Original Article

The Pattern of Obstetrical and Gynaecological Admissions in Ribat University Hospital, Khartoum

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Abstract

Background: *Conditions related to pregnancy, child-birth and purperium account for 10% of general clinical practice and 19% of hospital admission. This paper aims at determining the pattern of Obstetrics and Gynaecology admissions in Ribat University Hospital, Khartoum, Sudan.*

Methods: *All records of patients admitted in Obstetrics and Gynaecology department, Ribat University Hospital, from January to December 2003 were examined and analyzed using SPSS for Windows.*

Results: *Hospital admissions related to Obstetrics and Gynaecology constituted 28.9% of the total admissions in the hospital. Malaria is the first cause for hospitalization followed by pregnancy induced hypertension. The study showed that normal vaginal delivery constituted 61.1% while caesarian section showed a high rate compared to the literature (30.9%). Contracted pelvis was the first indication for caesarian sections (13.3% for emergency and 35.5% for elective).*

Conclusion: *The study concluded that the Obstetrics and Gynaecology admissions constitute a big burden in a Sudanese hospital. Malaria is the main cause of pregnancy related admission, followed by pregnancy induced hypertension. The commonest mode of delivery was vaginal but the rate of emergency caesarian sections was higher than the international figures; the major indication of the procedure was contracted pelvis. The study highlighted the need for improving antenatal care services and raising the awareness of doctors about these findings.*

Keywords: *Obstetrics, Gynaecology, admissions, Ribat University*

Introduction

According to WHO (International Disease Classification) conditions related to pregnancy, child-birth and purperium account for 10% of general clinical practice and 19% of hospital admission while diseases related to genital system account for 5%[(1)].

Pregnancy is not a disease and pregnancy related morbidity and mortality are preventable[(2)] Appropriate prenatal care promotes maternal and fetal well-being; so proper management at the hospital level results in optimal maternal and neonatal outcome.

The postpartum period is a time of major physiological and psychological adjustments. Potentially life-threatening complications can occur at this time. Bleeding in early pregnancy may lead to pregnancy loss as well as to serious maternal complications. Disorders which cause vaginal bleeding in the second and third trimesters may also cause maternal and fetal jeopardy. The cause must be determined to allow proper management and avoid the catastrophe of inadvertent vaginal examination of a patient with a placenta previa. Maternal and fetal risks with continuation of the pregnancy or with delivery must be carefully balanced.

World-wide, the study of the pattern of hospital admissions has been recognized, especially those of Obstetrics and Gynaecology, as it enables stakeholders in coming out with the appropriate strategies to prevent such disorders and improve the quality of services provided to deal with them. One of these studies is the review of the Statistics for 12

months from July 1, 2000-June 30, 2001 in the Department of Obstetrics and Gynaecology, Mount Sinai Hospital-Chicago[3]. Another one is the Pregnancy-associated hospitalizations in the United States, 1999-2000, conducted by Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta[4].

This study aims to identify the different causes of Obstetric and Gynaecology admission; to determine the frequency of the different types of deliveries and to verify the indications of emergency and elective caesarian sections.

Materials and Methods

Study Design: This is a descriptive, retrospective, hospital-based study of the pattern of admission in the Obstetric and Gynaecology department, Ribat University Hospital during 2003.

Study Area: The Obstetric and Gynaecology department in Ribat University Hospital is unique compared to all similar departments because it offers services to both police forces and civilians. It receives about 2500 patients, through a 24 hours casualty and 12 different referred clinics each month. It conducts more than 1000 surgical operations every year .The department plays a major role in training of registrars, house-officers, paramedical staff besides medical students of the National Ribat University. The department also supervises the delivery of comprehensive reproductive health services including Safe Motherhood, Family Planning, STI˙S, HIV/AIDS and reproductive system tumors.

Study Population: All the records of patients admitted to the wards of Obstetric and Gynaecology from January to December 2003 were included in the study without exclusion. A total number of 2729 patient records were considered in this study.

Data collection and analysis: Data was collected from the monthly discharge clinic reports using specialized forms and analyzed using SPSS version 10.0. Frequencies and percentages were sought.

Results

The major cause for Pregnancy-associated admission was malaria (27.9%), followed by hypertension (18.5%), hyper-emesis gravidarum (10.8%), premature rupture of membranes (6.5%) and Urinary Tract Infections (4.9%) as shown in table 1.

From 2092 deliveries that occurred during the study period, normal spontaneous vaginal deliveries represents 61.1%, elective caesarian sections were 16.2%, and emergency caesarian sections were 14.7% while abnormal vaginal deliveries constituted 8% as shown in table 2.

Forceps delivery constituted 24.4% of the total abnormal vaginal deliveries; preterm delivery was 22.6%, whereas multiple pregnancy, still birth and successful trial of scar contributed with 12% each. Successful induction of labour represented only 4.5% as shown in table 3

Table 1: Causes of antenatal admissions

Cause of admission	Frequency	Percent
Malaria with pregnancy	51	27.9%
Pregnancy Induced Hypertension	34	18.6%
Hyperemesis gravidarum	19	10.4%
Premature rupture of membranes	12	6.6%
Diabetes with pregnancy	10	5.5%
Urinary Tract Infection with pregnancy	09	4.9%
Anemia with pregnancy	08	4.4%
Antepartum hemorrhage	08	4.4%
Cardiac disease	04	2.1%
Others	28	15.2%
TOTAL	183	100%

Table 2: Mode of delivery

Mode of delivery	Frequency	%
Normal vaginal delivery	1277	61.1%
Abnormal vaginal delivery	168	08.0%
Elective caesarian section	341	16.2%
Emergency caesarian section	306	14.7%
Total	**2092**	**100%**

Table 3: Abnormal vaginal delivery

Mode of delivery	Frequency	Percent
Forceps delivery	041	24.4%
Preterm delivery	038	22.6%
Successful trial of scar	020	12.0%
Still birth	020	12.0%
Multiple pregnancy	020	12.0%
Vacuum delivery	011	06.5%
Assisted breech delivery	010	06.0%
Successful induction of labour	008	04.5%
Total	**168**	**100%**

With regards to indications of emergency caesarian section, it was due to contracted pelvis (13.3%) in labour, failure of progress (12%), while severe pregnancy induced hypertension constituted 11%, more than one previous scar (10.7%), fetal distress (10.4%), breech presentation (5.5%), and sizable baby (5.2%). Other indications which contributed negligibly were multiple pregnancy (4.3%), ante partum hemorrhage (4%), eclampsia (2%) and bad obstetrical history (2%). On the other hand, the main indication of elective caesarian section was contracted pelvis (35.5%), followed by multiple scars (24.9%). Other causes were bad obstetric history (7.6%) followed by sizable baby (6.4%), breech presentation (5.8%), pregnancy-induced hypertension (PIH) (2.9%) and (0.6%) multiple pregnancy as shown in table 4.

Table 4: Indications of caesarian sections

Indication	Emergency	Elective
Contracted pelvis	41(13.3%)	121(35.5%)
Failure of progression	36(12.0%)	_
Pregnancy induced hypertension	34(11.0%)	10(2.9%)
More than one previous scar	33(10.7%)	85(24.9%)
Fetal distress	32(10.4%)	_
Breech presentation	17(5.5%)	20(5.8%)
Sizable baby in labour	16(5.2%)	22(6.4%)
Multiple pregnancy	13(4.3%)	02(0.6%)
Bad obstetrical history	06(2.0%)	26(7.6%)
Others	78(25.6%)	55(16.3%)
Total	**306(100%)**	**341(100%)**

Discussion

The admission to the Obstetric and Gynaecology wards during 2003 was 2729, representing 29% of the total admission in the hospital. 83% of these admissions were due to obstetric causes, and 17% were due to gynaecological disorders. The study showed that malaria is the first cause of hospitalization (27.9%), followed by hypertension (18.6%). These findings are not in consistence with a study conducted in California during 1987-1992 to identify the reasons for hospital admissions, there were (833,264) hospitalizations for pregnancy complications, which included admissions for preterm labour (33%), genitourinary infection (16%), and pregnancy-induced hypertension (15%)[(5)].

A similar study in Atlanta-Georgia in 1997 showed that the causes had different order: Each of Hypertension and Hyperemesis gravidarum amounted to 9% of pregnancy-related admissions, while premature rupture of membranes and renal disorders ranked second, each compromising 6%[(6)].

The study showed that spontaneous vaginal delivery was the main type of delivery (61.1%) while caesarian section was higher than in other communities (30.9%). A similar review of admission statistics for 12 months from July 1, 2000 - June 30, 2001 in Mount Sinai Hospital-Chicago, revealed almost the same frequency of normal vaginal delivery (64.5%), but a lower percentage of caesarian sections (20.9%) and higher other vaginal deliveries (14.6%)[(3)].

It was shown in this study that forceps was the main cause of abnormal vaginal delivery followed by pre term delivery. In the review of Mount Sinai Hospital-Chicago, vacuum delivery had the highest contribution in the abnormal vaginal deliveries with 49.2%, followed by trial of scar (33.3%). Other modes of abnormal vaginal deliveries were Forceps

delivery, multiple pregnancies and breach delivery with 8.2%, 7.2% and 2.1 % respectively[3].

The study highlighted that there is a high level of caesarian sections (30.9%). Internationally it is debated that the rate of caesarian section is increasing considerably in the past few years but was coupled with substantial decrease in perinatal mortality[7]. However a caesarian rate of 6-8% is considered as reasonable and values above are undesirable[8]. The American College of Obstetricians and Gynaecologists studied caesarian section over 18- month's period and found out that the rate was 21.6% and the emergency procedure represented 3.3%[9].

On the other hand the rate of caesarian section in England in 1989 ascertained from a survey was 12%[8]. Norway organized in 1998/99 the breakthrough series on caesarian section in response to professional concerns about rising caesarian section rates and the public debate about the topic. The study revealed a rate of 13.5% in 1998 and 15.7% in 2002. An analysis of caesarian delivery in Jimma Hospital, south western Ethiopia demonstrated caesarian section rate within the accepted range 8%. During the study period, there were 1236 deliveries, of which only 100 were by caesarian section.

The study showed that the main indication of caesarian sections is contracted pelvis followed by failure of progress in case of emergency (13.3% and 12% respectively), Contracted pelvis and more than one previous scar in elective situation (35.5% and 24.9% respectively).

These findings were in agreement with statistics from Ethiopia, as contracted pelvis is also a leading indication for caesarian sections (44%)[10]. The study was also in consistence with a hospital-based study in USA in which contracted pelvis was a leading cause of caesarian section (5%) followed by breech presentation (3%) and fetal distress represented only 1.5%[11]. These findings are not in consistence with another study in which the most frequent indications were fetal distress, prolonged labor, previous caesarian section, breech presentation and maternal request[12]. On the other hand, the most common medical indication for elective caesarian delivery as shown by Quinlivan et al (2000) was more than one previous scar. Other indications included term breach presentation, placenta previa, severe intrauterine growth retardation, transverse and unstable fetal lie, cephalo-pelvic disproportion and pre-eclampsia[13].

Conclusion

Almost one third of the admitted patients in a Sudanese hospital are from obstetrics and Gynaecology with malaria in pregnancy as the main cause of admission .The rate of caesarian section seems to be higher than the international figures with contracted pelvis as the commonest indication in emergency situation and more than one previous scar in case of elective sections. The study highlighted the need for improving antenatal care services and the need to raise the awareness of doctors about these findings.

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