend the posterior vagina to the uterosacral ligaments on each side and at the same time maintaining sufficient vaginal length.All procedures performed in the study were in accordance with the standards of the institution.

Six gynaecologists who were experienced in this operation assessed the eligibility of patients, using pelvic organ prolapse quantification (POP-Q) system [6]and completed the questionnaires. The decision of operation was a shared decision by the woman and gynaecologist. All participants provided informed consent.

Staging of pelvic organ prolapsed according to pelvic organ prolapsed quantification (POP-Q) system [7].
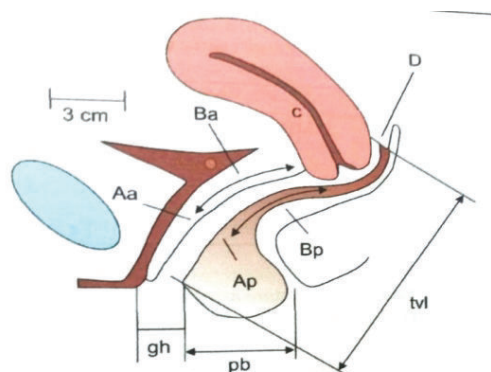
Anterior wall Aa	Anterior wall Bb	Cervix or cuff C
Genital hiatus gh	Perineal body Pb	Total vaginal length tvl
Posterior wall Ap	Posterior wall Bp	Posterior fornix D

Stage of prolapse	Extent ofprolapse (in relationship to the hymen: prolapse above the hymen, negative numbers: prolapsed beyond the hymen, positive numbers)
Stage 0	No prolapse (apex can descend as far as 2 cm relative to the total vaginal length)
Stage I	The most distal portion of prolapse descends to a pointless more than 1 cm above the hymen
Stage II	Maximum descent is within 1 cm of the hymen
Stage III	Prolapse extends more than 1 cm beyond the hymen but no more than 2 cm of the total vaginal length
Stage VI	Complete eversion of the vagina or descent within 2 cm of the total vaginal length

We excluded women with previous pelvic floor or prolapse surgery, known malignancy or an abnormal cervical smear test result, a wish to preserve fertility, immunological or hematological disorders interfering e recovery after surgery, abnormal ultrasonography findings of the uterus or ovaries, abnormal uterine bleeding and those who were unwilling to return for follow up.

Each patient had immediate and early follow up after operation and examined after 6 (six) months, 12 months and 24 months postoperative. In addition to an interview and the quality-of-life questionnaires, a complete urogynecological examination was carried out.Vaginal length was measured from the introitus to the vaginal vault using a flexible graduated Ayer's spatula. The quality of sexual activity was assessed using specific questioning to estimate the severity of any dyspareunia and whether sexual activity had stopped.

Results:
There was 13 drop out cases after 12 months follow-up and another 8 patients drop out after 24 months follow-up.

Table-I
Demographic characteristics of the patients (n=125)

Variable	Mean ± SD	Range
Age (years)	55 ± 3.6	45-75
BMI (Kg/m^2)	22 ± 1.8	18-30
	Median (IQR)	
Parity	4 (3-6)	2-12

Data was expressed as mean ± SD or median (IQR) and range

Table-II
Pre-operative complaints of the patients (n= 125)

Variables	Frequency (n)	Percentage
Chronic Cough	20	16
Persistent Constipation	30	24
Retention of urine	25	20

Data was expressed as frequency (%)

Table-III
Details of vaginal procedures (n=125)

Procedures	Frequency (n)	Percentage (%)
VH (±BSO) and McCall culdoplasty, Pelvic floor repair	80	64
VH (±BSO) and McCall culdoplasty, Anterior Colporrhaphy	15	12
VH (±BSO) and McCall culdoplasty	5	4
VH (±BSO) and McCall culdoplasty, Posterior colporrhaphy	15	12
VH (±BSO) and McCall culdoplasty, Posterior colpoperineorrhaphy	10	8

Data was expressed as frequency (%)

Table-IV
Complications of surgery

Complications	n (%)	Management
Intra-operative		
Blood loss > 500 ml	10 (8%)	Blood transfusion
Bladder injury/ Rectal injury	Nil	
Post-operative		
Bleeding	2 (1.6%)	Laparotomy
	1 (0.8%)	Examination under anaesthesia
Urinary retention	5 (4%)	Intermittent self-catheterization
Urinary tract infection	6 (4.8%)	Oral antibiotic
Pelvic abscess	1 (0.8%)	Colpotomy

Data was expressed as frequency (%)

Table-V
Post operative ICS (International Continence Society) stage of Post hysterectomy cuff

ICS stages	At 6 month	At 12 month	At 24 month
Vaginal vault: point C Stage 0	125 (100%)	95 (84.8%)	90 (86.5%)
Vaginal vault: point C Stage 1	0 (0%)	4 (3.6%)	9 (8.7%)
Vaginal vault: point C Stage 2	0 (0%)	1 (0.9%)	1 (0.96%)
Vaginal vault: point C Stage 3	0 (0%)	0 (0%)	0 (0%)
Vaginal vault: point C Stage 4	0 (0%)	0 (0%)	0 (0%)

Data was expressed as frequency (%)

Table-VI
Characteristics of pre and post operative sexual activity (n = 85)

Sexual activity	Pre-operative	After 6 month	After 24 month
Intromission Dyspareunia	80 (94%)	4 (4.7%)	4 (4.7%)
Deep Dyspareunia	0 (0%)	0 (0%)	0 (0%)

Data was expressed as frequency (%)

Table-VII
Post-operative vaginal length (n=104)

Vaginal length	Frequency (n)	Percentage
8-9 cm	88	84.6
<7 cm	16	15.4

Data was expressed as frequency (%)

Discussion:

Pelvic organ prolapse is the downwards herniation of pelvic organs beyond their anatomical entity. It's one of the major healthconcerns of the women around the world. Different types of corrective surgeries have been implied. After evaluating classification of pelvic organ prolapsed, McCall culdoplasty is one of the most feasible surgical procedures with successful outcome if done appropriately.

Age group of women included in our study was 45-75years.Maximum number belonged to 55 years.The age of women incorporated in studies conducted by Chene et al., 2008 [8], Duddalwar and Bhalerao, 2021 [7], Niblock et al., 2017 [9] was the same as ours.

In the present study, majority of women had parity of 4. Other studies Chene et al., 2008 [8], Duddalwar and Bhalerao, 2021 [7], Niblock et al., 2017 [9] had slightly lower parity.

The mean BMI in patients who underwent surgery was 22, which was 24.67 and 26.5 in Chene et al., 2008 [8] and Niblock et al., 2017 [9] respectively.

In our study other than symptom of mass coming out per vaginum in 100% women, 20% women had urinary symptoms (urinary retention) and 30% had bowel symptoms(constipation).Urinary symptoms and bowel symptoms are much lower than those in Duddalwar and Bhalerao, 2021[7] which is 81.54% and 53.85% and the study of Yuvaraj and Mahale (2014) also had symptoms of mass coming out per vaginum in 100% women, urinary symptoms in 74% and bowel symptoms in 34% women[10].

Table 2 describes different types of operation performed according to simplified pelvic organ prolapsed (S-POP) scoring system and symptoms of the patient. Majority (70%) of the women underwent vaginal hysterectomy, McCall culdoplasty and pelvic floor repair (anterior colporrhaphy with posterior colpoperineorrhaphy) with or without bilateral salpingo-oophorectomy.

Surgical details, operative, & immediate postoperative complications are shown in Table-2 and Table-3. Per operative blood transfusion was needed in 10 patients.There was no bladder or rectal injury.A study conducted by Chene et al. (2008) showed that 2 patients had bladder injury during cystocele repair and 1 patient suffered rectal injury during rectocele repair [8].Our institution lacks cystoscopy facility, so routine cystoscopy could not be performed during the procedure. Thus, high uterosacral ligament vault suspension was avoided.

Two patients returned to theatre for a laparotomy for post-operative intra-abdominal bleeding in the first 24 hours post-operatively. Niblock et al. (2017) experienced similar complication with same number of patients. One case in our study needed examination under anaesthesia and tight vaginal packing helped control of oozing [9].

Five patient had post- operative urinary retention and managed conservatively with a period of intermittent self – catheterization. Six patients were treated in same way in a study conducted by Niblock et al., 2017[9].

All patients were seen again at 6months,12months& 24months post operatively. Vaginal vault remained entirely in place in 100 cases at 6 month & 90 cases at 24 months. Stage 1 decompensation involved none of the cases at 6months and 9 cases at 24 months. The one patient with stage 2 needed no surgical treatment. After McCall culdoplasty, vaginal vault at

point C ≥2cm or stage 0 is considered as a successful outcome.

There was only 1 patient with cystocele and none had rectocele at 6M, 12M and 24M. The results are set out in Table-4.

This McCall technique gives good functional results with a satisfactory sexual function in addition to good anatomical results.None of our patient had deep dyspareunia. 20 were not sexually active pre-operatively. Out of 85 sexually active patients post operatively only 4 patient reported intromission dyspareunia at 6 months and at 24 months. We managed these cases by counseling and application of lubricant during coitus.Application of local estrogen was helpful too   (Table 5) [11].Our results are consistent with those of Chene et al., 2008 [8] and Colombo and Milani, 1998 [12] who found a sexual activity maintained with no dyspareunia in 81.2% and 75% respectively.

Post operative vaginal length (measured by graduated Ayer's spatula) was preserved in 84 cases,which is 8- 9 cm and less than 7 cm only in 16 cases at 24 months (Table 6).Weber et al., 1995 [13] found no significant correlation between vaginal length and sexual function particularly symptoms of deep dyspareunia and vaginal dryness.

Conclusion:

The McCall culdoplasty did not lead to a disruption of the vaginal axis and gave excellent anatomical and functional results in maintaining support after vaginal hysterectomy especially in sexually active patients. Again, it is a feasible, safe and effective surgical option in elderly patient at low anaesthesiological risk. As our population ages and quality of life is improving, health care services need to give more attention to this group of people.Clinicians should be able to screen, diagnose and trained up to perform corrective surgeries. Restoration of supports of uterus by vaginal hysterectomy and McCall culdoplasty proved to be effective surgical method to prevent post operative vault prolapse.

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Review Article

Ante Natal Screening of Hyperglycemia: Situation analysis in Bangladesh

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Abstract:

Hyperglycemia in pregnancy or Diabetic disorder is a state of glucose intolerance during pregnancy, carrying various adverse outcomes for mother and fetus. As it is a common disorder and appropriate measures can completely nullify its adverse effects so various international organizations formulated screening and management protocols. Bangladesh is a South Asian country with high predisposition of this disease, so universal screening in first contact with pregnant woman by appropriate protocol along with precise interpretation and interventions are desirable. But we found that obstetricians and some other physicians sometimes remain reluctant on this task. Report shows that 44.4% of physicians prefer blood sugar screening at 1st antenatal care and only 16.3% advice IADPSG, WHO and ACOG standard 3 samples OGTT for screening. More than 80% use HbA1c for blood sugar monitoring and 40% use it for diagnosis of glucose intolerance which is an unreliable method, specially during pregnancy and adverse outcomes remain unprotected for a large number of patient. So, we should find out our pitfalls in this regard for a healthy nation at present and future.

Key word: Ante natal Screening, Hyperglycemia, Bangladesh

Introduction:

Glucose intolerance during pregnancy is the commonest endocrine complication during pregnancy. Its incidence varies according to area and ethnicity. In 2019, the International Diabetes Federation (IDF) estimated that globally 16% of live births were affected with hyperglycemia in pregnancy and in whom 84%were reported as GDM[1]. The most recent meta-analysis by Saeedi et al. (2021) reported the global prevalence of GDM was 14.7% based on the International Association of Diabetes and Pregnancy Study Groups (IADPSG) criteria, the most accepted screening method worldwide[2]. South East Asia is one of the high prevalence territories for diabetic disorders. Genetic predisposition to metabolic syndrome among Asians predisposes our women to develop GDM and also its complications[3]. The most recent study showed that the overall weighted prevalence of GDM in Bangladesh was 35% (95/272)[4].

Hyperglycemia in pregnancy is associated with a number of adverse maternal and fetal outcomes. The adverse maternal complications include hypertension, preeclampsia, urinary tract infection, polyhydramnios, preterm Premature rupture of membrane secondary to infection, preterm labour, increased operative intervention etc[3,5,6,7].Gestational diabetes increases a woman's lifetime risk of chronic diseases, including T2DM, metabolic syndrome, and cardiovascular disease[8]. In the fetus and neonates it is associated with macrosomia, congenital anomalies, metabolic abnormalities, RDS and subsequent childhood and

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adolescent obesity [3,7].But timely and accurate treatment of maternal hyperglycemia reduces the risk almost to the similar level seen in women without GDM[9]. So it is important to diagnose early and treat promptly to prevent complications[3].

Effects of treatment of Hyperglycemia on pregnancy

A meta analysis on Effect of screening and management of diabetes during pregnancy on stillbirths shows that preconception care of diabetes versus none was associated with a reduction in perinatal mortality (RR=0.29, 95% CI 0.14 -0.60). Intensive management of gestational diabetes during pregnancy versus conventional management was associated with a non-significant reduction in the risk of stillbirths (RR 0.20; 95% CI: 0.03-1.10). Optimal control of serum blood glucose versus sub-optimal control was associated with a significant reduction in the risk of perinatal mortality (RR=0.40, 95% CI 0.25- 0.63), but not stillbirths (RR=0.51, 95% CI 0.14-1.88)[5].

Treatment of gestational diabetes was associated with decreased risk of primary cesarean deliveries (RR 0.70 [95% CI, 0.54-0.91] ARD 5.3%) and preterm deliveries, although findings for the latter are not statistically significant (RR, 0.75 [95% CI 0.56-1.01]; ARD, 2.3%). For fetal/neonatal outcomes, treatment of gestational diabetes was associated with reduced risk of shoulder dystocia (RR, 0.42 [95% CI, 0.23-0.77]; ARD, 1.3%), macrosomia (RR, 0.53 [95% CI, 0.41-0.68]; ARD, 8.9%), LGA infants (RR, 0.56 [95%

CI, 0.47-0.66]; ARD, 8.4%), birth injury (eg, fracture or nerve palsies) (odds ratio, 0.33 [95% CI, 0.11-0.99]; ARD, 0.2%), and NICU admissions (RR, 0.73 [95% CI, 0.53-0.99]; ARD, 2%)[10,11].

Timing of Diagnosis of Hyperglycemia during pregnancy

In India glucose intolerance in pregnancy is diagnosed 16.3% at or before 16 weeks of gestation, 22.4% between 17-23 weeks and 61.3% after 23 weeks of gestation (Rani). In Bangladesh though the majority of patients (43.6%) were diagnosed in their third trimester, 37.7% were in their second trimester, and a considerable percentage (18.6%) were in their first trimester[4].The recommendations given by International Association of Diabetes and Pregnancy Study Group (IADPSG) which was endorsed by WHO (2013) and American Diabetes Association (ADA) based on Hyperglycemia and Adverse Pregnancy Outcome (HAPO) study is to do on the first prenatal visit, in all women[12-16].

Current strategy for diagnosis of Hyperglycemia in pregnancy

The use of IADPSG resulted in increased prevalence of GDM rate 35.5% versus 10.6% with other methods with significant improvement in pregnancy outcome and also cost-effectiveness[17]. IADPSG criteria for diagnosis of Hyperglycemia in pregnancy was based on HAPO study and has given below for recalling. The values are from an OGTT done in the fasting state using 75g of glucose.

Table-I[12]

Threshold values for diagnosis of GDM or overt diabetes in pregnancy

To diagnose GDM and cumulative proportion of HAPO cohort equaling or exceeding those thresholds

Glucose measure	Glucose concentration threshold*		Above threshold (%)
	mmol/l	mg/dl	Cumulative
FPG	5.1	92	8.3
1-h plasma glucose	10.0	180	14.0
2-h plasma glucose	8.5	153	16.1†

To diagnose overt diabetes in pregnancy
Measure of glycemia   Consensus threshold
FPG‡   ≥7.0 mmol/l (126 mg/dl)
A1C‡   ≥6.5% (DCCT/UKPDS standardized)
Random plasma glucose   ≥11.1 mmol/l (200 mg/dl) + confirmation§
*One or more of these values from a 75-g OGTT must be equaled or exceeded for the diagnosis of GDM.
†In addition, 1.7% of participants in the initial cohort were unblinded because of FPG >5.8 mmol/l (105 mg/dl) or 2-h OGTT values >11.1 mmol/l (200 mg/dl), bringing the total to 17.8%.
‡One of these must be met to identify the patient as having overt diabetes in pregnancy.
§If a random plasma glucose is the initial measure, the tentative diagnosis of overt diabetes in pregnancy should be confirmed by FPG or A1C using a DCCT/UKPDS-standardized assay.

If results are not diagnostic of overt DM and fasting plasma glucose ≥92 mg/dl diagnosis of GDM is made. If fasting glucose is < 92mg/dl at the first antenatal visit a 2-hour 75g OGTT should be repeated at 24-28 weeks.

Target population for screening

In risk based screening, GDM was found to be detected in 1.45% of women but universal screening showed 2.7% of GDM in the same population showing that risk based screening has missed about half of the GDM cases. Based on these facts there is a need for universal screening especially in South east Asians countries as they have high prevalence of Type II DM and genetic predisposition [3].

Current status of screening of Hyperglycemia in Bangladesh

Screening of Hyperglycemia in pregnancy in Bangladesh is advancing day by day but we have go fur more. Study reported that knowledge about GDM among physicians in Bangladesh is inadequate. Only 52.8% of the physicians had good knowledge about GDM [18]. Diabetic Association of Bangladesh (BADAS) conducted a survey on physicians of Bangladesh to obtain information on existing practices in diagnosing and managing GDM among physicians working in 30 leading centers in eight administrative divisions providing diabetes care in Bangladesh. They showed that 14.7% of Hyperglycemic patients during pregnancy were treated by gynecologists and rest by diabetologist, endocrinologists and medicine specialists. Among them only 44.4% of the physicians preferred blood sugar screening at first antenatal care (ANC) visit, 40.5% preferred 24–28 weeks to screen GDM and a very few (6.3%) prefer it both in 1st ANC and if normal then again at 24-28 weeks though 8.8% has no idea about timing of blood glucose screening[9]. Regarding screening method only 16.3% chose three samples OGTT, 55.2% of the physicians preferred two samples oral glucose tolerance test (OGTT), 13.9% use 50 g glucose challenge test followed by 2 h OGTT, 8.3% fasting blood glucose (FBG), and 6.3% rely on random blood glucose (RBG) for screening of GDM. Among the physicians World Health Organization (WHO 2013) guideline was followed by only 34.5% which also corresponds with IADPSG. More than 80% of our physicians recommended HbA1c for monitoring glycemic control, and about 40% also used HbA1c for diagnosing GDM though HbA1c is not recommended routinely for diagnosis and monitoring of GDM due to shortened life span of the erythrocyte during pregnancy[9,19].

Discussion:

The prevalence of GDM is rising in the South East Asia region due to multiple factors like increasing age to become pregnant, Altered food habit, sedentary life style of pregnant ladies etc. So universal screening is an essential tool for this high risk ethnic population to ensure that no case of GDM or pre existing diabetes is missed out. In this regard, physicians of all level should follow the standard screening protocol for diabetes (as only 44.4% in the present survey do it in first trimester)by a three sample OGTT test (Only 16.3% in current survey)[9]. Alarmingly, 8.8% of survey participants did not think of any specific time to be considered for GDM screening and 6.3% rely on RBG (Random Blood Glucose) to diagnose GDM and DM[9]. Delay in screening until the second trimester may increase the risk of fetus as well as mother who have pre existing (pregestational) diabetes. It become more deleterious for a population such as Bangladesh, where the background prevalence of T2DM is high and more than 50% of the people with T2DM remain undiagnosed [1]. Ideally, all pregnant women should be screened in their first trimester, as was recommended in the guidelines by Bangladesh, India, Pakistan and America [16,20,21]. On the other hand appropriate interpretation of blood sugar level is another challenge for identifying GDM and DM during pregnancy. Unfortunately we get no study on this regard but our day to day experience revealed that though a considerable number of physician advice 2 or 3 sample OGTT but there is a huge lack in proper interpretation. Most of the physicians do not follow the IADPSG determined blood sugar levels to label their patients as GDM or overt DM and ultimately fail to apply appropriate management protocol. The net effects become null and void despite of a rigorous OGTT test by patient.

Conclusion:

What is needed is a correct diagnosis, at earliest time and prompt treatment to prevent adverse maternal and perinatal outcome as well as development of future diabetes both in mother and child. So it is time to make promise to our nation like the famous poet Robert Frost…..

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.

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Case Report

Heterotopic Pregnancy in Natural Cycle: Time to Rethink

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Abstract:

Heterotopic pregnancy(HP) is defined as the simultaneous presence of intrauterine and ectopic pregnancies. It is an uncommon but interesting condition with a high mortality rate despite its low incidence. It can be difficult to diagnose due to its diverse clinical manifestations.

Due to increase use of artificial reproductive techniques its incidence is raised but rarely occurring in natural conception cycles.

The aim of the study is to present the situation of coexistence of intrauterine pregnancy and

tubal pregnancy which were occurred in natural conception.

In this case study we discussed two cases-

1st case is 2nd gravida 8 weeks pregnancy with heterotopic pregnancy (one is anembryonic pregnancy with left sided ruptured ectopic pregnancy)

2nd one is 3rd gravida with 7 weeks pregnancy with heterotopic pregnancy with previous history of 2 LUCS (one is incomplete abortion and another one is live tubal pregnancy)

In both cases there was diagnostic dilemma. Both cases firstly presented as vaginal spotting with pain

ultimately transvaginal ultrasound showed heterotopic pregnancy.

Key Words: *Heterotopic pregnancy, ectopic pregnancy, intrauterine pregnancy, transvaginal ultrasound*

Introduction:

The coexistence of living or dead intrauterine pregnancy, single or multiple, and extrauterine pregnancy located in the oviduct, ovary, uterine cornu, cervix or peritoneal cavity is called heterotopic pregnancy(HP). It is a potentially dangerous condition occurring in only 1 in 30,000 spontaneous pregnancies while with the development of assisted reproductive techniques, the incidence has increased to 1:100 to 1:500 pregnancies. Heterotopic pregnancy is a fatal condition, rarely occurring in natural conception cycles. Usually , this pregnancy is mainly diagnosed during acute cases when surgical intervention is needed. HT pregnancy could be asymptomatic in 24% of cases, can cause abdominal pain in 72%, and 54% present with vaginal bleeding[1]. In HT pregnancy, the chances of abortion are doubled.[1]

Spontaneous HP is a real challenge for healthcare professionals not only in treatment but also in diagnosis due to their rarity and unexpected occurrence. HP pose an even more diagnostic uncertainty; as seeing an intrauterine gestational sac may give false reassurance of an ongoing intrauterine pregnancy, and thus erroneously excluding the presence of an ectopic pregnancy. So When abdominal pain present in early pregnancy , heterotopic pregnancy should be suspected even if they do not have risk factors.

In this study we discussed here two cases. The cases firstly presented as per vaginal bleeding with pain ultimately ultrasonogram study showed heterotopic

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pregnancy. Most interestingly both cases occurred in natural cycle , no history of ovulation induction.

Case Study 1:

A 26-year-old gravida 2 para 0+1 woman presented to the emergency department with an increased lower abdominal pain, brownish vaginal discharge. She has a body mass index of 24 kg/m2 and previous history of one spontaneous abortion at 10 weeks. The current pregnancy was a spontaneous conception, without assistance of ovulation induction. She had no history of pelvic inflammatory disease and was a non-smoker.

She was not using any contraception. On presenting to our emergency, she was vitally stable and apart from some tenderness in both adnexa, the abdominal and vaginal clinical examination was unremarkable. Laboratory investigations revealed a serum â-hCG of 109,863 mIU/ml. Transvaginal ultrasound with color dopplers revealed a anembryonic pregnancy of 8 weeks and 5 days and a heterogeneous complex left adnexal mass with haemorrhagic collection in cul de sac..

After counseling and taking informed consent, the patient was taken to the operating theatre. Under anesthesia, a laparotomy was performed which revealed left fallopian tube was ruptured. The other (right) tube and both ovaries were unremarkable. Left sided salpingectomy was performed and this was sent for histopathological assessment. D&C was also done. The postoperative course was uneventful and the patient was discharged home.

Fig.-1: *Anembryonic pregnancy with tubal pregnancy*

Case Study 2:

A 28-year-old gravida 3, para 2 woman presented to the emergency department with per vaginal bleeding and increased left sided iliac fossa tenderness.She has a body mass index of 19 kg/m2 and previous history of two caesarean section. 1st caesarean section is done due to fetal distress and 2ndone is elective one. The current pregnancy was also a spontaneous conception. She was non smoker and had no history of pelvic inflammatory disease.

She was not using any contraception. On presenting to our emergency, she was vitally stable and the abdominal and vaginal clinical examination was unremarkable. She came to us with a report of incomplete abortion. She has also history of taking abortifacient drug. Laboratory investigations revealed a serum â-hCG of 27833mIU/ml. Transvaginal ultrasound with color Doppler revealed a incomplete abortion and a live extrauterine pregnancy suggestive of heterotopic pregnancy. The ovaries were unremarkable, and a small pelvic fluid collection was also seen. Doppler ultrasound of the described mass revealed a 'ring of fire' sign.

After counseling and informed consent, under anesthesia, laparotomy was performed which revealed a distended left fallopian tube and process of rupture had started . The other (right) tube and both ovaries were unremarkable. Left sided salpingectomy was performed, and this was sent for histopathological assessment. D&C was also done for incomplete abortion. The postoperative course was uneventful, and the patient was discharged home.

Fig.-2: *Live tubal pregnancy*

Discussion:

Heterotopic pregnancy rarely occurred in natural conception cycle. In our two cases occur spontaneously without any predisposing factor similar to Sadia et al. [2]

Tal et al., showed 70% heterotopic pregnancies are detected between 5 and 8 weeks of pregnancy. [3] In our both cases, HP occur in 7-8 weeks.

Heterotopic pregnancies can pose a difficult diagnostic challenge and present with serious clinical presentations as tubal rupture, acute abdomen, shock and hemoperitoneum. Others may be asymptomatic and seeing an intrauterine pregnancy in ultrasonogram can add to the confusion.

The level of serum â-hCG in HP represents the combined contribution of both the intrauterine (mainly) and extrauterine pregnancy and are unlikely to be of clinical use for the diagnosis of a HP. Furthermore, visualizing both intrauterine and extrauterine fetal heart activity – although can be diagnostic – is unfortunately rare. Whenever confusion arises , it is wise to approach for transvaginal sonography (TVS) that has a specificity of 73.7% and positive predictive value of 89.8%.[4,5]

Systemic methotrexate is contraindicated with a viable intrauterine pregnancy[6] . Local injection of potassium chloride and hyperosmolar glucose suggested to avoid the use of systemic agents[7]. Although local injections of these agents avoid surgery.

Practical approaches in HP with one of the tubal pregnancies are performing a laparoscopy (preferred option) or laparotomy (depending on the clinical condition) and undertaking a salpingectomy (usually if the other tube is normal) or salpingotomy[8]. Another advantage of the surgical approach is that laparoscopy (or laparotomy) can confirm the diagnosis in addition to providing a definitive treatment.

Conclusions:

Timely diagnosed heterotopic pregnancy will decrease both maternal mortality and morbidity. Any intrauterine pregnancy presented with severe abdominal pain ,HP should be considered as differential diagnosis and careful ultrasonographic assessment is needed.

Declaration:

This manuscript is original work and has not been submitted for publication elsewhere.

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Harlequin Ichthyosis : A Rare Congenital Entity

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Abstract

Harlequin Ichthyosis (HI) is an extremely rare genetic skin disorder. It is the most severe type of ichthyosis. It is characterized by thickened, dry, rough and armor like plates of skin with deep cracks in between. Alternative names for HI include- keratosis diffusafetalis, ichthyosis congenital, ichthyosis fetalis, harlequin fetus and ichthyosis congenital gravior. It is an autosomal recessive disorder with the majority of affected individuals being homozygous for mutation in the ABCA 12 gene. This condition presents with a wide range of severity and symptoms. Affected neonates usually do not survive beyond first few days of life. We are presenting prenatal diagnosis of a case of this rare condition.

Keywords: *Harlequin ichthyosis, genetic skin disorder, ichthyosis fetalis, ABCA 12 mutation.*

Introduction:

Harlequin ichthyosis (HI) is a lethal disease, [1,2] Incidence is 1 in 300000 births. HI is an inherited autosomal recessive disorder that characterized by congenital epidermis abnormality. The affected individuals are homozygous for ABCA 12 gene mutation. Though subjects with HI in very rare cases may survive for several months or years, there was a reported case of HI in Saudi Arabia, where the child has survived beyond 7 years. [3] HI appears with severe thickened and scaly skin on the entire body. In addition, ectropion (everted eye lids), lack of development of the external parts of the nose and ears, eclabium (everted lips) and open mouth, hypoplastic fingers, anonychia and mobility limitation of the joints are some other

clinical features of the HI.[2,4,5] Patients with HI are at high risk for hypo/hyperthermia, dehydration, respiratory distress, hypoventilation, malnutrition, hypernatremia, seizure, and skin

infection.[2,6] HI is associated with preterm birth and often leads to death due to neonatal complications such as fluid loss and septicemia.[3] This study reports a case of 32 weeks of pregnancy with undue enlargement of abdomen with respiratory distress .Sonographically suspected as HI with polyhydramnios and finally delivered a HI baby.

Case Report:

A 20 years old primigravid Bangladeshi patient presented to our OPD at her 32weeks of pregnancy with undue enlargement of abdomen with respiratory distress. Her 2D ultrasonography showed polyhydramnios and otherwise normal. Then to exclude congenital anomaly she was advised for 3D ultrasonography and the report showed abnormal facial features with eversion of eye lids(ectropion), eversion of lips(eclabium), exposed dentium caverna,(fig 2) clenched fist, deformed foot, flat nose and polyhydramnios. With probable diagnosis of HI she was admitted under Fetomaternal medicine department, BSMMU. There was no history of consanguinity and family history of HI baby. Patient with her guardian were explained about poor prognosis of the baby. The family opted to terminate the pregnancy and she was induced with prostaglandin and delivered a male baby with features of HI. The skin of the baby was split into plaques of rigid fixed skin, separated by deep red

fissures (fig 1). The tightness of the skin pulls around the eyes and mouth, forcing the eyelids and lips to

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turn inside out revealing the red inner linings (ectropion and eclabium respectively).

The chest and abdomen of the infant was restricted by the tightness of the skin, making breathing difficulty. The ears appear to be missing, hands and feet were tight and constricted, fingers and toes were hypoplastic with tapered distal end which were held in flexed contracture. Movements were restricted. The baby was attended by neonatologist, resuscitation was done, baby was wrapped with saline soaked gauge but the baby died within 15 minutes due to respiratory distress. For confirmation DNA based analysis for ABCA 12 mutation was adviced but the parents refused for financial problem. The parents were psychologically supported and as there is 25% chance of recurrence , genetic counselling was recommended for future pregnancies.

Fig.-1: *The patient with deep cracked skin, open wide mouth, everted eye lids, and flatted nose and ear*

Fig.-2: *3D USG showing ectropion, eclabium, flat nose, clenched hand*

Discussion

HI is an inherited autosomal recessive disorder that characterized by congenital epidermis abnormality.[4,5] The first case was reported in 1750 by Reverend Oliver Hart. The affected individuals are homozygous for non-sense mutation in ABCA 12 gene (adenosine triphosphate-binding cassette transporter, subfamily A, member 12) on chromosome 2q33- q35 resulting in premature termination of protein translation [4]. Its OMIM number is

242500. The ABCA 12 gene plays a crucial role in transporting lipids to various body cells.

These lipids are essential for physiological development of the epidermis .[4,6] and the normal development of the skin.[2] At birth, infants are covered with hard hyperkeratotic armor, composed of large, thick, yellowish brown, and very sticky plates.[6,7] After birth, deep red fissures occur on these hard and inflexible plates that extend to the dermis, resulting in a joker-like skin. Infants with HI might have microcephaly, ectropion, and eclabium.[4] External auditory meatus and nostrils appear rudimentary and immature.[8] In addition, patients with HI have respiratory failure as a result of restricted chest expansion and skeletal deformities. Feeding problems may result in low blood sugar, dehydration, and kidney failure. In addition, temperature instability and infection would be common.[4,6] Almost all these clinical features were observed in the current case.

Prenatal diagnosis would be the first step for early detection of the disease. Therefore, obtaining the family history, consanguinity between the parents, and the presence of other skin disorders in offspring would be very helpful for early diagnosis of the disease.[4] Diagnosis can be confirmed by testing for mutation in ABCA12 gene in the affected fetus. DNA based analysis for prenatal testing is reliable and conclusive [13]. Prenatal diagnosis with Chorionic Villus Sampling (CVS) and amniotic fluid cells analysis is advised in women with previous affected baby. Amniocentesis at 17 weeks may show intracellular lipid vesicle in shed keratinocytes and this is the investigation of choice. Skin biopsy is not currently recommended for prenatal diagnosis [11,12]. Antenatal USG, especially 3D USG [14] is another modality of prenatal diagnosis but late phenotypic expression of the disease poses a challenge for timely detection and further management. Similarly in our case there was no remarkable findings upto 28 weeks USG but later at 32 weeks sonographic abnormalities were identified.

The mortality of HI is high and most of the subjectss die within a few weeks of birth because of secondary complications such as infection and dehydration.[4] However, survival contributes to the type of mutations; subjectss with the compound heterozygote mutation survive more than those with the homozygote mutation.[9] In addition, advances in the postnatal treatments and cares improve the prognosis of the disease. A comprehensive case series of 45 patients assessed by Rajpot et al [4,9] suggested early oral retinoids, aid in the shedding of hyperkeratotic scales with overall survival rate more than 50%. The patients' quality of life improves with supportive cares. In addition to the routine care such as

checking vital signs, patients should be kept in a warm and humid incubator. Hydration should be performed.[10] As accessing to the peripheral vessels can be difficult, an umbilical venous catheter might be needed. Taking shower twice per day, saline compress and

soothing emollients must be used to keep the skin soft and to accelerate the desquamation.

Water and electrolyte disturbances must be managed as well. Environment must be cleaned

up to prevent infection; hence, repeated cultures of the skin would be essential to detect the hazardous micro-organisms.[4] In addition, genetic counseling and molecular investigation of the ABCA12 gene should be considered.

Conclusion:

HI is a rare skin disorder. It follows autosomal recessive mode of inheritance. Prenatal diagnosis should be offered to women with previously affected babies. DNA analysis for ABCA12 mutation will clinch the diagnosis. Characteristic features on prenatal USG tend to appear late so the scans should be repeated even when the second trimester anatomy scan is normal and can help in a situation when a DNA diagnosis is unavailable. We suggest that mutation screening of the ABCA12 gene and genetic counseling of families would be important especially in families with a consanguinity marriage.

Consent

Informed written consent has been taken from the patient and will be provided on request.

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Abstracts

Duration of the active first stage of labour and severe perineal lacerations and maternal postpartum complications: a population-based cohort study;

Lisa Kogner; Louise Lundborg; Xingrong Lin et.al; Department of Women's Health, Division of Obstetrics, Karolinska University Hospital, Stockholm; Swede25 September 2023

Objective: The impact of first stage labour duration on maternal outcomes is sparsely investigated. We aimed to study the association between a longer active first stage and maternal complications in the early postpartum period.

Design: A population-based cohort study.

Setting: Regions of Stockholm and Gotland, Sweden, 2008–2020.

Population: A cohort of 159 459 term, singleton, vertex pregnancies, stratified by parity groups.

Methods: The exposure was active first stage duration, categorised in percentiles. Poisson regression analysis was performed to estimate the adjusted relative risk (aRR) and the 95% confidence interval (95% CI). To investigate the effect of second stage duration on the outcome, mediation analysis was performed.

Main outcome measures: Severe perineal lacerations (third or fourth degree), post- partum infection, urinary retention and haematoma in the birth canal or ruptured sutures.

Results: The risks of severe perineal laceration, postpartum infection and urinary retention increased with a longer active first stage, both overall and stratified by par- ity group. The aRR increased with a longer active first stage, using duration of <50th percentile as the reference. In the e"90th percentile category, the aRR for postpartum infection was 1.64 (95% CI 1.46–1.84) in primiparous women, 2.43 (95% CI 1.98–2.98) in parous women with no previous caesarean delivery (CD) and 2.33 (95% CI 1.65–3.28) in parous women with a previous CD. The proportion mediated by second stage duration was 33.4% to 36.9% for the different outcomes in primiparous women. The risk of haematoma or ruptured sutures did not increased with a longer active first stage. **Conclusions:** Increasing active first stage duration is associated with maternal complications in the early postpartum period.

Timing of antenatal corticosteroids and survival without neurologic disabilities at 5½ years in children born before 35 weeks of gestation

Claire Guerini MD a b, François Goffinet MD, PhD

Objective: This study aimed to assess the impact of antenatal corticosteroid timing on survival without moderate or severe neurologic disabilities at 5½ years.

Study Design: This was a secondary analysis of the EPIPAGE-2 study, a national population-based cohort (France) that recruited neonates in 2011 and followed them up at 5½ years (results first reported in 2021). Participants were children born alive between 24+0 and 34+6 weeks, with a complete corticosteroid course, delivery >48 hours after the first injection, and neither limitation of care decided before birth nor severe congenital malformation. The study included 2613 children, 2427 of whom were alive at 5½ years; 71.9% (1739/2427) had a neurologic assessment at this age; 1537 had a clinical examination (complete for 1532), and 202 were assessed with a postal questionnaire. Exposure was defined as the interval between the first injection of the last antenatal corticosteroid course and delivery in days, studied in 2 categories (days 3–7 and after day 7), in 4 categories (days 3–7, 8–14, 15–21, and after day 21), and continuously in days. The main outcome was survival at 5½ years without moderate/severe neurologic disabilities, defined as moderate/severe cerebral palsy, or unilateral or bilateral blindness or deafness, or Full-Scale Intelligence Quotient 2 standard deviations below the mean. A multivariate analysis with a generalized estimated equation logistic regression model assessed the statistical association between the main outcomes and the interval from the first corticosteroid injection of the last course to birth. Multivariate

analyses were adjusted for potential confounders, defined with a directed acyclic graph: gestational age in days, number of corticosteroid courses, multiple pregnancy, and cause of prematurity in 5 categories. Because neurologic follow-up was complete in only 63.2% of cases (1532/2427), the analyses used imputed data.

Results: Among 2613 children, 186 died between birth and 5½ years. Overall survival was 96.6% (95% confidence interval, 95.9–97.0), and survival without moderate or severe neurologic disabilities was 86.0% (95% confidence interval, 84.7–87.0). Survival without moderate or severe neurologic disabilities was lower after day 7 (85.0%) than during the interval from day 3 to day 7 (87.0%) (adjusted odds ratio, 0.70; 95% confidence interval, 0.54–0.89);

Conclusion: The association of a >7-day interval between antenatal corticosteroid administration and birth with a lower rate of survival without moderate or severe neurologic disabilities among children aged 5½ years emphasizes the importance of better targeting women at risk of preterm delivery to optimize the timing and thus benefits of treatment.

Placental growth factor testing at 19–23 weeks of gestation as a guide to subsequent care in pregnancy: A prospective observational study

Argyro Syngelaki; Ranjit Akolekar; Peter von Dadelszen; Kypros H. Nicolaide; 18 September 2023

Objective: To determine whether serum placental growth factor (PIGF) at 19–23 weeks of gestation can improve the identification of risk for adverse outcomes.

Design: Prospective observational cohort study.

Setting: Two English maternity units. **Population:** Unselected singleton pregnancies attending routine ultrasound at 19–23 weeks of gestation.

Methods: Outcomes ascertained by health record review. Diagnostic test properties evaluated clinical risk factors for pre-eclampsia (according to National Institute of Care Excellence) or fetal growth restriction (according to Royal College of Obstetricians and Gynaecologists), low PIGF at 19–23 weeks of gestation (<5th percentile) or both.

Main outcome measures: Pre-eclampsia, gestational hypertension, stillbirth, birth- weight

below third percentile or neonatal intensive care unit (NICU) admission for e"48 h.

Results: In 30 013 pregnancies, risk factors were present in 9941 (33.1%), low PIGF was present in 1501 (5.0%) and both ('two-stage' screening) were present in 547 (1.8%) pregnancies. Risk factors detected 41.7%–54.7% of adverse outcomes, and could not meaningfully revise the risk (all positive likelihood ratios, +LR, <5.0; all negative like- lihood ratios, "LR, e"0.2). Low PIGF detected 8.5%–17.4% of adverse outcomes, but meaningfully increased risks (other than NICU admission) associated with delivery <37 weeks of gestation (+LR = 5.03–15.55); all "LRs were e"0.2. 'Two-stage' screen- ing detected 4.2%–8.9% of adverse outcomes, with meaningful +LRs (6.28–18.61) at <37 weeks of gestation, except for NICU admission of e"48 h, which had an +LR of 7.56 at <34 weeks of gestation; all "LRs were e"0.2. No screening strategy meaningfully increased or decreased the detection of adverse outcome risk at term. **Conclusions:** Clinical risk factor screening has a high screen-positive rate and a poor detection of adverse outcomes. False positives cannot be reduced by PIGF testing at 19–23 weeks of gestation; therefore, this cannot be recommended as a useful strategy on its own.

Vaginal micronised progesterone for the prevention of hypertensive disorders of pregnancy: A systematic review and meta-analysis

Pedro Melo;Adam Devall;Andrew H. Shennan;Manu Vatish;Christian M. Becker;Ingrid Granne; 20 October 2023

Background: Treatment with vaginal progesterone reduces the risk of miscarriage and preterm birth in selected high-risk women. The hypothesis that vaginal progesterone can reduce the risk of hypertensive disorders of pregnancy (HDP) is unexplored.

Objectives: To summarise the evidence on the effectiveness of vaginal progesterone to reduce the risk of HDP.

Search strategy: We searched Embase (OVID), MEDLINE (OVID), PubMed, CENTRAL and clinicaltrials.gov from inception until 20 June 2023.

Selection criteria: We included placebo-controlled randomised trials (RCTs) of vag-inal progesterone for the prevention or treatment of any pregnancy complications.

Data collection and analysis: We extracted absolute event numbers for HDP and pre-eclampsia in women receiving vaginal progesterone or placebo, and meta-ana-lysed the data with a random effects model. We appraised the certainty of the evidence using GRADE methodology.

Main results: The quantitative synthesis included 11 RCTs, of which three initiated vaginal progesterone in the first trimester, and eight in the second or third trimesters. Vaginal progesterone started in the first trimester of pregnancy lowered the risk of any HDP (risk ratio [RR] 0.71, 95% confidence interval [CI] 0.53–0.93, 2 RCTs, n = 4431 women, I2 = 0%; moderate-certainty evidence) and pre-eclampsia (RR 0.61, 95% CI 0.41–0.92, 3 RCTs, n = 5267 women, I2 = 0%; moderate-certainty evidence) when compared with placebo. Vaginal progesterone started in the second or third trimesters was not associated with a reduction in HDP (RR 1.19, 95% CI 0.67–2.12, 3 RCTs, n = 1602 women, I2 = 9%; low-certainty evidence) or pre-eclampsia (RR 0.97, 95% CI 0.71–1.31, 5 RCTs, n = 4274 women, I2 = 0%; low-certainty evidence).

Conclusions: Our systematic review found first-trimester initiated vaginal micron-ised progesterone may reduce the risk of HDP and pre-eclampsia.

Laparoscopic and hysteroscopic findings in women with sub-fertility and tuberculosis: A case series

Rana Mondal; Neha Jaiswal;et.al; Department of Obstetrics and Gynaecology, NRS Medical College and Hospital, Kolkata, India; 17 October 2023

Objective: Evaluation of hysteroscopic and laparoscopic findings in subfertile women predictive of tuberculosis.

Design: Retrospective case series analysis.

Setting: Tertiary hospital in India. **Population:** A retrospective analysis of 16 784 subfertile women who had undergone diagnostic hysterolaparoscopy (DHL) was conducted between February 2014 and June 2021.

Methods: Histopathological evidence, acid-fast bacilli (AFB), culture and GeneXpert MTB/RIF assay were used to diagnose female genital tuberculosis (FGTB). Various hysteroscopic and laparoscopic findings were analysed, and a binary logistic regression assessed associations between these findings and positive diagnostic outcomes.

Main outcome measures: Various hysteroscopic and laparoscopic findings correspond to tubercular manifestation.

Results: Of the 16,784 patients, 1083 had hysteroscopy and laparoscopy findings suggestive of tuberculosis, and 309 were diagnosed with FGTB based on diagnostic tests. Logistic regression identified variables strongly predictive of positive status outcomes; tuberculous abdomino-pelvic adhesions of various grades, isthmo-amp- ullary block, tubercle, tuboovarian mass, tuberculous hydrosalpinx, complete tubal destruction, tubal diverticula and rigid tube emerged as strong predictors. **Conclusions:** Logistic regression-derived predictors, alongside specific laparoscopic and hysteroscopic findings, can enhance diagnostic accuracy and clinical decision- making to start antitubercular therapy in subfertile women.

A randomized trial comparing the 52-mg levonorgestrel system with combination oral contraceptives for treatment of heavy menstrual bleeding

Kristen A. Matteson, MD, MPH; Josie Valcin, MD; Christina A. Raker, ScD; Melissa A. Clark, PhD; Published:August 01, 2023DOI:https://doi.org/ 10.1016/j.ajog.2023.07.049

Background: The levonorgestrel intrauterine system and combined oral contraceptives are the 2 most commonly used nonsurgical treatments for heavy menstrual bleeding in the United States. However, there are limited data on their relative effectiveness and on their impact on bleeding-specific quality of life.

Objective: This study aimed to compare the effectiveness of the 52-mg levonorgestrel intrauterine system with that of combined oral contraceptives for improving quality of life among individuals who self-report heavy menstrual bleeding. We hypothesized that the levonorgestrel intrauterine system would be more effective than combined oral contraceptives at 6 and 12 months after treatment.

Study Design: We conducted a pragmatic randomized trial of individuals who self-reported heavy menstrual

bleeding. Individuals were eligible if they did not have contraindications to either the levonorgestrel intrauterine system or combined oral contraceptives and were determined to have a nonstructural cause of heavy menstrual bleeding. Eligible and consenting participants were randomly assigned in a 1:1 ratio to receive a 52-mg levonorgestrel intrauterine system or a monophasic 30- or 35-ìg ethinyl estradiol–containing combined oral contraceptive. The main outcome was mean change in bleeding-related quality of life, measured by the 20-question Menstrual Bleeding Questionnaire (score range, 0–75) at 6 and 12 months. Differences in group means and confidence intervals for the Menstrual Bleeding Questionnaire score were computed by multivariable linear mixed-effects regression; 24 participants per group were needed to detect a 10-point difference in change in mean Menstrual Bleeding Questionnaire score between individuals treated with the levonorgestrel intrauterine system and those treated with combined oral contraceptives at each follow-up time point.

Results; A total of 62 individuals were randomly assigned to treatment (n=29 allocated to levonorgestrel intrauterine system and n=33 allocated to combined oral contraceptives) and included in the intention-to-treat analyses; 19 of 29 received the levonorgestrel intrauterine system and 31 of 33 received combined oral contraceptives. Eleven percent identified as Black or African American and 44% identified as Hispanic or Latina. Participant characteristics were similar among study groups. Bleeding-related quality of life increased in both study arms, as reflected by a significant decrease in Menstrual Bleeding Questionnaire scores beginning at 6-week follow-up. In the main intention-to-treat analyses (n=62), there were no differences in mean change in Menstrual Bleeding Questionnaire scores at 6 months (difference="2.5; 95% confidence interval, "10.0 to +5.0) or 12 months (difference="1.1; 95% confidence interval, "8.7 to +6.5). Findings were similar in the subsets of participants with any follow-up visits (n=52) and who completed all follow-up visits (n=42). In the per-protocol analyses (n=47), a significantly greater decrease in Menstrual Bleeding Questionnaire score was observed in the levonorgestrel intrauterine system arm at 6 months after treatment (difference="7.0; 95% confidence interval, "13.8 to "0.2) but not at 12 months (difference="4.8; 95% confidence interval, "11.8 to 2.3) compared with the combined oral contraceptive arm.

Conclusion: No differences in change of bleeding-related quality of life were observed between the levonorgestrel intrauterine system and combined oral contraceptives at 6 or 12 months. Patients should be counseled that the levonorgestrel intrauterine system and combined oral contraceptives are both effective options for improving bleeding-related quality of life.

Predictors of response for elagolix with add-back therapy in women with heavy menstrual bleeding associated with uterine fibroids

Ayman Al-Hendy, MD, PhD; Linda Bradley, MD;Charlotte D. Owens, July 20, 2020DOI:https://doi.org/10.1016/j.ajog.2020.07.032

Background: Uterine fibroids are one of the most common neoplasms found among women globally, with a prevalence of approximately 11 million women in the United States alone. The morbidity of this common disease is significant because it is the leading cause of hysterectomy and causes significant functional impairment for women of reproductive age. Factors including age, body mass index, race, ethnicity, menstrual blood loss, fibroid location, and uterine and fibroid volume influence the incidence of fibroids and severity of symptoms. Elagolix is an oral gonadotropin-releasing hormone receptor antagonist that competitively inhibits pituitary gonadotropin-releasing hormone receptor activity and suppresses the release of gonadotropins from the pituitary gland, resulting in dose-dependent suppression of ovarian sex hormones, follicular growth, and ovulation. In Elaris Uterine Fibroids 1 and Uterine Fibroids 2, 2 replicate multicenter, double-blind, randomized, placebo-controlled, phase 3 studies, treatment of premenopausal women with elagolix with hormonal add-back therapy demonstrated reduction in heavy menstrual bleeding associated with uterine fibroids.

Objective: This analysis aimed to evaluate the safety and efficacy of elagolix (300 mg twice a day) with add-back therapy (1 mg estradiol/0.5 mg norethindrone acetate once a day) in reducing heavy menstrual bleeding associated with uterine fibroids in various subgroups of women over 6 months of treatment.

Study Design: Data were pooled from Elaris Uterine Fibroid-1 and Uterine Fibroid-2 studies, which evaluated premenopausal women (18–51 years) with heavy menstrual bleeding (>80 mL menstrual blood loss per cycle, alkaline hematin methodology) and ultrasound-confirmed uterine fibroid diagnosis. Subgroups analyzed included age, body mass index, race, ethnicity, baseline menstrual blood loss, fibroid location, and uterine and primary fibroid volume (largest

fibroid identified by ultrasound). The primary endpoint was the proportion of women with <80 mL menstrual blood loss during the final month and e"50% menstrual blood loss reduction from baseline to final month. Secondary and other efficacy endpoints included mean change in menstrual blood loss from baseline to final month, amenorrhea, symptom severity, and health-related quality of life. Adverse events and other safety endpoints were monitored. Results: The overall pooled Elaris Uterine Fibroid-1 and Uterine Fibroid-2 population was typical of women with fibroids, with a mean age of 42.4 (standard deviation, 5.4) years and a mean body mass index of 33.6 (standard deviation, 7.3) kg/m2 and 67.6% of participants being black or African American women. A wide range of baseline uterine and fibroid volumes and menstrual blood loss were also represented in the overall pooled study population. In all subgroups, the proportion of responders to the primary endpoint, mean change in menstrual blood loss, amenorrhea, reduction in symptom severity, and improvement in health-related quality of life were clinically meaningfully greater for women who received elagolix with add-back therapy than those who received placebo and consistent with the overall pooled study population for the primary endpoint (72.2% vs 9.3%), mean change in menstrual blood loss ("172.5 mL vs "0.8 mL), amenorrhea (50.4% vs 4.5%), symptom severity ("37.1 vs "9.2), and health-related quality of life score (39.9 vs 8.9). Adverse events by subgroup were consistent with the overall pooled study population. Conclusion: Elagolix with hormonal add-back therapy was effective in reducing heavy menstrual bleeding associated with uterine fibroids independent of age, body mass index, race, ethnicity, baseline menstrual blood loss, fibroid location, and uterine and primary fibroid volume.

PALM-COEIN Classification for Abnormal Uterine Bleeding: A Study of its Practical Applicability and Distribution of Causes

Zalak Vinaybhai Karena1 , Aditya Dharmesh Mehta2, Sanjay Vikani3

Aim: The aim was to study the distribution of causes in non-gravid women of reproductive age-group having abnormal uterine bleeding (AUB) as per the new International Federation of Gynecology and Obstetrics (FIGO) polyp; adenomyosis; leiomyoma; malignancy and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic; and not yet classified— (PALM-COEIN) classification system and to evaluate the practical applicability of this classification system in the clinical scenario.

Materials and methods: A prospective cross-sectional study was conducted among 300 women with AUB attending the outpatient department of gynecology, selected by the kth random sampling technique. The etiological diagnosis was made in the PALM-COEIN spectrum. The practical applicability of the AUB-FIGO classification system was assessed by the survey of clinicians with help of a scoring system.

Results: The majority of the study subjects were from 40 to 55 years age group with the median age of the study subjects being 42 years. Fifty-two subjects had two attributable causes from PALM-COEIN for AUB. In our study, 45% of subjects had leiomyoma, which turned out to be the most common etiology for AUB, and hypothyroidism was the most common endocrinopathy associated with 10% of AUB cases. Hysteroscopy was required to diagnose one case of amenorrhea. The clinician survey emphasized the high practical applicability of PALMCOEIN classification.

Conclusion: The data generated from the clinical settings with this classification could be more comparable due to homogeneity and consistency in nomenclature. Clinical significance: The International Federation of Gynecology and Obstetrics classification for AUB is a clinician-friendly modality providing an easy algorithm for accurate diagnosis and definitive treatment of AUB. Keywords: Abnormal uterine bleeding, FIGO, Heavy menstrual bleeding, PALM-COEIN, Practical applicability, Qualitative survey, Reproductive age group. Journal of South Asian Federation of Obstetrics and Gynaecology (2022): 10.5005/jp-journals-10006-2154

Society News

OGSB Monthly Scientific Seminar

SL	Program Details	Speakers	Date	Participants (by Zoom)
1.	Bundle approach management of PPH	Prof. Ferdousi Begum President-OGSB	30th October 2022	135
2.	Preterm Birth		30th November 2022	110
3.	"WHO next-generation Partograph"		31st December 2022	74
4.	Influenza Vaccination During Pregnancy	Prof. SK Zinnat Ara Nasreen, Scientific Secretary-OGSB	31-01-2023 Time: 1:00pm-2:00pm,	105
5.	Mifepristone misoprostol combination, is it over the counter drug ?	Dr. Farzana Rabee Choudhury Assistant Professor Mugda Medical College Hospital –	Date: 28th February 2023 Time: 1:00pm	97
6.	Saving Near Miss Mothers By Bundle Approach (in person)	Dr. Noor-E-Tawhida, Jr Cons of Obs & Gynae, Dhaka MCH.	30th March 2023	110

Continued Medical Education (CME) program (All virtual)

SL	Program Details	Speakers	Date	Participants
1.	Webinar on-Jaundice in Pregnancy:		10/3/22	129

TRAINING/WORKSHOP

International Workshop on Advanced Gynae-cological Laparoscopic Surgery

Venue: OGSB Hospital & IRCH, Date: 7-8, November, 2022

3 days Training on USG
Venue: OGSB Hospital & IRCH, Date: 14-16 January, 2023

International Workshop & Training on Hysteroscopy

Venue: OGSB Hospital & IRCH, Date, May 11-12, 2023

Golden Jubilee Program of OGSB
Date: 6th December 2022

Venue: Bangabandhu International Conference Centre (BICC), Dhaka, Bangladesh.

Theme: **"Lessons learnt-future planned".**

International News

AICOG 2024
Hyderabad, India 6th- 10th January 2024 at HICC,.
Website: https://aicog2024.com/

RCOG World Congress 2024
15-17 October 2024.at Muscat,Oman
Website:

19th World Congress on Menopause
October 19-20, 2024, Melbourne, Australia in October 2024.
Website: https://www.imsociety.org/

The 11th International Conference on Gynecology and Obstetrics ICGO
June 12-14, 2024 at Radisson Blu Beke Hotel, Budapest ,
Terez Korut 43, Budapest, H-1067, Hungary

The 13th Congress of the Asia Pacific Initiative on Reproduction (ASPIRE 2024)
Philippine International Convention Center (PICC), Manila, Philippines from 23 – 26 May 2024.
Website: https://www.aspire2024.com/

XXV FIGO World Congress of Gynecology and Obstetrics
Cape Town International Convention Centre
October 2025
Website: www.figo.org

23rd Congress of the Federation of the Asia and Oceania Perinatal Societies (FAOPS)
Date: September 4 to 6, 2024.
Coex in Seoul, Korea
Website: https://faops2024.org/

28thAOFOG Congress 2024
Date: 17-21 May 2024, Venue: Korea
E-mail:secretariat@aofog.net

BJOG yearly CME program

Name of the article:
For Postpartum Haemorrhage Prophylaxis between Carbetocin and Oxytocin - A Study in Tertiary Care Hospital
Page no (05)

Q. Following statements are true or false?

a) Carbetocin is a long-acting synthetic octapeptide analogue of oxytocin with agonist properties.

b) Intravenous injections of carbetocin produce tetanic uterine contractions within two minutes.

c) In the above mentioned study all patients had contracted uterine tone within 5 min when given carbetocin.

d) This study showed that the need for additional uterotonic was significantly more in oxytocin group.

Name of the article:
Psychological impact of COVID 19 pandemic on pregnant mothers – a survey during the early days in Bangladesh
Page no (14)

Following statements are true or false for the COVID-19 pandemic pregnant mothers based on the study findings

a) Almost half of the study population felt uneasy on watching news or any stories regarding COVID 19 on social media.

b) Of the responders, 23.5% reported panic attacks and a fear of dying.

c) Obstetric complications were primarily limited to fetal distress, reduced fetal movement, abdominal pain, and heaviness, GDM, UTI and PROM.

d) Majority of the respondents remain unsatisfied with treatment of Telemedicine service.

Name of the article :
Pre-caesarean Anxiety in Obstetric Patients Undergoing Elective and Emergency Cesarean Section: A Comparative Study
Page no (20)

Following statements are true or false (based on study findings)

a) World Health Organization (WHO) recommended the optimal caesarean section rate should be between 5% and 15%.

b) Preoperative anxiety is a challenging concept in the preoperative care of patients.

c) Trait anxiety is a temporary emotional state.

d) In this study pre-caesarean anxiety was found more in cases of elective cesarean section compared to emergency cesarean section.

Nme of the article :
Analysis of Deliveries Using Robson's 10-Group Classification at a semi-urban hospital.
Page no (27)

Following statements are true or false (based on study findings)

a) It is well-established that caesarean section (CS) rates have risen more in developing world and decreasing in developed world over the past three decades.

b) The Robson classification system provides clinically relevant categories for analyzing and reporting rates of CS.

c) The results of the study, showed that majority of the total CS rate was contributed by Robson Group 5.

d) The Robson 10-group Caesarean section classification system is a complicated and so underutilized.

<table>
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Name of the article :

Anatomical and Functional Results of Modified Mccall Culdoplasty Done During Vaginal Hysterectomy in A District Hospital of Bangladesh

Page no (35)

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Following statements are true or false (based on study findings)

a) The aim of first surgery for uterovaginal prolapse should be to restore the normal anatomy i.e. a normal vaginal length should be maintained with its axis directed towards S3 –S4.

b) One fourth of the uterine vault & enterocele following surgery results from middle compartment defect.

c) Post hysterectomy vault prolapse (PHVP) may develop as a result of an enterocele that was overlooked during surgery.

d) In this study following McCall culdoplasty the main complication was profound dyspareunia.

Answer keys

Question	a)	b)	c)	d)
1.	T	T	F	F
2.	F	T	T	F
3.	T	T	F	F
4.	F	T	T	F
5.	T	T	T	F

Answer Sheet: BJOG yearly CME program: Examination: BJOG 2023: 38(1).

Please answer the questions on page …. by filling in the appropriate boxes below. Please mark the box for true answer and fill in the box until the letter is no longer visible. To process your exam, you must also provide the following information:

Name (in CAPITAL LETTER)... Designation ....

Official Address...

Mailing Address..

Mobile no. ....E-mail..

OGSB Member No. ....

Q 1	A	B	C	D	E
Q 2	A	B	C	D	E
Q 3	A	B	C	D	E
Q 4	A	B	C	D	E
Q5	A	B	C	D	E
Q 6	A	B	C	D	E
Q 7	A	B	C	D	E
Q 8	A	B	C	D	E
Q 9	A	B	C	D	E
Q 10	A	B			

Evaluation form
Your completion of these CME activities includes evaluating them. Please respond to the questions below.

1. Please rate these activities (1- minimally, 5- completely)	1	2	3	4	5
1.1	These CME activities are effective in meeting the educational objectives					
1.2	These CME activities are appropriately evidence based					
1.3	These CME activities are relevant to my practice					

2. How many of your patients are likely to be impacted by what you learned from these activities?				
< 20%	20%-40%	40%-60%	60%-80%	>80%

3. Do you expect that these activities will help you improve your skill or judgment within the next 6 months? (1-definitely will not change, 5-definitely will change)	1	2	3	4	5

4. How will you apply what you learned from these activities (tick mark all that apply on the right of the statement):	
4.1	In diagnosing patients	
4.2	In monitoring patients	
4.3	In educating students and colleagues	
4.4	As part of a quality or performance improvement project	
4.5	For Maintenance of board certification	
4.6	In making treatment decisions	
4.7	As a foundation to learn more	
4.8	In educating patients and their caregivers	
4.9	To confirm current practice	
4.10	For maintenance of licensure	

- Please list at least one (1) change you will make to your practice as a result of this CME activity:

  ....
- How long did it take you to complete these activities?................hours..............minutes
- What, in your opinion, are the biggest clinical challenges related to obstetrics and gynecology?

  …….............…..