Online ISSN : 2249-4618
Print ISSN : 0975-5888
DOI : 10.17406/GJMRA

Global Journal

of Medical Research: E

Gynecology & Obstetrics



Antenatal Women in a Tribal Area

Study on Complications of Pregnancy

Highlights

Assessment of Critical Thinking Skills

Birth Preparedness and Complication

Discovering Thoughts, Inventing Future

VOLUME 20 ISSUE 2 VERSION 1.0

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Volume 20 Issue 20 was originally issued as E2

Global Journal of Medical Research: E
Gynecology and Obstetrics

Volume 20 Issue 20
Originally issued as E2

Global Journal of Medical Research: E
Gynecology and Obstetrics

Volume 20 Issue 2 (Ver. 1.0)

Open Association of Research Society

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

The Management of Breast Cancer during Pregnancy in the Maternity Ward of Rabat in Morocco- A Case Report

By FZ Belkouchi, F. El Hassouni, H. Ouham, S. Bargash & M. Yousfi

Abstract- Breast cancer during pregnancy (PABC)is a rare affection; but since more women postpone childbearing until middle age, the incidence of breast cancer in pregnancy started increasing. Delays in diagnosis and treatment are also due to physiological changes in the breast during pregnancy. Breast cancer associated with pregnancy represents a unique clinical scenario that requires balancing between risks and benefits for both the maternal and fetal well-being.

The goal of this report is to evaluate and promote effective management for patients with breast cancer during pregnancy.

GJMR-E Classification: NLMC Code: WP 840, WQ 252



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The Management of Breast Cancer during Pregnancy in the Maternity Ward of Rabat in Morocco- A Case Report

FZ Belkouchi [α], F. El Hassouni [σ], H. Ouham [ρ], S. Bargash [ω] & M. Yousfi [¥]

Abstract- **Breast cancer during pregnancy (PABC)is a rare affection; but since more women postpone childbearing until middle age, the incidence of breast cancer in pregnancy started increasing. Delays in diagnosis and treatment are also due to physiological changes in the breast during pregnancy. Breast cancer associated with pregnancy represents a unique clinical scenario that requires balancing between risks and benefits for both the maternal and fetal well-being.**

The goal of this report is to evaluate and promote effective management for patients with breast cancer during pregnancy.

I. Introduction

Breast cancer is the most common form of cancer diagnosed during pregnancy; it occurs in 1 to 4 cases per 10,000 pregnancies [1]. This incidence is rising because of the the delay of childbearing combined with increased occurrence of young-onset breast cancer [2].

However, pregnancy follow-ups and treatment methods are relative to gestational age. which creates a dilemma regarding the preservation or termination of pregnancy.

The role of the obstetrician is to take a multidisciplinary approach to improve maternal and child health outcomes.

Case 1:

40-year-old lady, Gravida 3 Para 3, two vaginal births, who came at 32 gestational weeks. With no personal or family history of cancer. The volume of the right breast started growing abnormally from 30 weeks of gestation without the patient noticing, since there was no pregnancy follow up either. The parturient consulted after the breast consistency and volume changed with skin erythema and homolateral axillary adenopathy that were also palpable during physical examination. An ultrasound examination was realized (Fig. 1),



Fig. 1: Ultrasonography of the right breast showing an irregular breast image, BI-RADS 5.

showing an irregular breast tumor, classified as score five according to the Breast Imaging Reporting and Data System (BI-RADS). Based on the results, a right breast biopsy and histological analysis were performed and concluded an invasive ductal carcinoma grade 3, with estrogen and progesterone receptors positive, and human epidermal growth factor receptor 2 (HER2) negative. An ultrasonography and heart monitoring of the fetus was done. A pulmonary X-ray with abdominal protection and liver ultrasonography was realized with no signs of distant metastatic disease. The patient was sent to oncologists and received four cures of chemotherapy consisting of épirubicine 100 mg and cyclophosphamide. With partial breast tumor remission at 38 weeks of gestation, the parturient started labor, and fetal monitoring showed suspicion of fetal distress (Fig. 2).

Author α σ ρ ω ¥: Service de gynécologie obstétrique cancérologie et grossesse à haut risque, Maternité Souissi- CHU Ibn sina, Rabat, Maroc. e-mail: belkouchifz@gmail.com

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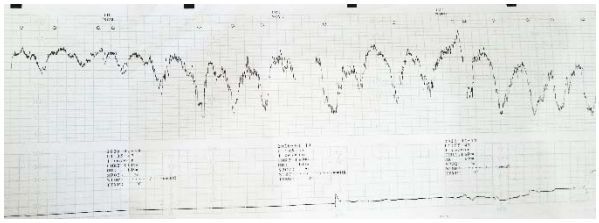


Fig. 2: Fetal monitoring showing recurrent deceleration

Afterward, a cesarean section was realized, with a newborn baby Apgar 4/6 out of 10, with respiratory distress of 4 out of 10 and malformation of the right-hand fingers. The baby was addressed to pediatrics for a complementary malformation examination. Examination of the placenta was negative, and after three weeks, the patient was sent again to oncology to complete the rest of chemotherapy. She later underwent a modified radical mastectomy, a complement of radiation, and hormonal therapy (tamoxifen) was given.

Case 2:

Thirty-nine years old patient, with no history of cancer, Gravida 3 Para 3, two vaginal births, with 27 gestational weeks of pregnancy. Seven months before, the patient had noticed (in the left breast) a retro areolar and superior lump associated with skin inflammation. An ultra-sonography was realized describing left infectious mastitis (Fig. 3).

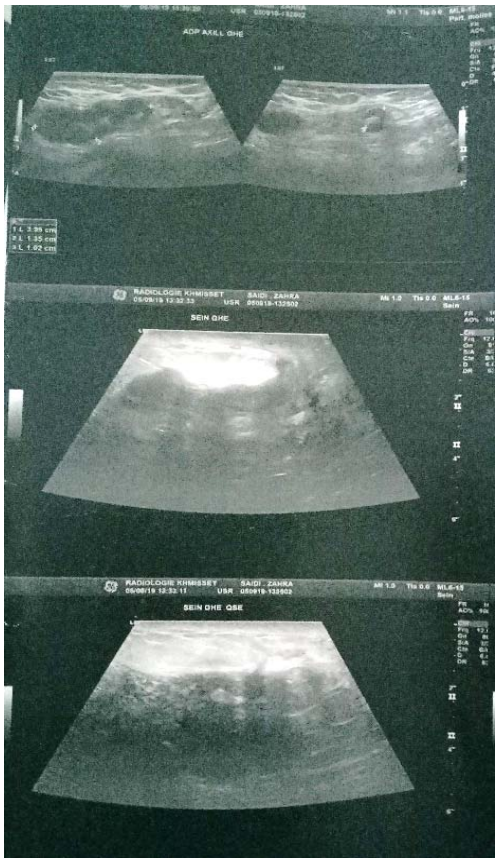


Fig. 3: Irregular retroareolar mass, with cutaneous thickness

The patient was given antibiotics for 14 days, with no improvement, according to her. Due to personal reasons, no follow up was done until she came back after seven months later, with an extensive mass involving all four quadrants of the breast, with nipple invasion (Fig. 4).

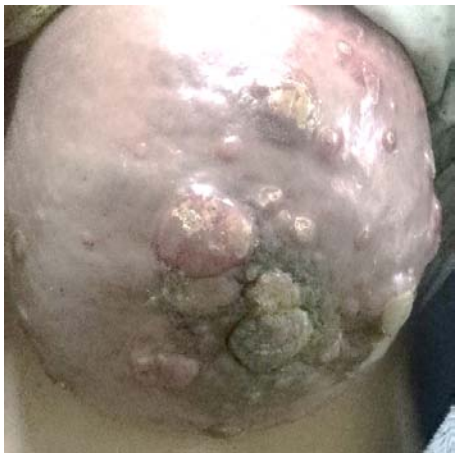


Fig. 4: Breast carcinomatous mastitis

A Tru-Cut biopsy was firstly realized, followed by a CT scan with protection because an ultra-sonography and MRI couldn't be done due to the volume of the breast, and the face-down position that is required for an MRI. The scan showed aninfiltration of the left mammary gland, with thickened skin associated with pectoral muscle infiltration and multiple axillary nodes with a costal lesion (Fig. 5).



Fig. 5: Infiltration of the left mammary gland, with thickened skin, associated with pectoral muscle infiltration, and multiples axillary nodes with coastal lesion

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The biopsy concluded an invasive ductal carcinoma of grade 3 with estrogen and progesterone receptors negative and a positive human epidermal growth factor Receptor of 2 (HER2). The patient underwent neoadjuvant chemotherapy consisting of paclitaxel, Adriamycin, and cyclophosphamide. Ultrasonography of the fetus was made showing a 27-week fetus with no anomalies (Fig. 6)



Fig. 6: Mono Fetal evolutive pregnancy corresponding to 27 weeks of gestation

At 38 weeks of pregnancy, labor was induced, resulting in the birth of a healthy girl Apgar 10/10, 2900 g. After a week, the patient was sent to oncology again to complete her treatment.

II. Discussion

The diagnosis of breast cancer associated with pregnancy concerns every breast cancer appearing during pregnancy and lactation, and about a year in post-partum [2-3]. Some delay concerning the diagnosis of breast cancer in pregnant patients is frequently caused by changes in breast tissue that occurs during pregnancy [4]. According to gestational age and breast's physiological modifications, clinical examination and diagnosis might be difficult.

Breast disorders related to pregnancy are usually benign, but because of the seriousness of pregnancy-associated with breast cancer and the risk of a delayed diagnosis, during this period, all masses must be carefully evaluated [5]. Also, the physician must proceed to a careful local and systemic examination as would be done in a non-pregnant woman, followed by an imaging study if a lump is clinically suspected.

An initial diagnosis can be made by using breast ultrasound, as this method is considered safe and has high sensitivity and specificity [6]. If there are any suspicious features or ultrasound is not enough, then it is prudent to proceed with bilateral mammography (with abdominal shielding) to exclude bilateral and multicentric disease. Also, mammography is considered safe for the fetus, since the breast radiation around three mGy, so fetal exposure is about 0.004 Gy [7]. In our cases, we especially relayed on ultra-sonography results that were positive.

After Imaging, the examination should be complemented by biopsy. In our case, we used Tru-Cut biopsy, and the results were in favor of invasive ductal carcinoma, as reported in studies showing that 70–90% are Invasive ductal carcinoma, followed by invasive lobular carcinoma [8]. The frequency of inflammatory breast cancer is increasing, and the histologic score system (Scarff, Bloom Richardson grading system) is also high.

Radiographic examinations for staging purposes should be avoided during pregnancy and used only when the estimated risk of metastatic disease is high, and if the results can change the therapeutic decision. In this situation, a liver ultrasound is recommended if there is any suspicion of liver metastases. And if the patient is symptomatic and metastases are highly suspected, chest X-ray and a skeletal survey via non contrast MRI can be done. MRI scan of the breast is not indicated for breast cancer during pregnancy because it requires to lie in a prone position, and the use of gadolinium contrast is associated with adverse effect on the fetus.

One of our patients with stage 4 disease required an MRI, but CT scan was done because of the masse volume and difficulty to have a prone position. Through the examination costal invasion was discovered.

According to clinical and imaging examination, the patient can best aged like a non-pregnant woman. The modality of treatment involved surgery associated with adjuvant or neoadjuvant chemotherapy.

Mastectomy can be done under general anesthesia and can be performed at any gestational age with minimal risk to the fetus. After 20 weeks, the patient should be positioned with left lateral uterine displacement to avoid aortocaval compression [8].

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Breast-conserving surgery may be safely performed in most cases. But preferably in the second and third trimesters, to not delay radiation therapy that can be used until after delivery [8].

Sentinel lymphnode biopsy in PABC patients is approved during pregnancy according to National Comprehensive Cancer Network (NCCN) guidelines since several studies showed it might be safely performed [9].

Chemotherapy is administered considering gestational age and can be safely initiated during the second and third trimesters. In our oncology institute, anthracyclines, especially cyclophosphamides, Adriamycin with or without 5-fluorouracil are the most commonly used medications. [10]

For metabolizing chemotherapeutic substances, the placenta takes three weeks what helps its excretion from the fetus [10]. After 35 weeks chemotherapy may result in fetal toxicity increases the chances of spontaneous labor and at the time of delivery some bleeding problems, sepsis, or death may occur. Consequently, the time interval of three weeks is recommended between the last chemotherapy session and the delivery.

Therefore, Radiation therapy (RT) is generally not recommended during pregnancy and should be delayed until the post-partum period [11]. RT is not an absolute contraindication for PABC and may be considered in highly selected cases following risk–benefit assessment with the mother while considering gestational age.

Currently, the use of Taxanes, tamoxifen, and anti-HER2 are usually started in the post-partum period [12, 13].

Our two patients underwent neoadjuvant chemotherapy before modified radical mastectomy. Post-natal, radiotherapy, and hormonal therapy were given depending on the stage and hormone receptor status.

PABC patients should be considered as high-risk obstetric patients, with routine fetal and maternal health checkup at least once every three weeks. Regarding pregnancy follow up, fetal development should be assessed before there is an increased risk of IUGR (intrauterine growth restriction), prematurity, low birth weight (sometimes due to chemotherapy). Some authors suggest random ultrasonography checkup in each semester of pregnancy with weight evaluation and also fetal doppler [14].

Preterm delivery should be avoided. Vaginal delivery is preferred since post-partum anti-neoplastic treatment can be resumed immediately, while at least a one-week interval is recommended after cesarean section. Cesarean section is not indicated regarding PABC, and concerning neonatal outcomes, immaturity may underlie neonatal sequel and thus recommend avoiding premature delivery [14].

Also, the placenta should be inspected as previous reports found placental metastases [15].

Breastfeeding is generally not recommended during chemotherapy as drugs are excreted in human milk. Also, cyclophosphamide treatment might cause transient neutropenia in the new born. But It becomes possible three weeks after the end of chemotherapy; breastfeeding should not be contraindicated to women who have completed chemotherapy with momentous time before delivery. From the neonatal perspective [16], breastfeeding with contralateral breast after the end of treatment is possible.

Regarding fertility, chemotherapy has ovarian toxicity that may cause transitory amenorrhea or even precocial menopause. There are different factors influencing this toxicity, like the age, the type of cytotoxic, the duration of treatment, and accumulated doses [17]. Women must be informed before starting the treatment, of the risk of menopause and the impact on fertility.

The oncologic follow-up concerning breast cancer requires a clinical examination, mammography with ultrasonography every 6th to 12 months, for three years, then every year. Before starting a new pregnancy after breast cancer: Liver sonography, chest X-ray, or thoracic, abdominal scan must be realized [18]. In the case of using anthracyclines or trastuzumab in high doses,heart ultrasonography is required because of the high risk of cardiac insufficiency related to pregnancy [19]. During pregnancy, a breast examination must be done frequently, and imaging mustn't be requested if there are no clinical signs.

The Conception can be accepted 2 or 3 years after treatment or five years when tamoxifen is prescribed (but three months after the end of treatment) [20].

III. Conclusion

All efforts must be taken to detect PABC at an early stage and avoid such delays in the treatment of this challenging set of patients. Cancer-associated with pregnancy represents a unique clinical scenario that requires a delicate balance of risks and benefits for both maternal and fetal well-being, as well as a multidisciplinary discussion and close monitoring by an expert team.

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Birth Preparedness and Complication Readiness among Antenatal Women in a Tribal Area of a Central District, Kerala

By Jerry Rachel & Catherin Nisha

Abstract- Background: Obstetric complications and maternal deaths following childbirth becomes a burden on many women and their families. Birth preparedness and complication readiness is a comprehensive package which aims at promoting timely access to skilled maternal and neonatal services. It focuses on the active preparation and decision making process in the delivery of pregnant ladies and their families.

Objective: To assess birth preparedness and complication readiness among antenatal women in a tribal area, central zone Kerala.

Methodology: This was a community based cross-sectional study carried out in a tribal area during January – June 2019 among 60 tribal antenatal women using a questionnaire based interview.

Keywords: antenatal women, birth preparedness, complication readiness, cross sectional study, tribal area.

GJMR-E Classification: NLMC Code: WQ 240

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Methodology: This was a community based cross-sectional study carried out in a tribal area during January – June 2019 among 60 tribal antenatal women using a questionnaire based interview.

Results: The mean age of the antenatal women was 24.9 ± 4.04 yrs and mean age at marriage was 20.5 ± 3.26 yrs. Among the women, 22(36.67%) of them has higher secondary education, 9(15%) has primary education. Among them, 54(90%) planned to deliver in government hospital and 5(8.34%) women planned to deliver in private hospital. Among the women, healthcare workers had visited 41(68.33%) of the antenatal women. Only 5(8.33%) knew about danger signs of pregnancy.

Conclusion: In this study birth preparedness was inadequate and the antenatal women are planning to deliver in healthcare facility. Almost two third of the women had the birth of their last child in hospital facility. Most of the women had not arranged money, transportation, blood donor, skilled providers prior to delivery.

Keywords: antenatal women, birth preparedness, complication readiness, cross sectional study, tribal area.

I. Introduction

Obstetric complications and maternal deaths following childbirth becomes a burden on many women and their families(1). Maternal deaths accounts to almost 303,000 in 2015 and most deaths are reported from Sub Saharan Africa (66%) and then from South Asia (22%)(2). Birth preparedness and complication readiness is a comprehensive package which aims to promote timely access to skilled maternal and neonatal services. It focuses on the active preparation and decision making process in the delivery of pregnant ladies and their families(3). The risk of sudden and unpredictable life threatening complications is equal to all the pregnant women. Around the world, different cultural beliefs are practiced and the deficiency in awareness leads to lack of preparation for the delivery and only takes action when the labour begins(4).

Birth preparedness and complication readiness (BPCR) include many elements, including: "(a) knowledge of danger signs; (b) plan for where to give birth; (c) plan for a skilled birth attendant; (d) plan for transportation; (e) a birth companion; and (f) identification of compatible blood donors in case of emergency"(5). India has major breakthrough in reducing maternal mortality ratio by 77%, from 556 per 100,000 live births in 1990 to 130 per 100,000 live births in 2016. Although India couldn't achieve the Millennium Development Goal target, India is aiming for the Sustainable Development Goal target of an Maternal Mortality Ratio below 70 by 2030(6). Maternal Mortality Ratio in Kerala in 2016 is 46 per 100,000 live births(7). Kerala performs better in delivery of antenatal check up services than any other states in India(8). Tribal population in Kerala constitutes 1.45% of total population(9). Maternal health care services were fully utilized by 85.7% of tribal women in Wayanad, Kerala (8).

Around the globe almost 40% of pregnant women face acute obstetric complications. World Health Organization state that women in developing countries sustain short term or long term morbidities due to pregnancy and child birth. India being a developing country is in the fore front in carrying the burden of maternal mortality(10). The proposition of birth preparedness and complication readiness in third world countries with substantive illiteracy, incompetent infrastructure, poor transportation, delayed access to medical fraternity have the capacity to reduce the maternal and neonatal mortality and morbidity drastically. BPCR encourages skilled care for all births and buoy up decision making before the onset of labour(11).

Author α: Post graduate student.
Author σ: Associate Professor, Department of Community Medicine, Amala Institute of Medical Sciences, Thrissur, Kerala.
e-mail: cathnisha@gmail.com

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In India, many initiatives are being undertaken under the National rural health mission to guarantee access to skilled care at birth and emergency obstetric care for complications which includes financial benefits for availing obstetric services. Nevertheless, optimum utilization of such services comes from demand by the women and the community. Delays in seeking, reaching, obtaining appropriate care are crucial factors when it comes to maternal mortality(12). Even though Kerala is known to own many accolades in health services and has a 100% in health care utilization in antenatal services in the urban area yet tribal areas may be untouched in this regard so this topic remains relevant in such terrains of the state(8). This has been studied in other tribal areas of Kerala but there is paucity in studies on birth preparedness and complication readiness in this particular tribal area hence decided to go with the study with the objective to assess birth preparedness and complication readiness among antenatal women in a tribal area in central zone of Kerala.

II. Methodology

a) Study Area and Period

This study was conducted among tribal population of central zone, Kerala. Various hamlets were visited for data collection during the period from January to June 2019 including study subjects of all the tribal sections of that area.

b) Study Design and Data Collection

This is a community based descriptive cross sectional study among tribal antenatal women including both primi as well as multipara women. Mentally ill and seriously ill pregnant women were excluded from the data collection. Sample size was calculated to be 53.8from an Ethiopian study by Hiluf et al(4) and 60 women were interviewed for the study based on 95% confidence level, 80% power and consecutive sampling.

House to house survey was conducted in hamlets. Data was collected using interview schedule using a standard questionnaire on birth preparedness and complication readiness which was translated to local language (Malayalam) before administering to the subjects. Socio-demographic details of the women, details on current pregnancy and last pregnancy were included and details on abortions were included in data collection. Details on who is the decision maker for the antenatal check up, choice of health facility for delivery, details of complications faced during pregnancy were the few areas touched upon in the questionnaire. Data was entered in excel sheet and analysed by Statistical Package for Social Sciences (SPSS) version 23.

III. Results

a) Respondents' and their Husbands' Characteristics

A total of 60 antenatal women were enrolled into the study. Questionnaire included age, occupation and education status of the women and their husbands'. Mean age of women was 24.9± 4.0 yrs, husbands' was 29.5±4.9 and mean age of women at marriage was 20.5± 3.3 yrs. Age of the women interviewed spanned from 18yrs to 36yrs and 29(48.33%) women belonged to the age group of 18-24yrs. 40(66.67%) of the husbands' belonged to the age group of 20-30yrs. (Table 1)

Table 1: Age characteristics of the study population (N=60)

AGE OF WOMEN-Mean ±SD = 24.917 ± 4.047		
Range	Frequency	Percentage (%)
18-24	29	48.33
25-29	20	33.34
30-36	11	18.34
AGE OF HUSBAND-Mean ±SD = 29.5 ± 4.904		
20-30	40	66.67
31-40	19	31.73
41-50	1	1.6
AGE OF WOMEN AT MARRIAGE-Mean ±SD = 20.517 ± 3.265		
14-20	39	65
21-25	14	23.34
26-30	17	11.66

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Table 2: Details on education and occupation of women and their husbands' (N=60)

EDUCATION	WOMEN (%)	HUSBANDS (%)
Illiterate	6(10)	10(16.68)
Primary school	9(15)	6(10)
High school	11(18.33)	19(31.66)
Higher secondary	22(36.67)	16(26.66)
Graduate and above	12(20)	9(15)
OCCUPATION	WOMEN (%)	HUSBANDS (%)
Not working	45(75)	18(30)
Skilled	0	3(5)
Unskilled	9(15)	33(55)
Professional	6(10)	6(10)

Among women 22(36.67%) of them had secondary education and 45(75%) of them were unemployed. Regarding men, 19(31.66%) of them were having only upto high school education and 33(55%) of them were unskilled workers. (Table 2)A casual observation can be inferred from the above table is that men were less educated than women but more men were employed than women. Regarding the type of family of women, 27(45.0%) of them were living in joint families and 15(25.0%) of them lived in nuclear families. Regarding family income, 31(51.67%) of the women lived in families with less than Rs. 1000 as monthly income.

There were 26(43.33%) primi among the study subjects and 34(56.67%) of them were multiparous women. Out of 34 women, 2(5.88%) women underwent caesarean section and 32(94.12%) underwent normal delivery in the previous pregnancy. Out of 34 women, only 2(5.88%) women had problem during delivery (bleeding and prolonged labour).

b) Details on Previous Pregnancy

Table 3: Details on previous pregnancy (N=34)

Variable	Frequency	Percentage
PLACE OF BIRTH OF LAST CHILD		
Husband's home	2	5.88
Respondent's home	6	17.65
Govt. Health centre	1	2.95
Govt. Hospital	21	61.76
Private hospital	4	11.76
PRIOR TO DELIVERY, ARRANGEMENTS MADE WERE:		
Arranged skilled provider	2	5.88
Money	2	5.88
Transportation	1	2.95
Blood donor	0	0
None	29	85.29
FINAL DECISION OF BIRTH PLACE WAS MADE BY:		
Health professional	7	20.5
Husband	13	38.23
Mother in law	14	41.27

Concerning place of birth of last child, 21(61.76%) of the women chose to deliver in government hospital and 8(23.53%) of them delivered in homes. BPCR advocates the importance of arrangements on identifying skilled provider, money, transportation, blood donor prior delivery. However, no arrangements were made by 29(85.29%) of the women among the study subjects. One of the major decisions of where to deliver was made by mother in laws for 14(41.27%) of women for the delivery of their last child.

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Bus was the sorted mode of transportation for reaching the health facility for delivery by 12(46.15%) of the women who delivered in health facility, 8(23.53%) of the women who delivered at home were on foot to their respective homes. Mothers and mother in laws were the ones who assisted during the home deliveries.

c) Details of Present Pregnancy

Table 4: Details of present pregnancy (N=60)

Variable	frequency	Percentage
HEATH CARE WORKER VISITED HOUSE OF STUDY SUBJECTS (N=60)		
Yes	41	68.33
No	19	31.67
DID THEY MENTION ABOUT DANGER SIGNS		
Yes	5	8.33
No	55	91.67
ARRANGEMENTS MADE FOR CURRENT PREGNANCY		
Money	2	3.34
None	58	96.66
PLANNED TO DELIVER THE BABY IN:		
Govt. Hospital	54	90.00
Govt. Health centre	1	1.66
Private hospital	5	8.34
WHO MAKES FINAL DECISION		
Health professional	10	16.66
Husband	31	51.67
In laws	13	21.67
Respondent's parents	6	10.00

Regarding present pregnancy, awareness on danger signs was not present in 55(91.67%) of the women. No arrangements were made by 58(96.66%) of the women for meeting their requirements for the approaching delivery. Choice of place of birth for the forthcoming delivery was government hospital by 54(90%) of the women and such a decision was made by husband for 31(51.67%) women.

IV. Discussion

Preparing for birth and anticipating potential complications has been identified worldwide as a country level key strategy and intervention for ensuring birth in the presence of a skilled attendant and improving health of the women and the newborn(13). Complete BPCR is positively associated with finding a skilled attendant for birth(13). Indicators like percentage of the women who knew about danger signs of pregnancy, percentage of women who availed ANC in 1st trimester by a skilled provider, percentage of women who identified skilled attendant for delivery, percentage of women who arranged money and mode of transportation for accessing health facility (5).

In this study population, 48.33% of women belonged to the age group of 18-24years but in a study conducted in Farta, Ethiopia by Limenih et al 64.9% women belonged to 20-34 years(14). Mean age group of the women was 24.917 ± 4.047 years and a study conducted in Telangana by Kamineni V et al mean age group of women was 25.2 ± 4 years(15), also similar to study done in Madhya Pradesh by Deoki Nandan was 24.08+ 3.872(5). Fewer women around 18.34% belong to age group of 30-36 years. 60% of women had their age at marriage around 14-20 years likely to be in line with a characteristic of the study site where the custom is to marry off women earlier in their age. Mean age at marriage of the women was 20.517 ± 3.265 years in this study which is more than the mean age at marriage in a study done Madhya Pradesh by Deoki Nandan which was 17.21±1.925 years(5). Mean age of husbands in this study was 29.5 ± 4.9years but in study carried out in Oromia region Ethiopia by Gize et al was 36.6 ± 7 years(16).

On looking into the education status of the women of our study, 10% women are illiterate which is more than 1.3% of women in a study done in Tanzania by Mwilike et al (17) and lesser than a study conducted in Tehulederie, Ethiopia by Endeshaw et al(18) which was 68.6%. The difference may be due to the characteristic of the community we took for study. In our study population, 15% women had primary education compared to a study done in Farta, Ethiopia by Limenih et al it was 23.8% (14). Around 20% of women had graduate degree holders, compared to 37.1% of women in a Thailand study done by Kiataphiwasu et al(19) and

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8.3% women from a Tanzania study done by Mwilike et al(17). The dissimilarity between Tanzania and our study may be due to increased awareness of the importance of education in a tribal community

Regarding working status of the women of our study, 75% of them are not employed and is similar to a study conducted in Haryana by Sharma et al was 74.5% of unemployed women(20). This similarity may be because in any community, women going for work can be frowned upon in our study there were 25% of the women employed in various fields and on comparing the employment status in a Chamwino study, Tanzania it was 17.3%; which is comparatively low. Education and occupation of women can be a indispensible in deciding on where to deliver and make prior arrangements. Considering the education status of husbands, in this study, illiterate men were around 16.68% compared to an Oromia study, Ethiopia it was 13.2%. In this study, 20.7% of men had primary school education and 15% of men had a graduate degree and compared to Oromia study it was 20.7% of men with primary school education and 40.3% of men with a graduate degree(16). Men's' education is vital enough as they are the ones who need to bolster the women in pregnancy and delivery.

In this study we had 43.33% of primi and 56.67% of multigravida women which can be compared to 22% of primi and 78% of multigravida women in a Tanzania study done by Moshi Id et al (21). This disparity may be due to a limitation of this study in having less sample size compared to the study taken for comparison for the above statement. Also regarding delivery mode in last pregnancy, in our study there were 5.88% of women underwent caesarean section and 94.12% of women had undergone normal delivery and it is similar to 2.4% of women with caesarean section and 97.6% of women undergone normal delivery in the study done by Moshi Id et al (21). On discussing about the place of delivery of last birth, we have 76.47% women who delivered in a hospital set up and 23.53% women who delivered in homes, this can be contrasted with and Ethiopian study where in there were 90.8% women who delivered in homes and only 9.2% women delivered in hospital set ups (22). This polarity can be due to availability of health facilities and the eagerness of the community to seek care in a health facility more. Certain people go against the wave and cling on to carry forward traditional customs and hence the presence of home delivery statistics in such studies.

One of the main focuses of BPCR is the prior arrangement of necessary components like identifying skilled provider, money and mode of transportation. Concerning the last birth, in our study, prior arrangements were not made by 85.29% and can be owed to less regard or perception to birth preparedness and complication readiness. Bus was the most commonly used mode of transportation to reach health facility and can be attributed to use of a cheaper mode of transportation. For the last birth, decision maker concerning place of birth was mother in laws in most of the women.

Another cornerstone of BPCR concept is the knowledge of antenatal women on danger signs during pregnancy and delivery. Here in this study, unfortunately 91.67% women did not know about any danger signs, this can be compared to 68.7% women in Chamwino study done by Bintabara et al (23). This high value of women not knowing any danger signs shows lack of understanding of pregnancy and birth and this can result in less readiness towards complication.

Most commonly reported danger sign mentioned by 8.33% of women was severe bleeding but in a study conducted by J Pervin et al in Bangladesh it was pain in lower abdomen which was mentioned by 42% of women (24). Although in a study done in Rwanda by P. Smeele et al it was severe vaginal bleeding stated by 61.1% of women (25). Difference in signs stated by women may be in accordance with the level of information they received from health care workers. 68.33% of women had health care workers visiting their house during pregnancy; this may be due to difficult to reach terrain in most part of tribal areas. 96.66% of women did not make any prior arrangements to the delivery like arranging money, identifying skilled attendant, transportation mode. In a study done in Cameroon by Ijang et al, 89.35 of women arranged for funds prior but in our study only 3.34% of women arranged for funds and this low value can be attributed to the free health services available to tribal population (26). No women of our study arranged potential blood donors and is almost similar to a study done in Wolaita, Ethiopia which was 1.6% of women who arranged blood donors (27).

The results of this study suggest that women are less prepared for birth and to face complications if any to happen. The women in this study were selected from hamlets which were moderately accessible. This can be considered as a limitation of this study. This was the first of this kind of study in this particular area. Information on BPCR was self reported and written documents were not available and hence there can be a possibility of recall bias regarding details of previous pregnancy. Although, the rising motivation to depend on institution for deliveries can be ascribed to the meritorious efforts of the health facilities in the study area.

V. Conclusion

The perception on birth preparedness and complication readiness was inadequate among the study subjects. Almost half of the women belonged to the age group of 18-24 years. Among the study

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population, most of the women have completed upto higher secondary education and three- fourth of the women are unemployed. Almost half of the women are multiparous and of them a very few had caesarean. Around three quarters of the women had their previous delivery in hospital facility. Most of the women had not arranged money, transportation, blood donor, skilled providers prior to delivery. For the present pregnancy, almost 100% of the women had not arranged anything prior to delivery. Danger signs of pregnancy were not known by most of the women.

VI. Recommendations

Effective behaviour change communication activities may be initiated for better awareness on birth preparedness from adolescent age. Each antenatal visits may be utilized to facilitate the women in preparation for birth and in anticipating complications that may befall. Healthcare workers at the grass root level should be encouraged to involve in women and/or family members while explaining birth preparedness and complication readiness with a special emphasis on older (> 35 years) and uneducated women in order to improve the practice in the study area (27). A qualitative research on the perceptions and beliefs of the women regarding birth preparedness and complication readiness can give more perception into the women and their life.

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

A Study on Complications of Pregnancy Induced Hypertension

By Dr. Adarsh Preet & Dr. Tushar Palve

Abstract- *Background:* Hypertensive disorder is the second most common medical disorder seen during pregnancy. Hypertensive disorder contribute to maternal morbidity and mortality mainly due to its complications and not due to hypertension per sec. Thus, maternal mortality and these complications are preventable. The objective of the present study was to study the pattern of feto-maternal outcome and complications in cases of pregnancy-induced hypertension to identify them at the earliest.

Methods: A study was conducted over a period 8 months in the department of Obstetrics and Gynaecology, Cama and Albless Hospital, Mumbai. This study enrolled a total of 50 pregnant women with pregnancy-induced hypertension with inclusion-exclusion criteria. Necessary information such as Sociodemographic information, detailed clinic, and obstetric history, clinical examination, investigations, and fetal outcome was noted by using preformed proforma.

Results: In our study the majority of PIH mothers belonged to the age group of 20-25 years (46%); PIH is more prevalent among nulliparous (54%). Among PIH mother, the most common presenting clinical feature was pedal edema (44%), followed by headache (16%). The most prevalent complication among PIH patients was oligohydramnios (20%).

Keywords: *pregnancy-induced hypertension, blood pressure, foetal outcome.*

GJMR-E Classification: *NLMC Code: WQ 244*



Strictly as per the compliance and regulations of:

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A Study on Complications of Pregnancy Induced Hypertension

Dr. Adarsh Preet [α] & Dr. Tushar Palve[σ]

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Conclusion: PIH is one of the medical conditions affecting pregnancy. We concluded that PIH is more prevalent in younger and nulliparous mothers. Early ANC registration, regular ANC visits and institutional management can improve feto-maternal outcome in PIH mothers.

Keywords: pregnancy-induced hypertension, blood pressure, foetal outcome.

I. Introduction

Hypertensive disorders remain among the most significant and intriguing unsolved problems in obstetrics. These disorders complicate 5 to 10% of all pregnancies, and together they are one of the deadly triad along with hemorrhage and infection that contributes greatly to maternal morbidity and mortality rates.[1] PIH is a pregnancy-specific, multisystem disorder characterized by the development of edema, hypertension, and proteinuria after 20 weeks of gestation.[2] World Health Organization estimates that at least one woman dies every seven minutes from complications of hypertensive disorders of pregnancy.[3] Pregnancies complicated with hypertensive disorders are associated with increased risk of adverse fetal, neonatal and maternal outcome including preterm birth, intrauterine growth retardation (IUGR), perinatal death, antepartum hemorrhage, postpartum haemorrhage, and maternal death.[4,5]

Author α σ: Department of Obstetrics and Gynaecology, Cama and Albless Hospital, Mumbai, India. e-mail: preetadarsh007@gmail.com

II. Methods

A study was conducted over a period 8 months in the Department of Obstetrics and Gynaecology at Cama and Albless Hospital, Mumbai, India. A total of 50 pregnant women who presented to our Hospital with pregnancy-induced hypertension during the study period from August-2019 to March-2020 are part of this study with following inclusion and exclusion criteria.

a) Inclusion criteria

1. Women with 30 or more than 30 weeks of gestation.
2. Women who were willing to participate in this study.

b) Exclusion criteria

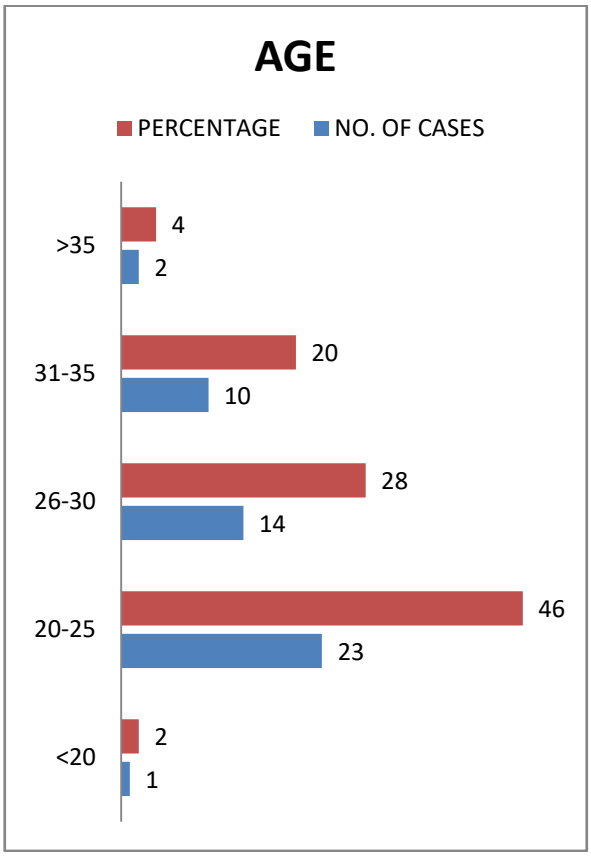
Those pregnant women were having chronic hypertension and those who were not willing to participate in this study.

Study participants Informed gave consent to be part of this study. A detailed history was taken, BP of PIH patient was noted, thorough clinical examination, and relevant laboratory investigations were performed on admission. Information about maternal complications like CCU admission, imminent eclampsia, eclampsia, abruption placentae, CVA, DIC, etc and fetal complications like IUGR, birth asphyxia, prematurity etc, was captured. Fetal outcomes like LBW, SGA, NICU admissions were also noted down.

III. Results

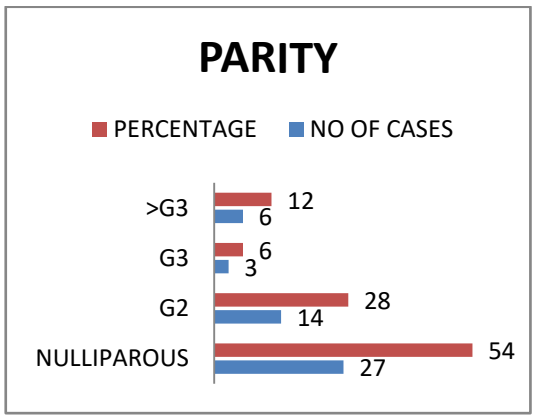
A total of 50 pregnant women with PIH participated in these study and we noted the following observations in our study.

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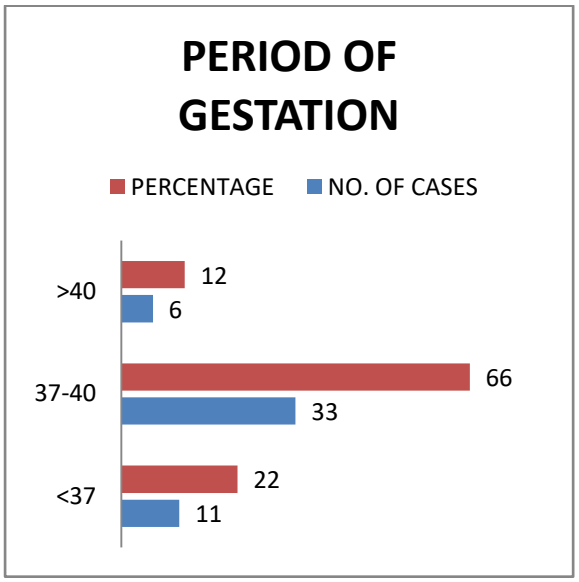
Graph 1: Age-wise distribution of PIH patients

A higher percentage of PIH was noted among 20-25 years of age group (46%) followed by 26-30 years of age group (28%), 31-35 years of age group (20%), >35 years of age group (4%) and <20 years of age group (2%)



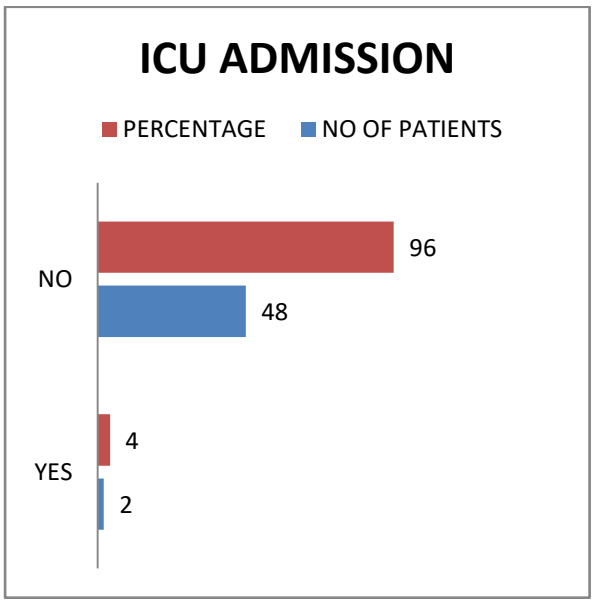
Graph 2: Parity-wise distribution of PIH patients

A higher percentage of PIH was among nulliparous (54%), followed by G2 (28%), >G3 (12%), and G3 (6%).



Graph 3: Period of Gestation wise distribution of PIH patients

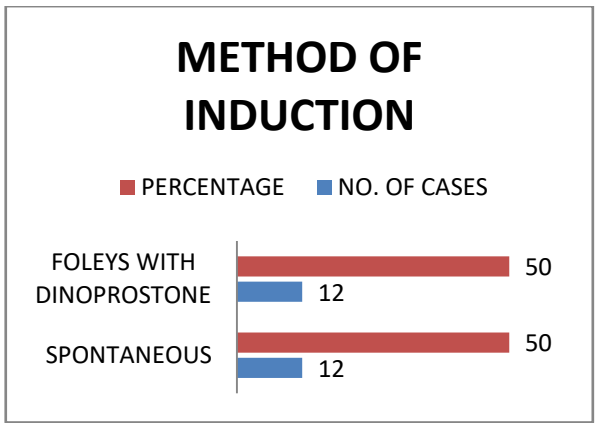
In our study, 66% of PIH patients delivered between 37-40weeks period of gestation followed by less than 37 weeks (22%) and more than 40 weeks (12%).



Graph 4: ICU admission wise distribution of PIH patients

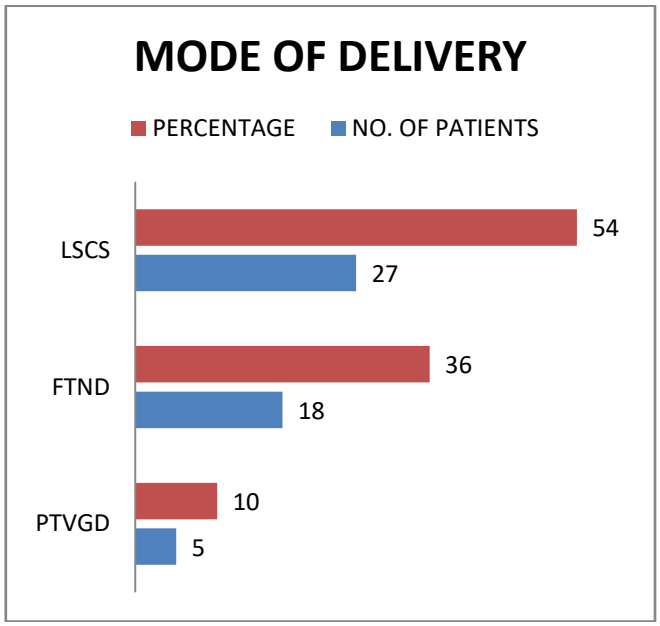
Out of 50 patients, just two patients (4%) were admitted to ICU for monitoring and proper management. The first case had HELLP syndrome, and the patient was given blood and FFP with supportive care. The second case had eclampsia. Both these patients delivered in ICU.

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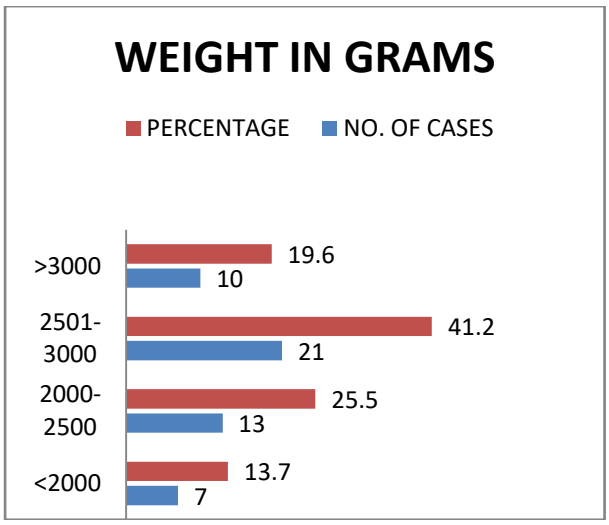
Graph 5: Method of induction wise distribution of PIH patients

50% of PIH patients went into spontaneous labor, and 50% induced with Foleys with dinoprostone.



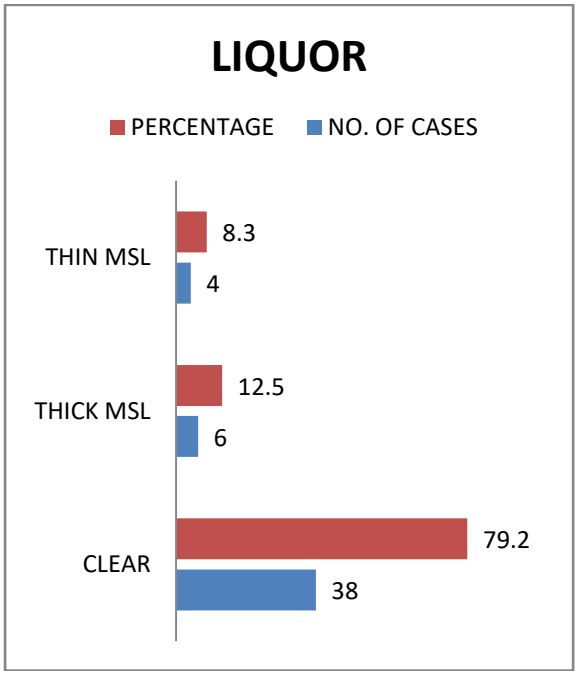
Graph 6: Mode of delivery wise distribution of PIH patients

A high percentage of PIH patients were delivered by LSCS (54%), followed by FTND (36%) and PTVGD(10%).



Graph 7: Weight of the outcome wise distribution of PIH patients

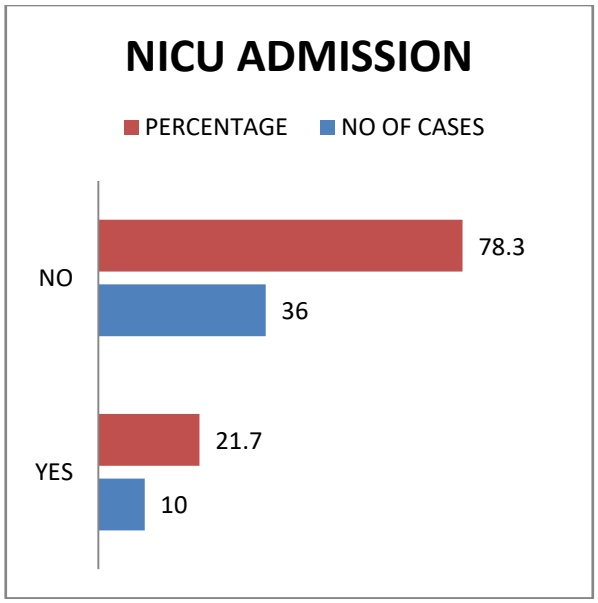
In our study it was noted that higher percentage of outcome of PIH patients weighed between 2501-3000gms (41.2%) followed by 2000-2500gms (25.5%), more than 3000gms (19.6%) and less than 2000gms (13.7%).



Graph 8: Amniotic fluid findings of PIH patients

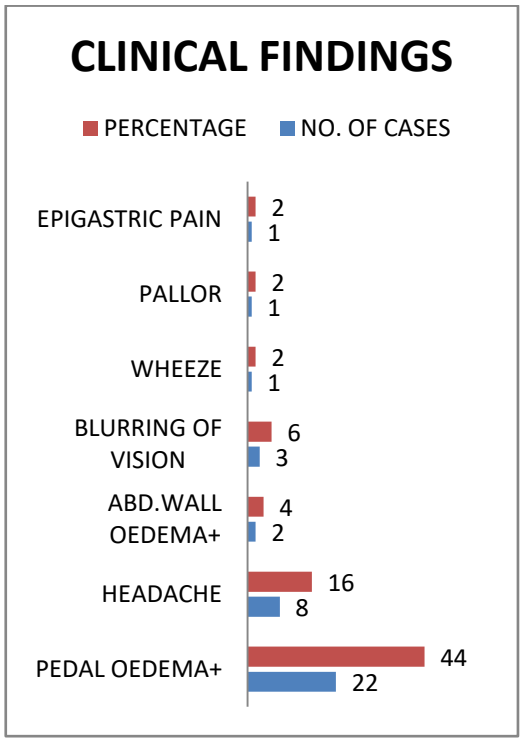
In most of the patients, liquor was clear (79.2%) followed by thick MSL (12.5%) and thin MSL (8.3%).

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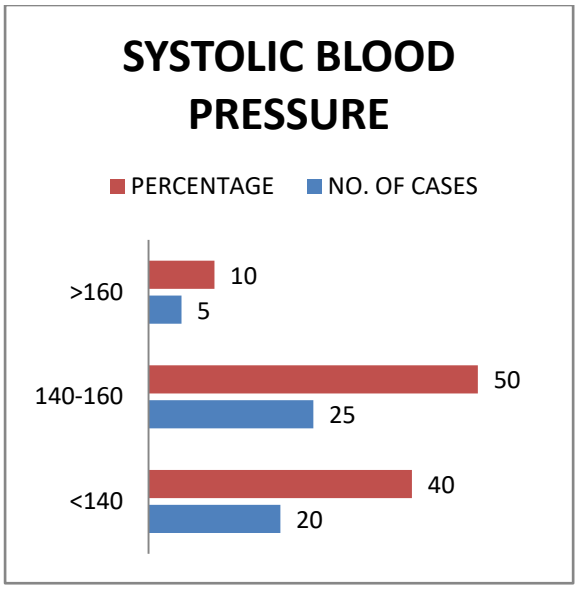
Graph 9: NICU admission wise distribution of PIH patients

In our study, it was noted that out of 50 deliveries, ten babies (21.7%) were required NICU admission for various causes, and 36 babies (78.3%) did not require NICU admission.



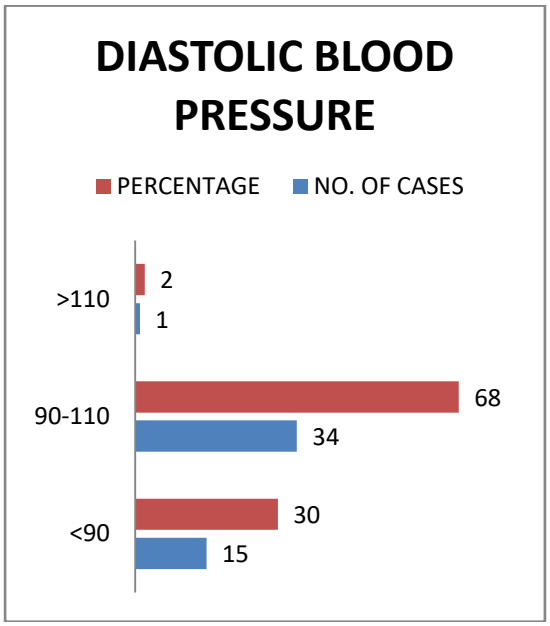
Graph 10: Clinical findings wise distribution of PIH patients

In our study, it was noted that the most common clinical finding was pedal edema (44%), followed by headache (16%).



Graph 11: Systolic Blood pressure wise distribution of PIH patients

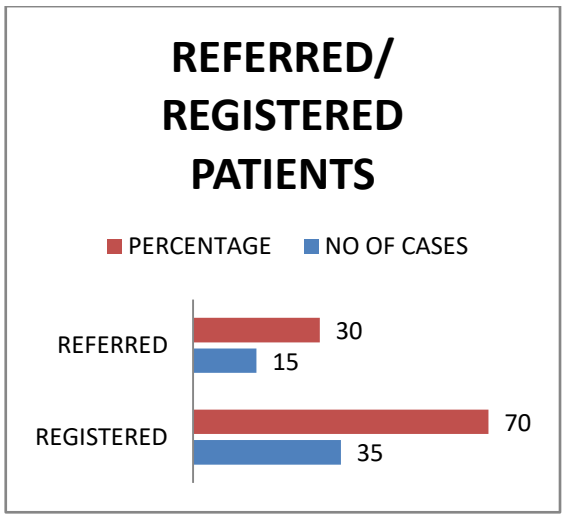
Maximum patients had systolic blood pressure ranging between 140-160mmhg (50%) followed by less than 140mmhg (40%) as these patients were on medication and more than 160mmhg (10%).



Graph 12: Diastolic Blood pressure wise distribution of PIH patients

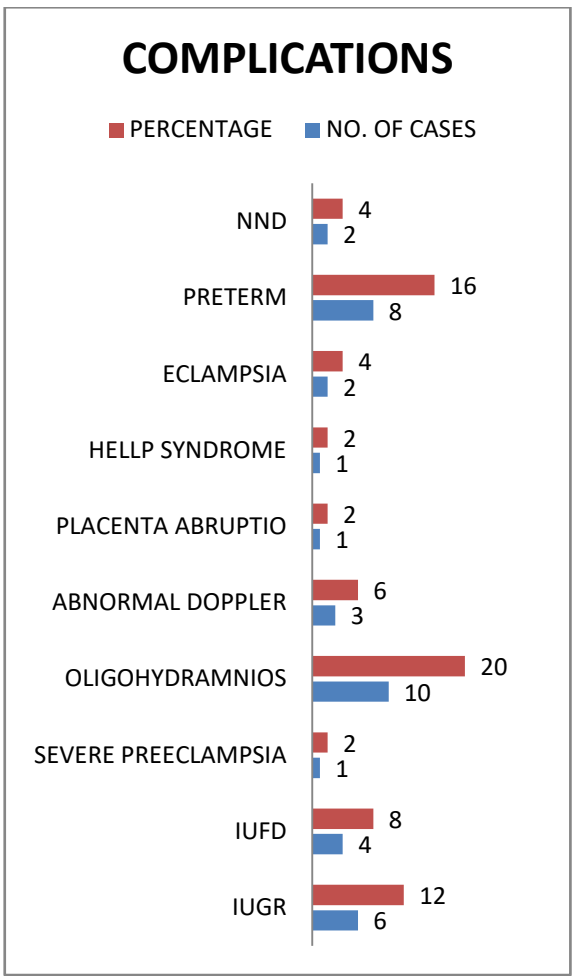
Maximum patients had diastolic blood pressure ranging between 90-110mmhg (68%) followed by less than 90mmhg (30%) and more than 110mmhg (2%).

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Graph 13: Referred/registered wise distribution of PIH patients

Out of 50 patients, 35 were registered (70%), and 15 were referred (30%). The two patients admitted to ICU were referred patients with no old record of ANC.



Graph 14: Complications wise distribution of PIH patients

Higher percentage of patients suffered from oligohydramnios (20%) followed by preterm (16%), IUGR (12%), IUFD (8%), abnormal Doppler (6%), eclampsia (4%), NND (4%), HELLP syndrome (2%), placenta abruption (2%), severe preeclampsia (2%).

IV. Discussion

In our study higher prevalence of PIH was noted among 20-25 years of age group (46%) followed by 26-30 years of age group (28%), 31-35 years of age group (20%), >35 years of age group (4%) and <20 years of age group (2%). Similar results were found in a study conducted by Patel R at GMERS medical college and hospital, Valsad where higher prevalence of PIH was found in 18-22 years age group (51.56%), followed by 23-27 years age group (28.12%), and 28-32 years of age group (17.18%).[6]

A higher percentage of PIH was among nulliparous (54%), followed by G2 (28%), >G3 (12%), and G3 (6%). Similar results found in a study conducted by Patel R where the prevalence of PIH was noted more among nulliparous (57.81%) as compared to multiparous (42.18%).[6]

A high percentage of PIH patients delivered between 37-40 months (66%) followed by less than 37 months (22%) and more than 40 months (12%).

50% of PIH patients went into spontaneous labor, and 50% induced with Foleys with dinoprostone.

In our study, it was noted that a high percentage of PIH patients were delivered by LSCS (54%), followed by FTND (36%) and PTVGD (10%). Similarly in a study conducted by Jayaraman L LSCS was observed to be a more common mode of delivery.[7]

In our study it was noted that higher percentage of outcome of PIH patients weighed between 2501-3000gms (41.2%) followed by 2000-2500gms (25.5%), more than 3000gms (19.6%) and less than 2000gms (13.7%). Twenty outcomes (40%) had weight less than 2500gm (low birth weight) out of which three had weight less than 1500gms (very low birth weight). Similar results found in study conducted by Patel R where 53.12% of outcome was low birth weight.[6]

In most of the patients liquor was clear (79.2%) followed by thick MSL (12.5%) and thin MSL (8.3%).

In our study, it is noted that out of 50 deliveries, ten (21.7%) babies required NICU admission for various causes, and 36(78.3%) babies did not require NICU admission. Similarly in a study conducted by Patel R 18.75% of babies required NICU admission.[6]

In our study it is noted that higher percentage of patients suffered from oligohydramnios (20%) followed by IUGR (12%), IUFD (8%), abnormal Doppler (6%), eclampsia (4%), NND (4%), preterm (4%), HELLP syndrome (2%), placenta abruption (2%), severe preeclampsia (2%).

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Maximum patients had systolic blood pressure ranging between 140-160mmhg (50%) (mild PIH) followed by less than 140mmhg (40%) and more than 160mmhg (10%) (severe PIH) and maximum patients had diastolic blood pressure ranging between 90-110mmhg (68%) (mild PIH) followed by less than 90mmhg (30%) and more than 110mmhg (2%) (severe PIH).

Out of 50 patients, just two patients (4%) were admitted in ICU, and out of 50 patients 35 were registered (70%) and 15 were referred (30%). The two patients admitted to ICU were referred patients with no old record of ANC, and most of the complications were in referred patients.

The most common clinical finding is pedal edema (44%), followed by headache (16%).

V. Conclusion

PIH is one of the medical conditions affecting pregnancy. We concluded that PIH is more prevalent in younger and nulliparous mothers. Early ANC registration, regular ANC visits and institutional management can improve feto-maternal outcome in PIH mothers. Regular ANC checkups help in early recognition of PIH, thus improving feto-maternal outcome.

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

A Retrospective Study of Organic Ovarian Cysts

By S K Chowdhury A & M Z Hussain. B

Abstract- *Background:* An ovarian cyst is a sac filled with liquid or semi liquid material that arises in an ovary. These cysts can develop in females at any stage of life, from the neonatal period to postmenopausal. Most ovarian cysts occur during infancy and adolescence, which are hormonally active period of development. Most are functional in nature and resolve without treatment.

Objectives: The objectives of the retrospective study to evaluate the basic knowledge about the ovarian cysts, clinical presentation and clinical assessment, outline the treatment of the ovarian tumors, about the histological study of ovarian cysts, and follow up.

Methodology: This retrospective study is conducted in Apollo Hospital Dhaka, Bangladesh from January 2019 to March 2020.We have collected all data from medical record charts, patients details, clinical presentation, ovarian cysts description, and pathological type were recorded and management by laparoscopy or laparotomy was identified. We assess the above variable among 250 indoor patients.

Keywords: *ovarian tumors, laparoscopy, functional ovarian cyst, contraceptive pills.*

GJMR-E Classification: *NLMC Code: WP 320*



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A Retrospective Study of Organic Ovarian Cysts

S K Chowdhury A [α] & M Z Hussain. B [σ]

Abstract- Background: An ovarian cyst is a sac filled with liquid or semi liquid material that arises in an ovary. These cysts can develop in females at any stage of life, from the neonatal period to postmenopausal. Most ovarian cysts occur during infancy and adolescence, which are hormonally active period of development. Most are functional in nature and resolve without treatment.

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Result: A total 250 cases were analyzed retrospectively, there were we find 120 (48%) are benign tumors, among them 47 (18.8%) serous cyst adenoma, 24 (9.6%) mucinous cyst adenoma and 22 (8.8%) corpus lutium cyst. The least common benign tumor was serous fibroadenoma, which was seen in 4 (1.6%) cases. We have found only 4 (1.6%) cases of malignant ovarian tumors in postmenopausal group.

Conclusion: Simple ovarian cysts, unilocular in nature, are usually functional ovarian cysts and resolve spontaneously. If not resolve spontaneously, 3 to 6 months of oral contraceptives, usually resolves them and this also helps to distinguish between physiological and pathological ovarian cysts. Benign ovarian tumors exhibit a wide range of clinical symptoms. Pain abdomen is the commonest symptom in cystic ovarian tumors. Ultrasonography accurately diagnosis mature cystic teratoma Decision of surgical intervention depends on size of cysts, histopathological finding. Epithelial tumors are commonest of the benign ovarian tumors.

Keywords: ovarian tumors, laparoscopy, functional ovarian cyst, contraceptive pills.

I. Introduction

Ovarian cysts are fluid-filled sacs in the ovary. They are common and usually form during ovulation.[1] Benign ovarian cysts are common in asymptomatic premenarchal girls and found in approximately 68% of ovaries of girls 2–12 years old and in 84% of ovaries of girls 0–2 years old.[2] Most of them are smaller than 9 mm while about 10-20% is larger macro cysts. While the smaller cysts mostly disappear within 6 months the larger ones appear to be more persistent. Only 8% of women present with symptom before menopause and 16% of women after menopause. The cysts are usually harmless. Patient usually present with complaints of abdominal pain, uterine bleeding, fullness, heaviness, pressure, swelling or bloating sensation abdomen.[3] Few patients may attend with sudden sharp pain abdomen. Sometimes patient comes with vague symptoms like frequent micturation, constipation, fatigue, headache, nausea, vomiting, weight gain etc. Patient of PCOS may present with increase facial hair, body hair, obesity andinfertility.[4] A Patient may present with complication like rupture and torsion of cyst, a ruptured ovarian cyst is usually self-limiting, and only requires keeping an eye on the situation and pain medications. The main symptom is abdominal pain, which may last a few days to several weeks, but they can also be asymptomatic. Rupture of large ovarian cysts can cause bleeding inside the abdominal cavity and in some cases shock. Cyst over then 4 cm diameter has increase risk (17%) of torsion followed by ischemic infarction. Definite diagnosis is made by histopathology.[5] Most cysts are functional (Follicular cyst, corpus lutium cyst) others are cystadenoma (serous cystadenoma, mucinous cystadenoma), dermoid cyst, andrometriosis, borderline tumor, chocolate cysts, hemorrhagic ovarian cysts, PCOS, ovarian cancer and simple squamous cyst. A total 95% of ovarian cysts are benign. Functional ovarian cysts and hemorrhagic ovarian cysts usually resolve spontaneously.[6] Cysts that persist beyond two or three menstrual cycles, or occur in post-menopausal women, may indicate more serious disease and should be investigated through ultrasonography and laparoscopy, especially in cases where family members have had ovarian cancer.

II. Justification

a) Objectives

The objectives of the retrospective study to evaluate the basic knowledge about the ovarian tumors, clinical presentation and clinical assessment, outline the treatment of the ovarian tumors, about the histological of ovarian cancer, and follow up.

III. Methods

a) Study design

This retrospective study is conducted in Apollo Hospital Dhaka, Bangladesh during the period of one

Author α: Gunaecologist, Apollo Hospital Dhaka, Dhaka, Bangladesh. e-mail: skcshahanaz@gmail.com
Author σ: Medicine Specialist, Border guard Hospital, Dhaka, Bangladesh. e-mail: mzhzakir@gmail.com

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year six months. This analysis was done keeping in mind the objectives to know the clinical symptoms, treatment and histopathology of patients who required the surgery for ovarian cyst. We have operated most of the case, laproscopically; however few patients who had large mass and unfit for laparoscopic surgery underwent conventional laparotomy. Indication for surgery were large mass >6 cm, mass with symptoms and solid components, persisting ovarian cyst <6 cm even after 3 months of oral contraceptive treatment, acute symptoms suggestive of torsion. All elective cases were done after routine investigations, anesthetic check-up and with valid consent after explaining procedure and complications of the surgery (laparoscopy / laparotomy). CA-125 was not done routinely for all patients except for few patients who were more than 40 years or any high risk for malignancy. The decision for cystectomy or ovariotomy was taken on the operation table. Specimen was retrieved by colpotomy or through the side port of laparoscopy. All the tissues were sent for histopathology analysis on the day of the surgery. Our patients were discharged 48hrs after laparoscopic surgery and after 7 days after laparotomy. All patients were followed up after 2 week with histopathologic report, retrospectively all the clinical symptoms, and histopathology reports are analyzed to know the fact whether really, these patients required the surgery.

b) Study Area, Duration

This study was conducted in Gynae & Obst Department of Apollo Hospital Dhaka, Bangladesh during the period from January 2019 to April 2020.

c) Population

A total 250 subjects were enrolled in this study.

Inclusion criteria

Simple or endometriotic ovarian cysts (3.0–10.6 cm) at ultrasonic examinations.

At USG, a simple cyst was defined as a cyst with no papillary projections, a clearly defined wall, and clear content. Although color Doppler US was used in many cases to examine the neovascularity of the cyst, specific Doppler studies were not done routinely in every patient.

Exclusion criteria

1. Evidence of renal or hepatic disease.
2. An abnormal value (>35 IU/mL) of serum CA-125 .
3. Patient with adnexal mass.

d) Methods of data collection

Data was collected from computerized data base using a questionnaire made specifically for the manner of the research and the data was next analyzed by using SPSS program. Variables included age in years, married or not, parity, height in cm, weight, BMI, and pregnant or not. Clinical presentation abdominal pain or otherwise, number of cysts, location and type of cysts was also included.

e) Ethical Clearance

This study was approved by the Ethical committee of the hospital.

IV. Results

A total of 250 cases of ovarian cysts were included. The mean ± standard deviation [SD] age of these patients was 35.36±15.849 years. The mean±SD parity was 2.20±2.675. The height ranged was from 128-180 cm with a mean±SD of 150.88±16.227. The weight ranged from 35-92 kg with a mean±SD of 65.58±22.506. The calculated BMI ranged from 15-47 with a mean±SD of 27.76±6.314. Out of 250 patients diagnosed with ovarian cysts, 165 were married (66%), and of those only 16 were pregnant (6.4%). (Table 1)

Table 1: Demographic characteristics of 250 cases diagnosed with ovarian cysts

Variables	Minium	Maximum	Mean	Standard deviation
Age	13	78	35.36	15.849
Parity	0	5	2.20	2.675
Height	128	180	150.88	16.227
Weight	35	92	65.58	22.506
BMI	15	47	27.76	6.314

Only 59 (47.96%) patients were benign cystic ovarian tumors, of which 47 (18.8%), cases were serous cystadenoma which was the commonest of all in this study. This was followed by mucinous cystadenoma 24 (9.6%).In our study the least common benign tumor was serous fibroadenoma, which was seen in 4 (1.6%). We came across only two (0.8%) case of malignant ovarian tumor, which was found in a postmenopausal woman. Border malignancies were encountered in 8 patients (3.2%), of which 4 were border line papillary serous tumor and 4 were of border line mucinous tumor. In our study there were 62 cases of functional cysts, of which 41 (16.4%) were Simple follicular cysts and 22 (8.8%) corpus luteum cysts. Majority of these cases responded for the three months of cyclical oral contraceptive pills. The patients with no response were subjected for the

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laparoscopy, which were turned to be cases of either paraovarian or endometriotic cysts. Among these tumors 4 cases were para ovarian cysts and 33 (13.2%) endometriotic cysts (Table 2).

Table 2: Incidence of ovarian cysts and tumors

Type of cystic lesion	Nos of cases	Percentage
Serous cystadenoma	**47**	**18.8**
Mature Cystic teratoma	**45**	**18**
Simple follicular cyst	**41**	**16.4**
Endometriotic cyst	**33**	**13.2**
Mucinous cystadenoma	**24**	**9.6**
Corpus luteum cyst	**22**	**8.8**
Haemorrhagic cyst	**20**	**8**
Borderline mucinous Tumor	**4**	**1.6**
Borderline serous papillary tumor	**4**	**1.6**
Serous adenofibroma	**4**	**1.6**
Para ovarian Cyst	**4**	**1.6**
Serous cystadenoma Carcinoma	**2**	**0.8**
Total	**250**	**100**

Majority of the patients had presented with pain abdomen, which was vague and associated with a feeling of heaviness in the lower abdomen. However, six (2.43%) patients had presented with severe pain abdomen and there were signs of acute abdomen. These patients were clinically suspected to have twisted ovarian cysts. A diagnosis was confirmed by Ultra-sonography and Doppler study. In the reproductive age group 24 (9.75%) cases had presented with menorrhagia and dysmenorrhea. Only five were diagnosed as cystic ovarian lesion by clinical examination. However, all were diagnosed by Ultra-sonography. Only 14 (5.7%) patients presented with mass per abdomen. Only 6 (2.44%), patients presented as Postmenopausal bleeding, and were diagnosed by ultrasonography as anechoic multiseptate ovarian cyst in 4 cases and two as anechoic multiseptate ovarian cyst with solid components. All were borderline malignant ovarian tumors, which were confirmed postoperatively by the histopathology (Table 3).

Table 3: Symptomology of cystic ovarian tumors

Presentation	No of cases	%
Abdominal pain	168	67.2
Abdominal mass	15	6
Menorrhagia/ Dysmenorrhoea	24	9.6
Incidental finding	24	9.6
Infertility	12	4.8
Post menopausal bleeding	7	2.8

Forty (16.26%) patients were found to have cystic ovarian masses incidentally by Ultrasonography, of which 24 cases were investigated for infertility. Mature cystic teratoma, which numbered 44 cases (17.89%), was diagnosed by ultra-sonography as cystic ovarian lesion with hyperechoic areas and calcification. The serous cystadenoma were reported as, anechoic cysts in 22 cases, anechoic cyst with septa in 10 cases and

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anechoic cyst with echoic foci in 14 cases. Functional ovarian cysts were reported as simple unilocular cysts, and Haemorrhagic cysts as anechoic cysts. Ultrasonography results were fairly correlated with the histopathological diagnosis (Table 4).

Table 4: Correlation between histopathology and USG finding

Histopathology	No	USG Report
Corpus luteal cyst	23	Simple unilocular cyst
Paraovarian cyst	4	Simple unilocular cyst
Follicular cyst	40	Anechoic with septa-15 Simple unilocular cyst-25
Endometriotic cyst	33	Simple unilocular cyst-16 cyst with internal echo-12 Anechoic with septa-3
Mature cystic teratoma	45	Cysts with hyperechoic area/caicification-44
Serous cystadenoma	46	Anechoic cysts 22 Anechoic cysts with septa - 10 Anechoic cysts with echogenic foci-14
Mucinous cystadenoma	24	Multiseptal anechoic cysts-16 simple anechoic cysts8
Serous adenofibroma	4	Solid tumour-4
Hemorrhagic cyst	20	Anechoic cysts-20
Serous cystadenocarcinoma	3	Multiseptal anechoic cysts with solid components-3
Borderline mucinous tumour	4	Multiseptal anechoic cysts with solid components-4
Borderline papillary serous tumor	4	Multi septate anechoic cysts-4

The age of the patients in our study ranged from 16yrs to 70 yrs. The maximum number of cystic ovarian tumors occurred in the age group of 20 to 29 are 44.18% (patient-108) and in the age group 30 to 39 are 33.33% (patient 82). The total numbers of cases in the age group 16 to 39 years were 200 (77.51%). The youngest patient was aged 16 years with mature cystic teratoma and the oldest patient was aged 64 years, with borderline papillary serous tumor. The two who have serous cyst adenocarcinoma was aged 60 to 69 group (Table 5).

Table 5: Age wise distribution of ovarian tumors

Histopathology	<19	20-29	30-39	40-49	50-59	60-69	>70
Serous cystadenoma	2	16	24	2	2	0	0
Mucinous cystadenoma	2	10	7	4	2	0	0
Mature cysts teratoma	2	30	6	2	0	2	0
Serous adenofibroma	0	0	4	0	0	0	0
Follicular cysts	0	16	20	4	0	0	0
Corpus luteal cyst	0	14	14	0	0	0	0
Para ovarian cyst	0	4	0	0	0	0	0
Hemorrhagic cyst	2	12	4	2	0	0	0
Endometriotic cyst	4	16	10	2	0	0	0
Serous cyst adencarcinoma	0	0	0	0	2	0	0
Borderline mucinous tumor	0	0	0	0	2	2	0
Borderline papillary serous tumor	0	0	0	0	2	2	0

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V. Discussion

Cystic ovarian masses or ovarian tumors are common problem encountered by women and they present with vague symptoms. The lesions are either physiological, or pathological. They can occur as functional cysts, benign or malignant tumors. It is very essential to differentiate as it requires executing a definitive treatment. As the symptoms are being vague, in making the definitive diagnosis, it is advised to take the combination of clinical examination, Ultra-sonography and tumor marker CA 125 levels to arrive at proper diagnosis. However, histopathology gives the final diagnosis. Malignancy is usually less in ovary as the ovary is a partially cystic organ. Ovarian malignancy is rarely seen in the age group of 15-40 years.[7] The functional, nonneoplastic and benign cystic ovarian lesions are common in the younger age. However, the chance of malignancy increases as the age advances.[8] Functional ovarian cysts, which are unilocular usually resolve spontaneously.[9] Oral contraceptives, over a period of 3 to 6 months, also resolves the functional ovarian cysts, this also helps to distinguish a physiological ovarian cyst from a pathological one.[10] A simple, unilocular cystic ovarian lesion, can be monitored with serial ultra-sonography and CA 125, for its resolution over a period of time and unnecessary excision avoided. A unilocular echo free ovarian cyst, to be malignant, is less than 1.6%.[11] This descriptive study was undertaken, to analyse and correlate the histopathological diagnosis with the, clinical presentations, age factors and ultra-sound findings of the 250 cases of cystic ovarian masses, during the study period.

Article Reviewed

In our study, abdominal pain was the commonest symptom, 168 (67.2%) cases; same incidence was reported by Kayastha.[12] In their study the incidence of benign cystic ovarian tumors was 59 (47.9%). The benign epithelial was 37 (62.71%) cases. The benign germ cell tumor-mature cystic teratoma was 22 (37.3%). In our study benign cystic ovarian tumor was the commonest, the age incidence was 20 to 49 years, and pain abdomen was the commonest symptom. Similar findings were reported by Pilli and suneeta.[13] Among the benign epithelial tumors, serous cystadenoma were 23 (38.98%). mucinous cystadenoma were 12 (20.34%) and serous fibroadenoma were 2 (3.39%). Bhattachery et al reported benign epithelial tumors (61.60%) and mature cystic teratoma (24.8%).[14] Gupta et al reported the incidence of benign epithelial tumors as (48.8%) and mature cystic teratoma as (23.9%). Mondal et al reported, serous cystadenoma (29.9%) mucinous cystadenoma (11.1%) and mature cystic teratoma (15.9%).[15] In our study also, benign epithelial tumors are more common and there is a preponderance of serous cystadenoma over mucinous cystadenoma. Maliheh et al reported, that the commonest benign ovarian tumor was serous cystadenoma (38%) followed by mature cysticteratoma (30%), mucinous cystadenoma (22%), Yasmin et al reported serous cystadenoma (24%) and mature cysticteratoma (18%).[15] Non-neoplastic cystic ovarian tumors in our study were 108 (43.2%), of which simple follicular cyst were 41 cases and Corpus luteum cysts 22 cases. The endometriotic cysts in our study were 33 (13.2%). Maliheh reported Functional cysts as (57.54%) and endometriotic cysts as (5.9%). Cohen et al reported that ovarian endometriosis is common.[16] Serous cyst adenocarcinoma was the malignant ovarian tumor in our study, two cases (0.8%). There were 4 (1.6%) cases of borderline serous papillary tumor and 4 (1.6%) cases of borderline mucinous tumor, in our study, Same findings were reported by Mondal et al and Bhattachery et al that epithelial malignant tumors are the commonest. DeKroon et al reported that ultra-sonography diagnosed Mature Cystic teratoma accurately.[17] In our study all of 45 cases of mature cystic teratoma were diagnosed by ultrasonography.

VI. Conclusion

Simple ovarian cysts, unilocular in nature, are usually functional ovarian cysts and resolve spontaneously. If not resolve spontaneously, 3 to 6 months of oral contraceptives, usually resolves them and this also helps to distinguish between physiological and pathological ovarian cysts. Benign ovarian tumors exhibit a wide range of clinical symptoms. Pain abdomen is the commonest symptom in cystic ovarian tumors. Ultrasonography accurately diagnosis mature cystic teratoma Decision of surgical intervention depends on size of cysts, histopathological finding. Epithelial tumors are commonest of the benign ovarian tumors.

Funding: No funding sources

Conflict of interest: None declared.

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Assessment of Critical Thinking Skills of Postgraduate Students by Using the Critical Self-Thinking Inventory for Clinical Examination

By Dr. Sanjivani Wanjari, Dr. Sunita Vagha
& Dr. Chandrashekar Mahakalkar

Abstract- *Background:* Critical Thinking is a human cognitive process which is characterized by a purposeful self-regulatory judgement. Acquiring critical thinking is a question of practice. Clinical competence depends upon critical thinking skills and problem solving abilities. This will be possible when postgraduate students are taught to use critical thinking skills in order to make sound clinical judgments.

Aim: To study the utility of "Critical Self Thinking Inventory for Clinical Examination" (CSTI-CE) for assessment of critical thinking skills during OSLER in post-graduate students of Department of Obstetrics & Gynaecology.

Keywords: *critical thinking, postgraduate education, obstetrics & gynaecology, critical self-thinking inventory for clinical examination, objective structured long examination record.*

GJMR-E Classification: *NLMC Code: WP 1*



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Assessment of Critical Thinking Skills of Postgraduate Students by Using the Critical Self-Thinking Inventory for Clinical Examination

Critical thinking skills using Critical Self-Thinking Inventory for Clinical Examination

Dr. Sanjivani Wanjari [α], Dr. Sunita Vagha [σ] & Dr. Chandrashekar Mahakalkar [ρ]

Abstract- Background: Critical Thinking is a human cognitive process which is characterized by a purposeful self-regulatory judgement. Acquiring critical thinking is a question of practice. Clinical competence depends upon critical thinking skills and problem solving abilities. This will be possible when postgraduate students are taught to use critical thinking skills in order to make sound clinical judgments.

Aim: To study the utility of "Critical Self Thinking Inventory for Clinical Examination" (CSTI-CE) for assessment of critical thinking skills during OSLER in post-graduate students of Department of Obstetrics & Gynaecology.

Materials and methods: Interventional study of 12 months duration, was conducted in our institute. Study population included postgraduate students from Department of Obstetrics & Gynaecology. The CSTI-CE was administered to the postgraduate students in three encounters 1) first after traditional long case 2) second after 1st OSLER and 3) third after 2nd OSLER.

Results: It was found that there was a significant improvement in scores in the third encounter over and above the second and first encounters. In the present study, the mean scores of students after 1st encounter were 3.06±0.46, after 2nd encounter they were 3.64±0.19 and after third encounter they were 3.64±0.19. Students paired 't' test was used to compare scores of students after 1st, 2nd and 3rd encounters and was found to be statically significant with P=0.0001. At the end of our study we found that there was development of adequate knowledge and skills of the students.

Conclusion: At the end of our study we found that using innovative methods like OSLER helped to develop the critical thinking skills of postgraduate students in the Department of Obstetrics & Gynaecology in a significant manner.

Keywords: critical thinking, postgraduate education, obstetrics & gynaecology, critical self-thinking inventory for clinical examination, objective structured long examination record.

Author α: Professor Department of Obstetrics & Gynaecology, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India. e-mail: sanjivaniwanjari@yahoo.com
Author σ: Professor & HOD Department of Pathology, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India.
Author ρ: Professor Department of Surgery & CMS, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India.

I. Introduction

Critical Thinking is a human cognitive process which is characterized by a purposeful self-regulatory judgement. As a result of this a person forms judgement about what to believe or what to do in a given situation. For doing this a person uses critical thinking skills which include a set of core skills like – inference, analysis, interpretation, evaluation and self-regulation. These skills are necessary to form a judgment and to improve the quality of judgment. The aim of critical thinking is that learners should develop skills that are lasting and transferable. Acquiring critical thinking is a question of practice. Clinical competence depends upon critical thinking skills and problem solving abilities.

Traditionally case presentation has always been a time-tested and important tool of medical education. It consists of presenting challenging medical cases to under-graduate medical students, postgraduate students, and treating physicians. The assessment of clinical competence with the help of traditional long case has received a lot of criticism in recent years. The weaknesses of the traditional long cases are the lack of objectivity and low validity and reliability [2]. In order to make the long examination more objective, valid and reliable, many modifications in the original format were suggested [3, 4, 5].

Structuring of long case, like in Objective Structured Long Examination Record (OSLER) may improve the reliability of the long case. Structuring may make it more time efficient and also it may provide an opportunity to impart valuable feedback. In an attempt to improve the long case, Gleeson in 1997 introduced the OSLER objective structured long case examination record as a more valid, reliable and objective tool to assess clinical competence [10]. The OSLER is a 10-item analytical record of the traditional long case which attempts to improve the objectivity, validity and reliability of existing practices. [9][10]. In our study we have used OSLER – 'Objective Structured Long case Examination Record' as a tool to find out whether it helps to develop critical thinking skills of post-graduate students. For

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assessment of critical thinking skills we have used the Critical Self-thinking inventory for clinical evaluation CSTI-CE which was designed and developed by researchers at our institute.

We undertook the study with the following rationale - In the current health care environment it is the need of the hour that educational programs are directed towards preparation of quality Doctors. This will be possible when postgraduate students are taught to use critical thinking skills in order to make sound clinical judgments. It is necessary that students use critical thinking skills in clinical practice and patient care.

II. Aim

To study the utility of "Critical Self Thinking Inventory for Clinical Examination" (CSTI-CE) for assessment of critical thinking skills during OSLER in post-graduate students of Department of Obstetrics & Gynaecology.

III. Materials and Methods

- Study setting- Department of Obstetrics & Gynaecology and SHPER- School of Health Professional Education and Research.
- Study design – Interventional study.
- Study Duration– 12 Months
- Study population- 12 JRI and12 JRII, postgraduate students from Dept. Of obstetrics & gynaecology, JNMC
- Sample size– CSTI-CE was taken by total 24 post-graduate students, 12 JRI and12 JRII from department of Obstetrics & Gynaecology in 3 encounters giving sample size of 72.
- Data Collection method/Protocol
- Sensitizing of postgraduate students and faculty was done regarding the CSTI-CE "Critical Self Thinking Inventory for Clinical Examination" and the OSLER Objective Structured Long Case Examination Record.
- OSLER Objective Structured Long Case Examination Record was introduced as a method of assessment in the Department of Obstetrics & Gynaecology.
- The "Critical Self Thinking Inventory for Clinical Examination" was introduced in the Department of Obstetrics & Gynaecology. This inventory contains 20 items inclusive of 5 main domains of clinical skills.
- Then the CSTI-CE was administered to the postgraduate students in three encounters -

1) first after traditional long case
2) second after 1st OSLER and
3) third after 2nd OSLER

IV. Observations and Results

The present study was conducted in the Department of Obstetrics & Gynaecology and SHPER-School of Health Professional Education and Research, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi (Meghe), Wardha. We used the Critical Self-Thinking Inventory for Clinical Examination, for assessing the critical thinking skills of post-graduate students. This inventory was designed and developed by researchers at our institute. [Annexure A]

The Critical Self-Thinking Inventory for Clinical Examination [Annexure A] was used for self-assessment of students in three encounters. Once after traditional long case and thereafter with first and second encounters of OSLER. Students were allowed 15 minutes to complete the task and hand in their sheets after each encounter. This inventory contains 20 items concerning the patient diagnostic thinking. Each item contains a stem and a rating scale. This inventory contains 20 items inclusive of 5 main domains of clinical skills. For History Taking and Clinical Judgment performance based scale was used. For Examination and Localising signs Perception based scale was used. The last Critical reflection was used as a measure of self-assessment of the student.

Domain 1 - History Taking,

Domain 2 - Clinical Judgment

Domain 3 - Examination

Domain 4 - Localising signs

Domain 5 - Critical reflection

Marking is done by the students on a 5 point rating scale – the response rating scale of 1 to 5. [Annexure A]. For History Taking and Clinical Judgment performance based scale was used. For Examination and Localising signs Perception based scale was used. The last Critical reflection was used as a measure of self-assessment of the student.

The results of the marking done by the students in the first, second and third encounters, were compared pertaining to all domains of clinical skills.

For the Domain 1 of - History Taking, the mean scores obtained by the students in the three encounters were compared and also the standard deviation were calculated as depicted in the following table. It was observed that the scores of the students were improving form the first to third encounters. The total mean scores improved from 2.87 in first encounter to 4.19 in the third encounter. [Table I]

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Table I: Critical Self Thinking Inventory for clinical examination in the domain of history taking

S. NO.	History Taking	1ST encounter		2ND encounter		3RD encounter	
		Mean	SD	Mean	SD	Mean	SD
1	I made the patient comfortable and introduced myself.	2.75	0.60	3.58	0.58	3.79	0.41
2	I discussed every symptom in detail with the patient giving due Importance to every symptom.	2.83	0.76	3.62	0.71	4.33	0.63
3	I feel, I initiated systematically and in chronological sequence	2.95	0.46	3.41	0.71	4.12	0.61
4	I analysed each symptom and correlate to a specific condition with justification.	2.95	0.62	3.54	0.50	4.45	0.72
	Total	2.87		3.53		4.19	

For Domain 2 of Clinical Judgement, the mean scores were compared in the first, second and third encounters. It was found that the scores of students significantly improved from first to third encounters. The total means scores were 3.00 in first encounter as against 4.23 in third encounter. [Table II]

Table II: Critical Self Thinking Inventory for clinical examination in the domain of clinical judgement

S. NO.	Clinical Judgement	1ST encounter		2ND encounter		3RD encounter	
		Mean	SD	Mean	SD	Mean	SD
5	Symptoms the patient described and the leading questions I asked, led the history to a definite provisional diagnosis.	3.08	0.82	3.50	0.51	4.00	0.65
6	The diagnosis I made is commoner and not rare one and I could remember the symptomatology of the disease	2.87	0.61	3.70	0.46	4.04	0.55
7	I analyse my findings at each step to justify the diagnosis and other conditions related to that condition	2.87	0.67	3.50	0.58	4.41	0.58
8	I could justify my provisional diagnosis and I was confident about the diagnosis	3.20	0.58	3.70	0.55	4.50	0.51
	Total	3.00		3.6		4.23	

In the Domain 3 of Examination, the total mean scores were calculated and compared for the three different encounters. It was found that the scores of the students improved form the 3.03 in the first to 4.23 in the third encounter. [Table III]

Table III: Critical Self Thinking Inventory for clinical examination in the domain of examination

S. NO	Examination	1ST encounter		2ND encounter		3RD encounter	
		Mean	SD	Mean	SD	Mean	SD
9	Based on my provisional diagnosis I could identify the system involved in the disease process	2.91	0.40	3.41	0.50	4.16	0.63
10	Physical examination I performed was not challenging for me	3.08	0.65	3.79	0.50	4.08	0.71
11	I felt that history and examination findings are complementary and not contradictory to each other	3.12	0.67	3.50	0.58	4.45	0.58
12	I think I examined the patient thoroughly and completely to justify my diagnosis	3.04	0.95	3.62	0.64	4.25	0.60
	Total	3.03		3.58		4.23	

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In the Domain 4 of Localizing Signs, the total mean scores were calculated and compared for the three different encounters. It was found that the scores of the students improved form 3.03 in the first encounter to 4.28 in the third encounter. [Table IV]

Table IV: Critical Self Thinking Inventory for clinical examination in the domain of localizing signs

S. NO.	Localizing Signs	1ST encounter		2ND encounter		3RD encounter	
		Mean	SD	Mean	SD	Mean	SD
13	I could guess at least two signs that I thought would be present in this patient after taking history	2.91	0.71	3.54	0.50	4.41	0.50
14	I followed each step correctly in eliciting the signs	3.00	0.88	3.66	0.56	4.33	0.56
15	I could interpret the signs supporting my diagnosis and its relevance in this case	3.04	0.35	3.62	0.64	4.37	0.64
16	I think none of the sign had confused me or challenged my diagnosis	3.20	0.88	3.62	0.57	4.04	0.62
	Total	3.03		3.61		4.28	

In the Domain 5 of Critical Reflection, the total mean score were calculated and compared for the three different encounters. It was found that the scores of the students improved form 3.37 in the first encounter to 4.54 in the third encounter. [Table V]

Table V: Critical Self Thinking Inventory for clinical examination in the domain of critical reflection

S. NO.	Critical Reflection	1ST encounter		2ND encounter		3RD encounter	
		Mean	SD	Mean	SD	Mean	SD
17	I identified my strengths and weaknesses in this case	3.29	0.69	3.91	0.58	4.54	0.58
18	Based on weaknesses I could identify the areas of improvement	3.45	0.65	3.87	0.33	4.45	0.58
19	I realise that every case is unique and different and hence it has to be examined in the light of previous knowledge and experience	3.37	0.82	3.79	0.65	4.62	0.57
20	I have analysed this case with my full efficiency	3.37	0.92	3.91	0.58	4.58	0.50
	Total	3.37		3.87		4.54	

The total scores obtained by the individual students in the three encounters were compared. There was a steady improvement of scores from first to third encounter. [Table VI]

Table VI: Distribution of students in the first, second and third encounters according to total scores obtained

Student No	1st encounter	2nd encounter	3rd encounter
1	68	72	84
2	54	77	79
3	54	70	87
4	51	70	87
5	68	81	79
6	56	71	79
7	58	70	78
8	60	70	84
9	56	71	87
10	35	69	89
11	64	70	91
12	50	75	86

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13	50	69	89
14	72	78	86
15	67	77	85
16	61	68	89
17	61	71	89
18	69	70	91
19	64	68	84
20	69	75	90
21	71	77	85
22	70	76	88
23	73	76	92
24	72	78	86
Mean	61.37	72.87	86
SD	9.37	3.82	4.01

The scores obtained were interpreted as follows –

Score Interpretation [Table VII]

<20 Inadequate knowledge

21-40 Adequate knowledge; inability to correlate knowledge with demonstrable clinical skills

41-70 Adequate knowledge & skills; Needs reinforcement of skills

71-100 Adequate competence

Table VII: Gap analysis

Score	Interpretation
<20	Inadequate knowledge
21-40	Adequate knowledge; inability to correlate knowledge with demonstrable clinical skills
41-70	Adequate knowledge & skills; Needs reinforcement of skills
71-100	Adequate competence

In our study none of the students scored < 20 in any of the encounters. In the range of 21-40 there was only one student in the first encounter and none in second and third encounters. In the group 41-70 there were 79% students in 1st encounter, 42 % in 2nd encounter and none in 3rd encounter. In the 71-100 score group, there were 17% students in 1st encounter, 58% in 2nd encounter and 100% in third encounter [Table VIII].

Table VIII: Distribution of students according to total scores obtained

Score Range	1st encounter	2nd encounter	3rd encounter
<20	0(0%)	0(0%)	0(0%)
21-40	1(4.17%)	0(0%)	0(0%)
41-70	19(79.17%)	10(41.67%)	0(0%)
71-100	4(16.67%)	14(58.33%)	24(100%)
Total	24(100%)	24(100%)	24(100%)

At the end of our study an attempt was made to find the reliability and consistency of the CSTI-CE. The internal consistency was tested using coefficient alpha or Cronbach's alpha which was 0.932. Because the Cronbach's alpha was found to be > 0.75, the CSTI-CE was found to be reliable and valid. [Table IX]

Table IX: Reliability Analysis

Cronbach's Alpha	N of Items	F-value	p-value	95% confidence interval	
				Lower Bound	Upper Bound
0.932	20	3.14	0.0001,S	0.88	0.96

V. Discussion

Critical thinking is self-directed, self-disciplined, self-monitored and self-corrective thinking. Critical thinking is often referred to as a disposition, to describe a person's inclination to use critical thinking when faced with problems to solve, ideas to evaluate, or decisions to make. APA Delphi panel of international experts defined "critical thinking" for purposes of training and measurement as follows: "Critical thinking is the process of purposeful, self-regulatory judgment. This process

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gives reasoned consideration to evidence, context, conceptualizations, methods, and criteria."

Researches are of the opinion that critical thinking skills can be positively correlated with the consistent internal motivation to think. Also specific critical thinking skills can be matched with specific critical thinking dispositions. These assumptions therefore suggest that a skill-focused curriculum will enable a person to think critically. Solving problems and making decisions using critical thinking involves both skills and habits of mind. A person strongly disposed toward critical thinking is habitually truth-seeking, open-minded, analytical, systematic, inquisitive, confident in reasoning, and judicious.

Newer approaches to learning and assessment have been introduced in modern education. In an attempt to improve the long case, Gleeson introduced the OSLER objective structured long case examination record as a more valid, reliable and objective tool to assess clinical competence [10]. An attempt was made to evaluate the mini-clinical evaluation exercise (mini-CEX), to assess the clinical skills of residents [11]. Also methods like DOPS [12] and WBPA [13] have been newly introduced as methods of assessment of postgraduate students. The innovative modalities of modern medical education provoke the student for clinical reasoning, analysing, evaluating and also for problem solving abilities and decision making. Similar newer modalities for measuring the critical thinking skills of the students are also necessary.

Much criticism has been directed at the assessment of critical thinking skills and clinical competence with the traditional long case particularly in the recent years. The long case is a traditional clinical examination that assesses the student's competence at the 'shows how' level in Miller's pyramid [14]. In the traditional long case the students spend more than an hour with the patient and they take the history and then they examine the patient in detail. This process is not observed by the examiner. The student is then examined by the examiners over a 20–30 minute period. There are problems associated with the traditional long case in terms of objectivity, validity and reliability. Hence we have use the innovative modality of OSLER – Objective Structured Long-Case Examination Record along with the traditional long case, in an attempt to find out whether it will help to improve the critical thinking skills of postgraduate students.

In the present study the critical thinking skills of the students were assessed after traditional long case and then after one encounter of OSLER and then after second encounter of OSLER, thus giving three encounters. It was found that there was a significant improvement in scores in the third encounter over and above the second and first encounters. In the present study, the mean scores of students after 1st encounter were 3.06±0.46, after 2nd encounter they were 3.64±0.19 and after third encounter they were 3.64±0.19. Students paired 't' test was used to compare scores of students after 1st, 2nd and 3rd encounters and was found to be statically significant with P=0.0001. The levels of significance was taken as < 0.05.

A detailed analysis of all the 20 questions was across the five domains was done. The scores obtained by the postgraduate students in the five different Domains were compared, after first encounter of traditional long case and after the first and second OSLER intervention. We found there was a significant improvement in score of the students. Also the total scores obtained by the individual students in the three encounters were compared. The mean scores in the first encounter were 61.37±9.37, in the second encounter the mean scores were 72.87±3.82, and in the third encounter the scores were 86±4.01.

The scores obtained were divide into four groups <20, 21-40, 41-70 and 71-100. In our study none of the students scored < 20 in any of the encounters. In the range of 21-40 there was only one student in the first encounter and none in second and third encounters. In the group 41-70 there were 79% students in 1st encounter, 42 % in 2nd encounter and none in 3rd encounter. In the 71-100 score group, there were 17% students in 1st encounter, 58% in 2nd encounter and 100% in third encounter.

This indicates that at the end of our study there was development of adequate knowledge and skills of the students. It was 100% in the 3rd encounter which shows that OSLER helped to develop the critical thinking skills of the postgraduate students.

In the literature, no similar study was found which was conducted for postgraduate students in faculty of Medicine.

However, similar study was conducted by Profetto-McGrath, J in 2003, to study the critical thinking skills in nursing students [15]. A study of 228 nursing students across all four years of the baccalaureate program was done. Out of a maximum score of 420, the mean scores for the CCTDI ranged from 304.24 to 315.36, with an overall sample mean score of 312.30, which reflects a positive score. Most participants (85.50%) scored between 280 and 350 (positive scores). An important finding was the significant relationship between the students' critical thinking dispositions and their critical thinking skills ($x2 = 9.37$, $p = 0.014$, power > 80).

Zettergren et al in 2004 tried to evaluate critical-thinking skills in a group of professional physical therapist students and to determine if changes occurred over time [16]. Two hundred students enrolled in the 5-year, professional physical therapist education program at a private New England university were included in the study. The participants completed one standardized test of critical thinking: the California Critical Thinking Skills

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Test (CCTST). A one-way analysis of variance with post hoc analysis was used to compare mean scores on the CCTST among the three groups. The results showed statistically significant differences between the scores of the third-year and fifth-year students (M=2.59, P=0.0001) and the scores of the fourth-year and fifth-year students (M=1.81, P=0.05). The results indicated a statistically significant increase in student's critical-thinking skills from the third year to the fifth year in physical therapist students at the target university. The difference occurred because of the additional years of formal classes, didactic education and an 8-week clinical internship in the summer after the fourth year.

Practical clinical assessment forms the corner stone of assessing clinical competence of a student. The essential components of clinical competence includes taking a proper history, physical examination, calling for relevant investigations, diagnosing the patients problem and formulating a treatment plan. In the traditional pattern of education, clinical assessment is mainly in the form of long case, short case and viva-voce. In our study we have used OSLER "objective structured long case examination record" an innovative method and found that OSLER helped to develop the critical thinking skills of the postgraduate students in the Department of Obstetrics & Gynaecology. Dr Rita Sood, in an editorial has made an attempt to examine whether OSLER was better than traditional case [17]. It was found that OSLER helped with direct observation of history taking and communication process, observation of physical examination and establishment of facts, laboratory investagions in proper order and also with the ability to identify and solve patient problems and formulate overall management. A study was conducted in Brazil by Luiz E.A. Troncon et al aiming at improving the assessment of senior medical students. A standardized and structured modification to the traditional long-case examination was proposed [18]. It was found that modifying the format of the long-case examination increased its value in the assessment of student clinical competence. In our study the OSLER assessments were conducted at the interval of one month each and it was found that the time period was optimum. Ton Peng et al from Malaysia, implemented fortnightly clinical assessments using modified OSLER (Objective Structured Long Examination Record) over a 6-weekperiod of clinical rotation. And they concluded that regular objective assessment associated with giving feedback would improve clinical outcome [19].

Hence we conclude that although the category of students were different, the results obtained by the various studies were similar.

VI. Conclusion

At the end of our study we found that using innovative methods like OSLER helped to develop the critical thinking skills of postgraduate students in the Department of Obstetrics & Gynaecology in a significant manner. For the postgraduate students the residency training program of 2-3 years, is the best time for young Doctors to hone their skills. But for this to happen, developing critical thinking skills must be the focus of postgraduate medical education. The ability to think critically and innovate is necessary to improve the health of our patients, our communities, and our profession.

VII. Limitations

1) short duration of study
2) small sample size

VIII. Recommendations

In the literature, no similar study conducted for postgraduate students in faculty of Medicine was found. Hence there is a scope that our inventory CSTI-CE, be used by other researchers so that findings can be corroborated. The scope of the study can be broadened to other faculties like Dental, Physiotherapy, Nursing and Ayurveda also.

Acknowledgement

My sincere thanks to all the faculty and post-graduate students of the Department of Obstetrics and Gynaecology for their whole hearted and enthusiastic participation.

Conflict of Interest – None

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Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 2 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

A Retrospective Analysis of the Course of Pregnancy, Childbirth, the Postpartum Period and the Condition of Newborns in pregnant Women with ABO Immunization

By Gulchehra Z. Chorieva, Dilfuza R. Sadikova, Dilchekhra Yu. Yuldasheva & Umida A. Sadullaeva

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Material and methods: A retrospective clinical and statistical analysis of 10740 birth histories for the period 2008-2019 in maternity complex of 2 clinics of the Tashkent Medical Academy; 2008-2019.

Results: Perinatal mortality in the group with ABO immunization who did not receive treatment was ten times more likely than in the group without immunization (3.3 and 33.3%, respectively).

Keywords: *ABO immunization, hemolytic disease of the newborn, somatic diseases, placental dysfunction, the blood group, the pregnancy.*

GJMR-E Classification: *NLMC Code: WQ 450*



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A Retrospective Analysis of the Course of Pregnancy, Childbirth, the Postpartum Period and the Condition of Newborns in Pregnant Women with ABO Immunization

Gulchehra Z. Chorieva [α], Dilfuza R. Sadikova [σ], Dilchekhra Yu. Yuldasheva [ρ] & Umida A. Sadullaeva [ω]

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Results: Perinatal mortality in the group with ABO immunization who did not receive treatment was ten times more likely than in the group without immunization (3.3 and 33.3%, respectively).

Conclusion: The appointment of a powerful antihypoxant and metabolic drug Kokarnit prevented and treated fetal hypoxia, improved the status of the fetoplacental complex in pregnant women with ABO immunization, which was manifested by an increase in the Apgar score, the absence of severe hypoxic lesions of the fetus, an increase in the number of newborns with mild and moderate forms and absence severe hemolytic disease of newborns in mothers whose childbirth during the previous pregnancy ended in death or death from hemolytic disease of the newborn.

Keywords: ABO immunization, hemolytic disease of the newborn, somatic diseases, placental dysfunction, the blood group, the pregnancy.

I. Introduction

The problem of hemolytic disease of the fetus and newborns remains relevant in the world since there is no program for the mandatory prevention of ABO isoimmunization of women of reproductive age. Untimely diagnosis and inadequate therapy lead to disability of the child due to neurological disorders, somatic disorders, changes in immunological reactivity. Possible intrauterine fetal death [1, 2]

Over the past 50 years, there has been a decrease in perinatal mortality from hemolytic disease: from 50 to 25% with exchange transfusions, from 25 to 16% with early delivery, from 16 to 13% with the introduction of amniocentesis, to 3% or less after the beginning of the application of invasive methods of diagnosis and treatment (cordocentesis, intrauterine transfusion). However, it is not possible to completely prevent the morbidity and mortality of newborns from the hemolytic disease [3, 4].

Several of works are devoted to the study of the state of the immune system of the mother and fetus with incompatibility by the ABO antigen [3, 5].

According to A. G. Konoplyanikov et al. and C. A. Arbelaez-Garcia, the antigen-antibody complex that forms in the fetal blood upon receipt of maternal antibodies, can acquire antigenicity properties and cause the enhanced synthesis of immunoglobulins A and M by cells associated with its immunocompetence [1, 6].

ABO hemolytic disease of newborns develops quite often, although a severe form of this disease is rare. [2, 7]

Studies are being conducted on various problems of the immunopathology of pregnancy. However, many questions regarding the immunological aspects of pregnancy remain poorly understood.

Developing chronic hypoxic conditions of the fetoplacental complex due to immunological incompatibility lead to the persistent syndrome of secondary placental insufficiency [8].

With isserological incompatibility of the blood of the mother and the fetus, the maturation of the placenta is often disturbed [9].

Untimely diagnosis and inadequate therapy lead to disability of the child due to neurological disorders, somatic disorders, changes in immunological reactivity, fetal death is possible [10, 11,12].

Thus, the problem of ABO incompatibility remains relevant in the structure of maternal and perinatal pathology, which indicates the need to study this problem.

II. Materials and Methods

A retrospective clinical and statistical analysis of 10740 birth histories for the period 2008-2019 was carried out in the obstetric complex of the 2nd clinic of the Tashkent Medical Academy revealed that the proportion of the history of deliveries with O (I) Rh (+) blood type was in 3222 women, which was 30% if the

Author α: Assistant of the Department of Obstetrics and Gynecology № 2, Tashkent Medical Academy. e-mail: gulchehra1505@mail.ru
Author σ ρ: Associate Professor of the Department of Obstetrics and Gynecology № 2. e-mails: dilfuza.sadikova@gmail.com, dilchehra@list.ru
Author ω: Assistant of the Department of Obstetrics and Gynecology № 2. e-mail: ubi76@mail.ru

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proportion of ABO immunization was 0.01%, then the proportion of hemolytic disease of the newborn in the ABO immunization was 0.3%. Further, we analyzed 27 histories of deliveries with an ABO immunization that did not receive treatment during pregnancy regarding the existing immunization with the ABO system and 22 histories of the development of newborns born from them.

To obtain reliable information on the course of pregnancy, childbirth, the postpartum period, the condition of the fetus, and the newborn, we also analyzed 30 pregnant women with O (I) Rh group positive blood belongings without ABO immunization. The control group was recruited by random selection.

The age of pregnant women ranged from 19 to 37 years. The average age was 25.8 years.

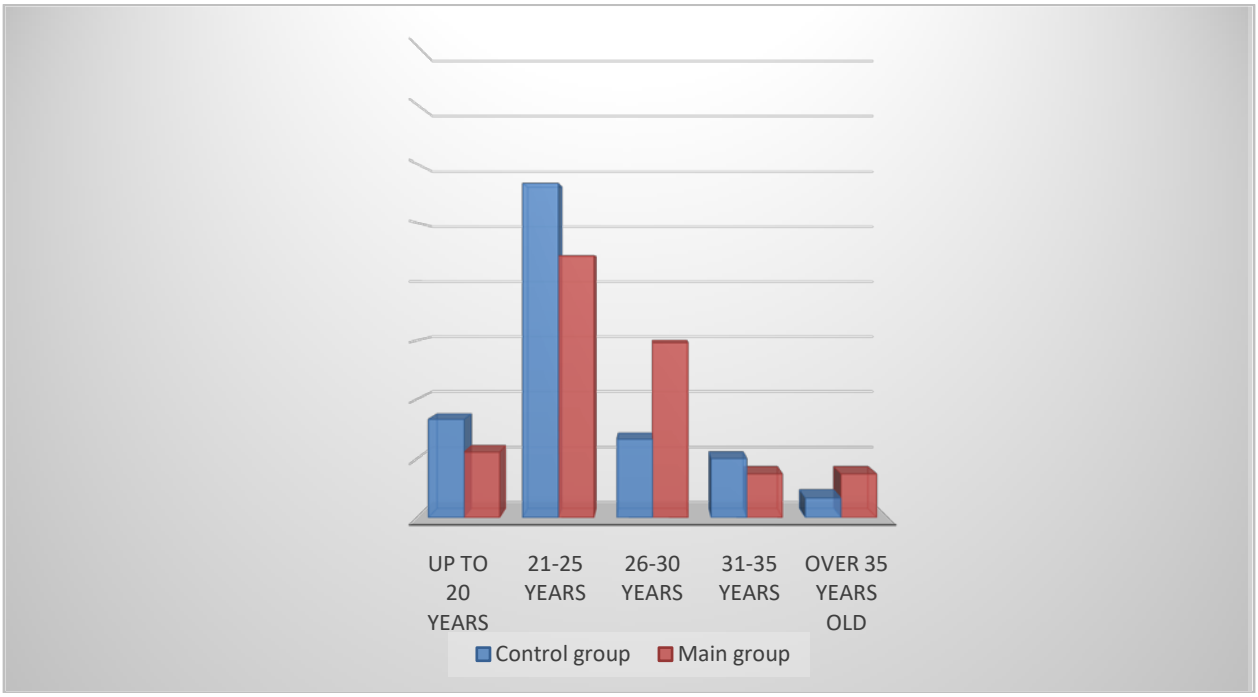


Figure 1: The age structure of pregnant women with ABO immunization

As can be seen from the presented figure 1., ABO immunization was more common at the age of 21-25 years, which corresponds to the most active period of reproductive function of women. By parity, women are distributed: first pregnant - 25.9%, first birth pregnant - 14.8%, reborn - 37.0%, multiparous - 22.3% (see Figure 2.).

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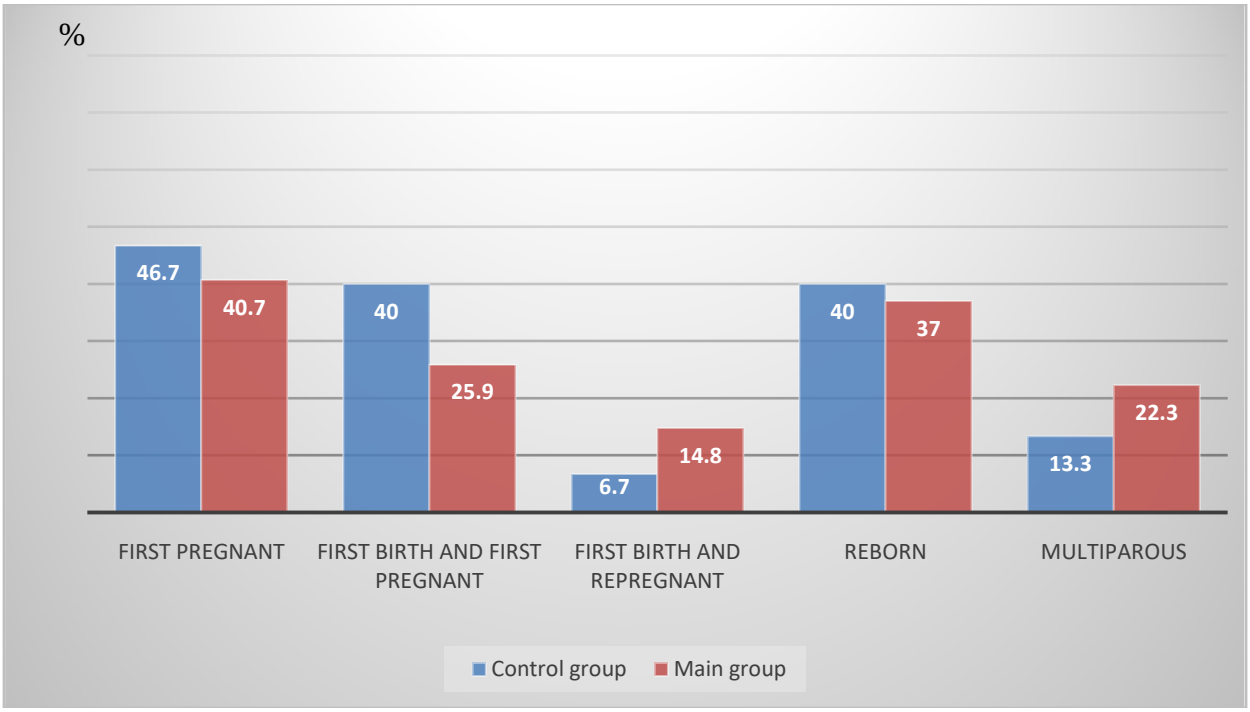


Figure 2: Parity of the analyzed pregnant

The analysis of parity showed that in both analyzed groups the number of first pregnant and pregnant women was almost the same, while the number of first births but prenatal during ABO immunization was 11.1% higher and 14.7% more indicating a possible transplacental casting antigens and increased risk of sensitization of the body according to the ABO system.

An analysis of somatic diseases in pregnant women with an ABO immunization who did not receive treatment during pregnancy revealed that in 83.3% of cases, they had a burdened somatic history.

Anemia was detected by 24.8% more often during pregnancy, and mainly of 1 degree. It should be noted that grade 2 anemia was observed two times more often than in the control group.

Table 1: Somatic diseases of the analyzed pregnant

Diseases	Control group, (n = 30)		Main group, (n = 27)		P
	abs.	%	abs.	%	
Anemia, of which:	17	56,7±9,2	22	81,5±7,6	<0,05
- 1 degree	16	53,3±9,3	20	74,1±8,6	>0,05
- 2 degrees	1	3,3±3,3	2	7,4±5,1	>0,05
Intrauterine infection	4	13,3±6,3	5	18,5±7,6	>0,05
Chronic cholecystitis	1	3,3±3,3	1	3,7±3,7	>0,05
Thyroid disease	5	16,7±6,9	5	18,5±7,6	>0,05
Obesity	2	6,7±4,6	1	3,7±3,7	>0,05
Rheumatism	1	3,3±3,3	2	7,4±5,1	>0,05
SARS during pregnancy.	3	10,0±5,6	4	14,8±7,0	>0,05
Exacerbation of somatic diseases during pregnancy.	0	0	3	11,1±6,2	>0,05
Cardiovascular diseases	0	0	2	7,4±5,1	>0,05
Epidemic hepatitis	9	30,0±8,5	2	7,4±5,1	<0,05
Varicose veins	2	6,7±4,6	3	11,1±6,2	>0,05
Chronic tonsillitis	2	6,7±4,6	3	11,1±6,2	>0,05
Chr. bronchitis	1	3,3±3,3	0	0	>0,05

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Urinary tract infections and thyroid diseases, as a regional pathology, were observed almost equally often in both groups.

The same trend was observed for rheumatism, chronic tonsillitis and, acute respiratory viral infections during pregnancy, as an infectious-inflammatory process and also as one of the possible factors of immunization.

Gynecological history was burdened by: spontaneous miscarriage - in 25.9% (once - in 18.0%, twice or more - in 7.9%), artificial abortion - in 22.2% (once - in 13.5%, twice and more - in 8.7%), infertility - in 3.7%, non-developing pregnancy - in pregnant women in the anamnesis - in 14.8% (see Table 2). This analysis showed that the burdened gynecological history in the ABO immunization was weighed down by spontaneous miscarriage 3.9 times more often, non-developing pregnancy 4.5 times more often than in the group with O blood group Rh-positive factor without immunization, which may indirectly indicate as a possible factor of immunization, and on the typical complications of pregnancy during an ABO immunization [13].

Table 2: Gynecological history of the analyzed pregnant

Anamnestic indicator	Control group, (n = 30)		Main-group, (n = 27)		P
	abs.	%	abs.	%	
Spontaneous miscarriage	2	6,7±4,6	7	25,9±8,6	<0,05
Artifical abortion	10	33,3±8,8	6	22,2±8,2	>0,05
Non-viable intrauterine pregnancy	1	3,3±3,3	4	14,8±7,0	>0,05
Infertility	0	0	1	3,7±3,7	>0,05

When analyzing the obstetric history, it was found that in repeated births, previous pregnancies and childbirths were complicated by premature birth at 35-36 weeks of pregnancy in 3 (11.1%) women, whereas in the control group this complication of the course of pregnancy did not occur (see Table. 3). Late deliveries due to late delivery were in 1 (3.7%) women of the Main-group, urgent deliveries in 29 (96.7%) and 24 (85.2%), respectively. 55.6% of pregnant women with ABO immunization had polyhydramnios, which coincides with the literature [14]. Pregnant women of the Main group in 44.4% of cases had premature amniotic fluid discharge due to the available intrauterine infection, which is two times more often than in the control group.

Table 3: Obstetric history of pregnant women analyzed

Anamnestic indicator	Control group, (n = 30)		Main group, (n = 27)		P
	abs.	%	abs.	%	
Vaginal birth	29	96,7±3,3	24	88,9±6,2	>0,05
Operative delivery	1	3,3±3,3	3	11,1±6,2	>0,05
Delivery on time	29	96,7±3,3	23	85,2±7,0	>0,05
Premature birth	0	0	3	11,1±6,2	>0,05
Belated birth	1	3,3±3,3	1	3,7±3,7	>0,05
The threat of abortion, of which:	13	43,3±9,2	24	88,9±6,2	<0,001
The threat of early interruption	3	10,0±5,6	13	48,1±9,8	<0,01
The threat of late interruption	10	33,3±8,8	11	40,7±9,6	<0,05
Placental dysfunction	7	23,3±7,9	23	85,2±7,0	<0,001
Intrauterine infection	2	6,7±4,6	15	55,6±9,7	<0,001
Polyhydramnios	2	6,7±4,6	15	55,6±9,7	<0,001
Prenatal rupture of membranes	6	20,0±7,4	12	44,4±9,7	<0,05
Weak labor	0	0	2	7,4±5,1	>0,05
Premature detachment of a normally located placenta	0	0	5	18,5±7,6	<0,05
Hypotonic bleeding	0	0	2	7,4±5,1	>0,05
Defect of the placenta (Manual examination of the uterine cavity)	3	10,0±5,6	2	7,4±5,1	>0,05

Complications such as weak labor (7.4%), premature detachment of a normally located placenta (18.5%) and hypotonic bleeding in the subsequent and early postpartum periods (7.4%) occurred exclusively in women in labor with ABO immunization.

The analysis of the course of pregnancy and childbirth revealed a high frequency of complications in the presence of an ABO immunization, which in itself requires antenatal diagnosis, treatment before pregnancy and the implementation of evidence-based therapy during the entire gestational gestation period.

Since in 5 cases the pregnancy in this group was terminated earlier than 28 weeks, the analysis of perinatal complications in this group of a third was

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carried out only in 22 newborns and revealed significant excesses of these up to perinatal losses.

Such a condition as the early gestational age of the fetuswas observed in 11.1% of children with HDN (see Table 4.). More than two newborns were born in a state of asphyxia and every second newborn in moderate asphyxia in the presence of an ABO immunization.

Table 4: Perinatal complications of the analyzed pregnant

Anamnestic indicator	Control group, (n = 30)		Main group, (n = 27)		P
	abs.	%	abs.	%	
Small gestational age of the fetus	1	3,3±3,3	3	11,1±6,2	>0,05
Asphyxia, including:	2	6,7±4,6	24	88,9±6,2	<0,001
Moderate	2	6,7±4,6	8	29,6±9,0	<0,05
Heavy	0	0	16	59,3±9,6	<0,001
Perinatal mortality, of which:	1	3,3±3,3	12	44,4±9,7	<0,001
Antenatal	1	3,3±3,3	5	18,5±7,6	<0,05
Intranatal	0	0	2	7,4±5,1	>0,05
Postnatal	0	0	5	18,5±7,6	<0,05

Perinatal losses in ABO immunization occurred 13 times more often - 3.3 and 44.4%, respectively, of the groups. The death of newborns in the ABO immunization was ante- and postnatally detected equally often (18.5%), and intranasallyin 7.4% of cases, which significantly exceeds the population indicators.

From the obstetric and gynecological history, the high frequency of perinatal mortality, premature birth, spontaneous abortion, bleeding during childbirth, and the early postpartum period is noteworthy, which can be associated with the formed ABO immunization by this period.

As can be seen from Table 5, vomiting of pregnant women with ABO immunization complicated the course of pregnancy 1.8 times more often than in the control group.

Table 5: Complications of the course of this pregnancy with ABO immunization in womennot treated during pregnancy

Complications	Control group, (n = 30)		Main group, (n = 27)		P
	abs.	%	abs.	%	
Vomiting pregnant	11	36,7±9,0	18	66,7±9,2	<0,05
Spontaneous miscarriage	0	0,0	5	18,5±7,6	<0,05
The threat of abortion, of which:	13	43,3±9,2	19	70,4±9,0	<0,05
The threat of early interruption	3	10,0±5,6	10	37,0±9,5	<0,05
The threat of late interruption	10	33,3±8,8	9	33,3±9,2	>0,05
Anemia	17	56,7±9,2	9	33,3±9,2	<0,05
Hypertensive disorders	3	10,0±5,6	7	25,9±8,6	>0,05
Prenatal rupture of membranes	6	20,0±7,4	12	44,4±9,7	<0,05
Placental dysfunction	7	23,3±7,9	21	77,8±8,2	<0,001
Intrauterine infection	10	33,3±8,8	17	63,0±9,5	<0,05

Spontaneous miscarriages were only in the Main group - 18.5%. The threat of abortion in the main group occurred 1.6 times more often than in the control group (43.3 and 70.4%, respectively, groups), and with almost the same frequency in both I (37.0%) and II (33.3%) half of pregnancy. Hypertensive disorders during pregnancy in the group with ABO immunization were detected 2.6 times more often and mainly as gestational hypertension.

All these complications of the course of this pregnancy were clinically and instrumentally diagnosed with placental dysfunction in 77.8%, and in 63.0%, placental dysfunction was against the background of intrauterine infection, most often combined etiology. These indicators exceeded those of the control group by 1.9 (intrauterine infection) and 3.3 times (placental dysfunction).

Isosensitization for group factors is not indifferent for a pregnant woman and, as a rule, plays a triggering role in the development of several complications.

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At the same time, these complications, increasing the permeability of the placental barrier, exacerbate the severity of the manifestation of immunization.

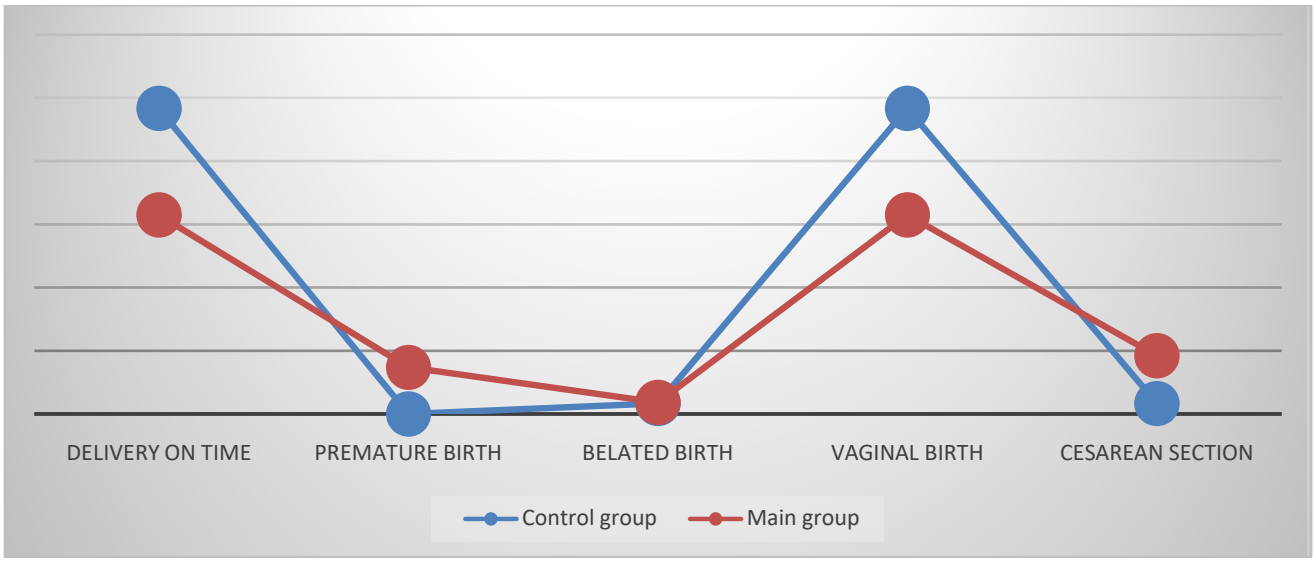


Figure 3: The outcome of labor in pregnant women with an ABO immunization who did not receive treatment during pregnancy

When analyzing the course of childbirth, it was revealed that 63.0% of women of the 1st group and 96.7% of the control gave birth on time (see Figure 3). Conservative delivery (17) 63.0%, operative delivery (5) 18.5% of women, of which, due to insolvency of the uterine scar, 2 (40.0%), premature detachment of a normally located placenta, 3 (60.0%). In the control group, 3.3% of women in labor due to hip disproportion were operatively delivered.

As can be seen from Table 6., in pregnant women with ABO immunization, a high incidence of premature rupture of the fetal bladder is noted - 44.4%, which is 2.2 times more often compared with the control group. Premature detachment of a normally located placenta, as the most severe obstetric complication, was observed in almost half of women in childbirth during an ABO immunization (48.1%), possibly associated with a high incidence of placental dysfunction (77.8%).

Weak labor activity was only in the group with ABO immunization (14.8%). Manual examination of the uterine cavity for a placental defect, possibly associated with a high percentage of intrauterine infection, was more than two times more likely than the control group. Hypotonic bleeding in the subsequent and early postpartum periods was in 18.5% of cases exclusively in the group with ABO immunization.

Table 6: Complications of childbirth and the early postpartum period in pregnant women with ABO immunization who did not receive treatment during pregnancy

Complications	Control group, (n = 30)		Main group, (n = 27)		P
	abs.	%	abs.	%	
Premature detachment of a normally located placenta	0	0	13	48,1±9,8	<0,001
Prenatal rupture of membranes	6	20,0±7,4	12	44,4±9,7	<0,05
Weak labor	0	0	4	14,8±7,0	<0,05
Defect of the afterbirth	1	3,3±3,3	5	18,5±7,6	>0,05
Manual examination of the uterine cavity	1	3,3±3,3	2	7,4±5,1	>0,05
Hypotonic bleeding	0	0	5	18,5±7,6	<0,05
Uterine subinvolution	3	10,0±5,6	5	18,5±7,6	>0,05

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Complications of the postpartum period, such as uterine subinvolution, were noted 8.5% more often than the control group.

At birth, the content of total bilirubin in 58.1% of newborns did not exceed 85 μmol/l, in 34.6% it ranged from 86 to 134 μmol/l; in 7.3%, it was 135 μmol/l and higher.

Perinatal mortality (see Figure 4) in the group with ABO immunization who did not receive treatment was ten times more likely than in the group without immunization (3.3 and 33.3%, respectively).

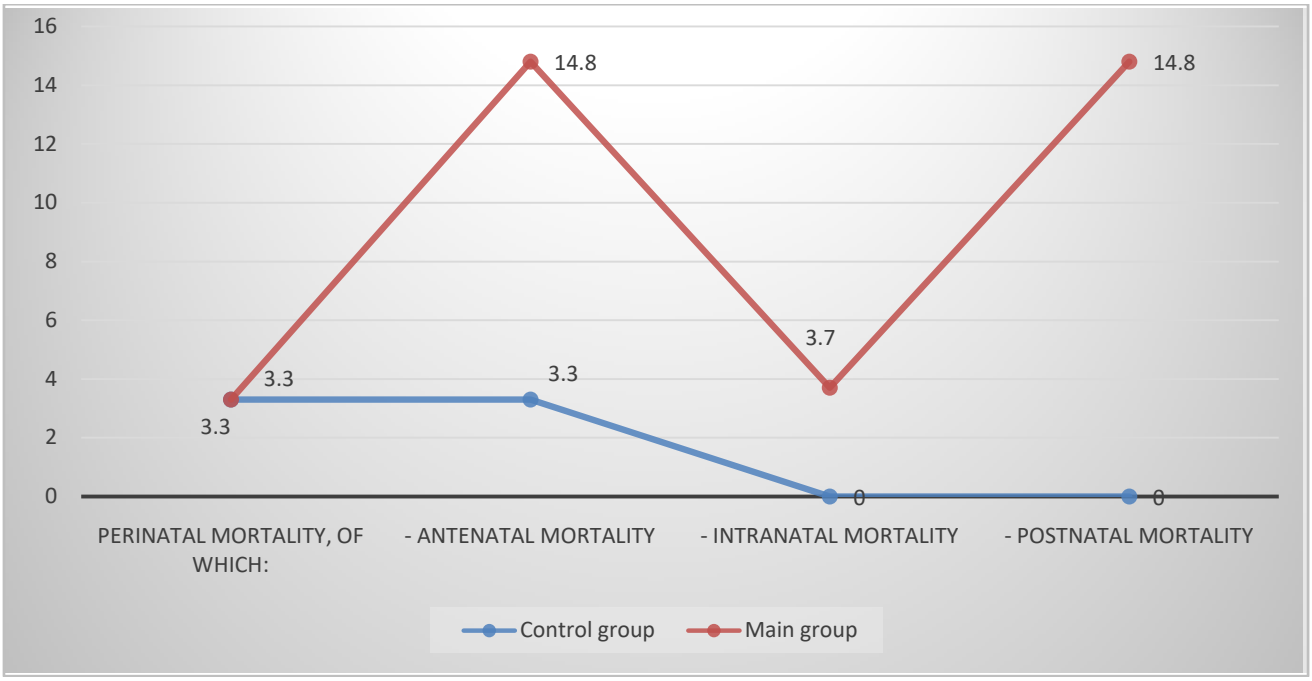


Figure 4: Perinatal losses in pregnant women with an ABO immunization not receiving treatment during pregnancy

III. Results and Discussion

So the age period of the frequent occurrence of ABO immunization is 21-25 years. The parity of pregnant women was more often primordial with ABO immunization, which coincides with the data in Figure 2.

Parity analysis showed that the number of primiparas and pre-pregnant during ABO immunization was 1.8 times greater, and 14.7% more were re-births, which coincides with the literature data on the frequent detection of sensitization by ABO system in pre-pregnant women [14]. Anemia during pregnancy, urinary tract infection, and thyroid disease was identified as a regional pathology by 24.8% and were observed almost equally often in both groups. Exacerbation of somatic pathology during pregnancy with ABO immunization, as a possible contributing factor to immunization, was observed in 11.1% of pregnant women.

The gynecological history of ABO immunization was 3.9 times more likely to be aggravated by spontaneous miscarriage, non-developing pregnancy 4.5 times more often than in the group without immunization, which can be considered as a possible factor of immunization, as well as complications of pregnancy during ABO immunization [15].

Analysis of analysis of obstetric history in 55.6% of pregnant women with ABO immunization showed the presence of polyhydramnios, which coincides with the literature [16]. In a state of malnutrition, children were born in 11.1% of patients with ABO immunization. More than two-thirds of newborns were born in a state of asphyxiation and every second newborn in severe asphyxiation.

In the untreated group, vomiting of pregnant women with ABO immunization complicated pregnancy during 30.0% more often, the threat of termination of pregnancy in the main group occurred 1.6 times, and hypertensive disorders during pregnancy mainly as hypertensive disorders in 2, 6 times more often, high rates were for intrauterine infections (63%) and placental insufficiency (77.8%), which undoubtedly increases the percentage of obstetric and perinatal complications [15, 16].

Thus, premature detachment of a normally located placenta, as the most severe obstetric complication, was observed in almost half of women in labor (48.1%) during ABO immunization.

Premature rupture of the fetal bladder was observed 2.2 times more often compared with the control group. Weak labor was only in the group with

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ABO immunization (14.8%). Manual examination of the uterine cavity regarding a placental defect, possibly associated with a high percentage of intrauterine infection, was more than two times more likely than the control group. Hypotonic bleeding in the subsequent and early postpartum periods was in 18.5% of cases exclusively in the group with ABO immunization, and uterine subinvolution was noted in 8.5% more often than the control group. Perinatal mortality in the group with ABO immunization who did not receive treatment was ten times more likely than in the group without immunization, and equally often anti- and postnatal (14.8% each).

IV. Conclusions

Thus, summarizing the generally conducted retrospective analysis of the course of pregnancy, childbirth, the postpartum period and the condition of newborns in pregnant women with ABO immunization who did not receive treatment during pregnancy, it was shown that the number of primiparous and primary pregnant with ABO immunization was 2.8 times more than primiparas but re-pregnant. Exacerbation of somatic pathology during pregnancy with an ABO immunization, as a possible contributing factor to immunization, was observed in 3.3% of pregnant women.

The most terrible outcome of childbirth is a high percentage of perinatal losses, which leads to severe medical and social problems in such women. Therefore, timely diagnosis of ABO immunization, antenatal preparation with the search for new therapeutic measures will help to reduce both obstetric and perinatal complications.

The course of pregnancy often takes place against the background of anemia, chronic pyelonephritis, thyroid diseases, acute respiratory viral infections, and exacerbation of chronic foci of somatic diseases. Also, pregnancy is complicated by persistent symptoms of the threat of termination of pregnancy on the background of placental dysfunction and intrauterine infection.

All pregnant women with ABO immunization have a burdened gynecological and obstetric history and a perinatal history.

All of the above, of course, affects the condition of the fetus and the outcome of childbirth, and as a result of this, childbirth often occurs in childbirth, prenatal rupture of membranes, premature detachment of a normally located placenta, and weakness of labor. In connection with which, more often, delivery is resolved promptly, and more often, operational benefits in childbirth (manual examination of the uterine cavity) are used. The most terrible outcome of childbirth is a high percentage of perinatal losses, which leads to severe medical and social problems in such women. Therefore, timely diagnosis and treatment of ABO immunization, their antenatal preparation with the search for new therapeutic measures will help reduce both obstetric and perinatal complications.

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3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



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6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.



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Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.



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Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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Global Journal of Medical Research

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ISSN 9755896



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