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ORIGINAL ARTICLE

Medical disorders in pregnancy a tertiary care hospital experience.

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ABSTRACT… Objective: To determine the exact magnitude of the problem in our setup which will help to develop consensus guidelines with the contribution from various specialists especially obstetric medical specialist. **Study Design:** Prospective Observational study. **Setting:** PNS Shifa and CMH Kharian. **Period:** 1st Jun 2019 till 31st May 2021. **Material & Methods:** It was conducted on 2448 patients who were ill due to various medical conditions during pregnancy and admitted. Data was collected from the patients in the wards and delivery room and analysed using SPSSV28. Descriptive statistics were applied and means, and frequencies were calculated for different variables. **Results:** The total number of antenatal admissions was 8775, in which 2488 (28%) were patients. The mean age of our study population was 28 S.D (+ 4.78) years while the mean parity was 4 (S.D + 1.407). Hypertensive disorders were the most common medical disorder followed by haematological and liver disorders. Endocrine disorders were found in 372 (15%) of the study population. A total of 864 (38%) patients in the total study population had haematological abnormalities. Among these, anaemia was the most common haematological abnormality. Regarding respiratory disorders COVID-19 336(14%) was the most common respiratory medical disorder during pregnancy. **Conclusions:** All medical conditions in pregnancy are common and require a multidisciplinary approach which should be managed by a team involving Obstetric medical specialist.

Key words: Anaemia, Hypertension, Liver Disorders, Medical Disorder, Pregnancy.

INTRODUCTION

Pregnancy is commonly considered a physiological phenomenon however implications of this process are enormous. Both fetus and mother are affected in many ways. There is multi-system involvement with predominant involvement of the gastrointestinal system, liver, kidney, and endocrine system. Increased demands on the female body act as stress during pregnancy. Naturally, this leads to the unmasking of previously undiagnosed or sub-clinical diseases. In addition, it may be a very important factor in the causation of new diseases. This can lead to multiple challenges both for patients and doctors. Obstetrician do not feel comfortable in managing medical disorders. Certain medical disorders prove challenging even for medical specialists and subspecialists. Management plans differ between various communities. Furthermore, guidelines regarding pregnancy-related medical disorders are not very clear.

Various disorders such as diabetes hypertension hypercoagulability state thyroid diseases liver diseases etc are managed differently in variouscountries.[1] Some of these chronic diseases are silent or asymptomatic before pregnancy. It is not only the management during pregnancy that becomes a challenge, but they have long term consequences. patients with Gestational diabetes are more than 70% likely to develop frank diabetes in later part of the life, similarly, patients with pre-eclampsia and eclampsia are prone to suffer from hypertension and stroke in later part of their life. Medical complications in pregnancy represent a substantial challenge to the healthcare system.[2,3]

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In Western communities this problem has been addressed by the introduction of obstetric medicine which had resulted in improved outcomes in pregnancy and fetal outcomes have markedly improved because of prompt diagnosis and treatment of medical disorders.[2,4] Not only obstetric medicine is being recognized but even subspecialties are fast evolving such as obstetric nephrology. Various diseases such as chronic kidney disease (CKD) is a well-recognized risk component for unfavourable pregnancy outcomes The literature on this issue is quickly accumulating and the term "obstetric nephrology" has been suggested to identify this noteworthy clinical and research arena[5] However, awareness of the understanding of identifying various medical disorders in pregnancy is still lacking and the experience is mainly limited to some large, but still few, referral centres.[6]

Furthermore, in underdeveloped countries like Pakistan India Sri Lanka, the situation is still far from satisfactory. This study tried to find out the exact burden of medical disorders during pregnancy and will help in future planning of medical care and allocation of resources for this problem. This data may be utilized in making good management plans and bring some awareness regarding the need for obstetric medicines specialists in the future. This will result in better outcomes for mothers and foetuses. Advantages will not be limited to only short term but in the long term, benefits are imminent.

MATERIAL & METHODS

This was a prospective study conducted in the Department Of Obstetrics and gynaecology at a tertiary care hospital PNS Shifa and CMH Kharian for 2 year from 1st Jun 2019 till 31st May 2021. All women in obstetrics were evaluated for presence or absence of medical disorders after detailed medical history and examination. Their medical record was also checked and any evidence of the medical condition or any consultation from the medical team was noted. All data were entered into a specified proforma. Various parameters like age, parity, residence, period of gestation at the time of presentation, and diagnosis /sub-diagnosis of medical disorders in pregnancy were studied in detail.

Inclusion Criteria

1. All pregnant females admitted to the obstetric ward with previous medical condition.
2. Admitted pregnant patients with recently diagnosed medical diseases.

Exclusion Criteria

• Indoor pregnant patients without any medical disorder.

Statistical Analysis

Data was entered in SPSS v 28 tabulated, percentages and frequencies were calculated for categorical variables and mean, and modes were calculated for scale variables by using the software already mentioned.

RESULTS

Hypertensive disorders of pregnancy were the commonest medical disorders in Mostly pregnancy. During pregnancy, greatest number of medical calls were made for these illnesses. A figure of 971(39.66%) suffered from this disorder.

We included total of 2488 patients in our study. The mean age of our study population was 28 S.D + 4.78 years. The mean parity was 4 S.D + 1.407. Haematological disorders were one of the three most common medical disorders. A total of 864(38%) patients from the total study population had hematological issue. The most common haematological disorder was anemia 732 (29.4%). We discovered thrombocytopenia in 126 (5.1 %.) of the patients. Coagulopathy was responsible for admission of 46 (1.8%) patients having haematological disorders. (Table-I)

Pregnancy-induced hypertension could be documented in 616(24.8%) patients. In hypertensive patients, 320(12.9%) patients had Pre-eclampsia or eclampsia and 72 (3%) patients suffered from chronic hypertension. (Table-II)

Endocrine disorders were found in 372 (15%) of the study population. Among these 372 (3%) patients had chronic diabetes mellitus. Gestational diabetes mellitus (GDM) was the

most common endocrine-related illness in our study. Our study group with 292 (12%) ladies suffering from it. Another 48 (2%) patients had hypothyroidism (Table-III).

332(13%) of the study population suffered from liver related disorder. Hepatitis E was the commonest medical problem related to the liver. Among 332 patients 116(5%) developed HEV infection. HEV was the commonest disorder related to hepatic illnesses. Hepatitis C and Cholestasis of pregnancy were responsible for 52 (2%) hepatological diseases. Acute fatty liver disease of pregnancy was diagnosed in 96(4%) patients. (Table-IV)

A fifth of the study population suffered from respiratory diseases. 336(14%) patients developed COVID-19 during pregnancy and needed indoor management. It was the commonest cause of respiratory disorders in the study. Asthma was next in the list as 96 (4%) patients suffered from it. Moreover, 48(2%) of the affected population developed various community-acquired pneumonias. A couple of pregnant patients required ventilatory support. Both survived and had successful pregnancy outcomes. (Table-V)

Epilepsy 88(3.5%) and stroke 40(1.6%) were the commonest neurological disorders observed in our study (Table-VI).

	Age	Parity
Mean	27.96	3.27
N	2488	2488
Std. Deviation	4.786	1.407

Table-I. Mean age and parity

	N (%)
Pregnancy induced HTN	616 (24.8%)
Chronic HTN	75 (3.0%)
Preclampsia/Eclampsia	320 (12.9%)

Table-II. Hypertensive disorders

	N (%)
DM	72 (2.9%)
GDM	292 (11.7%)
hypothyroidism	48 (1.9%)
Normal	2076 (83.4%)

Table-III. Endocrine disorders in pregnancy

Diagnosis	N (%)
Cholestasis of Pregnancy	52 (2.1%)
Hepatitis E	116 (4.7%)
Hepatitis B	44 (1.8%)
AFLD	96 (3.9%)
Hepatitis C	52 (2.1%)
Hepatitis A	8 (0.3%)
Hepatitis B&D	4 (0.2%)

Table-IV. Liver disorders in pregnancy

Diagnosis	N (%)
Covid-19	336 (13.50%)
Asthma	96 (3.90%)
Pneumonia	48 (1.90%)

Table-V. Respiratory disorders in pregnant indoor patients

	N (%)
Epilepsy	88 (3.5%)
Strokes	40 (1.6%)

Table-VI. Neurological disorders

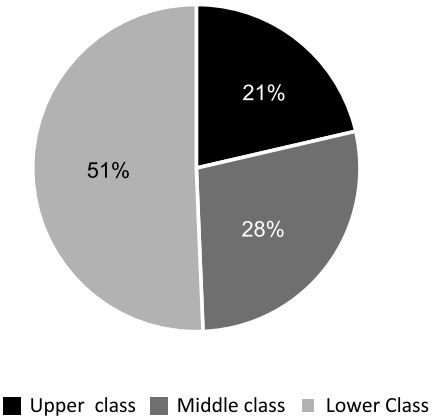

Figure-1. Socio economic classes of study population

DISCUSSION

The incidence of medical illnesses in pregnancy in the present study was slightly under 40%. It was in the higher range as other studies have reported incidence varying between 2 to 60. This difference most likely results from different definitions of pregnancy-related medical disorders'. Few authors consider anaemia and hypertensive disorders as obstetrics-related issues and do not include them in medical disorders. If hypertensive and anemia are removed, then our incidence of medical disorders also falls to less than 15%. This value is similar to the study published by Agway UM et al (16%).[7] In the mean while another study by Baral G et al[8] reported frequency of

medical disorders at 2.4%. The wide fluctuation in incidence may also be a result of different setups as ours is the only setup which drains huge are from Balochistan and interior Sind and only complicated cases reach us requiring multi-disciplinary care. Naturally, this results in selection bias and an elevated incidence ratio of medical disorders. Being in a metro city many mild disorder or normal pregnancies never reach our setup because of the cost and distance constraints.

In the present study, most of the patients belonged to the age group 20 to 30 years and the mean age of our study population was 28 years and 70% of people came from rural areas of Sind and Balochistan. These findings were in keeping with Asian studies carried out by Shrivastava et al and Chaudhary S et al.[9,10]

Hypertensive disorders in pregnancy were the most frequent medical problem in present in our study (39%), subcategorized in chronic hypertension and Preeclampsia, eclampsia. Chaudhary S et al[10] also reported similar figures of > than 40% while Ye C et al showed 5.22% incidence including severe chronic hypertension (3.68%), PIH (39.6%), and eclampsia (0.89%) in their studies[11] They studied hypertensive disorders of pregnancy in detail after sub-categorization in 6 groups as ours.

Total 846 (37%) patients had some kind of haematological abnormalities documented on their complete blood pictures. Anemia was documented in 732 (28%) of the patients, thrombocytopenia was recorded in 126 (5%) of the patient, and 46 (2%) had some kind of coagulopathy. These results were similar to Chaudhry et al who found a 38.75% incidence of blood-related issues which included anemia (96.8%), thrombocytopenia 2.6%[10] The very low platelet count in our study was a manifestation of a study being conducted in malaria and dengue season, similarly, a study done by Bora et al[12] showed alarming 89% figures of anemia which were very high by any standards. This high prevalence of anemia in their study may be the effect of being carried out in Hindu communities who were mostly vegetarian.

In our study, (332)13% of the patient had liver-related medical disorders. Hepatitis E was most common as 116 (5%) patients showed sera positivity for IGM HEV antibodies. Hepatitis B was found in 44 (2%), similarly, hepatitis C was also documented in 52 (2.1%). Acute fatty liver of pregnancy was documented in 396 patients that were 3.9%. Very low prevalence of HCV and HBV in pregnancy have been reported in various developed regions by Cortina et al.[13] Estimated HCV prevalence in women of Eastern Europe, Southern areas of Asia and the United Kingdom were 0·366%, 0·162%, and 0·019%, respectively. These low seroprevalence values are effects of robust antenatal and post-natal health care in these countries. Our study also short 12 (2%) patients who are suffering from epilepsy however none of them developed fits during this time. Similar figures up to 4 % have been reported in local communities.[10,14,15]

Our study and the international literature demonstrate that medical disorders are common during pregnancy. This leads to complex problems in treatment. It is recommended to involve multidisciplinary teams in the management of these multifaceted patients. This may lead to better maternal and foetal outcomes as demonstrated in the literature of various developed countries1.[5,16–19]

CONCLUSION

Medical disorders in pregnancy are common. Anemia, hypertensive disorders of pregnancy and renal disorders are the most common medical problems encountered in obstetric indoor patients. Time has come to introduce obstetric medical speciality in Pakistan. They are better equipped and trained for managing such complex cases.

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3	Muhammad Irfan Khattak	Medicla conslutation and nephrology.	
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5	Rana Shahid	Management of medical cases.	
6	Shumaila Hadi	Consultation regrading studydesign and patient management issues.	