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Frequency of maternal & perinatal mortality and maternal morbidity among obstetrical patients referred with history of unattended pregnancy.

Amber Khawaja[1], Fiza Ali Khan[2], Asifa Abdul Jabbar[3], Naeem Akhter Khokhar[4], Saima Farook[5], Shahida Karamat[6]

1. MBBS
Woman Medical Officer
Areej Al Medinah Hospital, Karachi.
2. MBBS, FCPS
Senior Registrar Gynae Unit 2
DMC, CHK.
3. MBBS, FCPS
Assistant Professor Obstetrics & Gynaecology
Gambat Institute of Medical Sciences (GIMS), Khairpur Mirs,
4. MBBS, FCPS
Gynaecologist
Taluka Hospital.
5. MBBS, FCPS
Consultant Obstetrics & Gynecology
Hamdard Hospital, Karachi.
6. MBBS, FCPS
Assistant Professor Obstetrics & Gynecology
Bahria University Medical & Dental College

Correspondence Address:
Dr. Asifa Abdul Jabbar
Department of Obstetrics & Gynaecology
Gambat Institute of Medical Sciences (GIMS), Khairpur Mirs,
Safeer Autos, Agra Road, Gambat, Sindh.
asifaabduljabbarkhp@gmail.com

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ABSTRACT… Objective: To determine the frequency of fetomaternal morbidity and mortality among obstetric patients referred to tertiary care hospital with history of no antenatal visit. **Study Design:** Descriptive Case Series Study. **Setting:** Gambat Institute of Medical Sciences, Sindh Province. **Period:** June 2018 to December 2018. **Material & Methods:** About 175 pregnant females aged 18-35 years, having alive singleton pregnancy, gestational age >20-40 week without any history of obtaining antenatal care facility were included and followed-up till delivery and outcome were noted. **Results:** Mean age of females was 27.49 ± 4.46 years (18-35). Mean gestational age was 34.03 ± 4.07 weeks. About two third women (63%) were referred from rural areas. Maternal mortality rate was 12.6% while perinatal mortality was about 21.7%. Frequency of maternal morbidity of recorded as 34.9% case of hemorrhage, 36.6% case of anemia, 12.6% case of dystocia, 29.7% case of pre-eclampsia, 23.4% case of eclampsia & 19.4% case of sepsis. Maternal age was significant effect modifier for the frequency of pre-eclampsia, sepsis and maternal mortality ($p<0.05$). **Conclusion:** Maternal and perinatal morbidity & mortality are very high among women who have not attended the antenatal check-up. The major causes are haemorrhage, anaemia, pre-eclampsia/ eclampsia, dystocia and sepsis.

Key words: Anaemia, Dystocia, Eclampsia, Haemorrhage, Maternal Perinatal Morbidity, Mortality, Pre-eclampsia, Sepsis.

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INTRODUCTION

The antenatal care visit is defined as the contact of a pregnant females with health care professional during pregnancy.[1] Antenatal care can be delivered by the obstetrician, mid-wife or a general practitioner. It includes physical &hematological check-up, screening for gestational diabetes/ hypertension and education for care of pregnancy & planning for the delivery. Among the four components of World Health Organization's[2] Safe Motherhood plan, provision of ANC is a basic and very important component. The basis for ANC programs throughout the world was laid when in 1929, Dr. Janet Campbell stated, "The first requirement of a maternity service is effective supervision of the health of the woman during pregnancy.[3,4]

It was followed by a series of health services in England in which the antenatal visits at specified intervals were suggested mandatory for every pregnant woman. World Health Organization recommended at least four antenatal visits should be made by every pregnant woman. A pregnant female is booked or have appropriate antenatal care if she visited the health care facility of at least four times.[5-8]

An estimated 287000 maternal deaths occurred in 2010 worldwide while only Southern Asia accounted for 85% of this burden (245000 maternal deaths). This was due to low coverage/ use of ANC in this region of world. It is reported that during the period 2005–2012, about 55% of pregnant women attended the recommended minimum four times antenatal care however; in low-income countries, only 37% of pregnant women attended four antenatal care during

2005-2012. The remaining unbooked obstetrical emergencies constitute the main high risk group for maternal mortality proving a strong relation between non-use of antenatal care and maternal death.[2,9-11]

Maternal deaths rate is very high in Pakistani population i.e.; 276/100,000 live births. Most of these deaths occur because a high volume of pregnant women do not have access or do not want to use ANC in our country. Behind it there are certain factors (illiteracy, religious and sociocultural taboos, transportation problems, lack of skilled care during pregnancy etc.) but in front of it there is havoc for mother and child which may lead to death any of the two. Despite of these facts, there are no authentic data available which can show the magnitude of burden of maternal mortality among women who are referred to tertiary care emergency department for their delivery but have had no antenatal visit done. If these women can reach for a delivery then they could have reached for antenatal visit as well but they did not. This study is based on the rationale of assessing mortality in these women. This study have provided the evidence which will help devise strategies to educate & motivate these women for ANC in order to decrease the avoidable maternal morbidity and mortality.[12,13]

MATERIAL & METHODS

It was a descriptive case series. Study Conducted at the Gambat Institute of Medical Sciences from June 2018 to December 2018, Sindh Province. Married women of age between 18-35 years, with alive singleton pregnancy detectable on ultrasound presenting at gestational age 28-42 weeks without history of antenatal visit were included. Referred case was defined as pregnant females required medical pregnancy-related management and who were then referred to a tertiary care hospital were included. Females with grand-multiparity (>5 children), history of induced abortion, other associated chronic renal and hepatic diseases or gynecological tumors were excluded.

Demographic variables like name, maternal age, residence, socio-economic status, gestational age, gravida & parity were noted. The outcome variables i.e.; number of maternal deaths, morbidities (Hemorrhage (blood loss>1500ml), anemia (Hb drop >2g/dl), dystocia (Prolonged obstructed labour for >12hours), pre-eclampsia (BP≥140/90mmHg with proteinuria >±1 on dipstick), eclampsia (BP≥140/90mmHg with convulsions) and sepsis (foul smelling purulent vaginal discharge with fever (>98.6°F). The perinatal mortality was noted at the time of discharge of patient i.e. fetal deaths of ≥28 weeks' gestation plus the number of resident newborns dying <7days of life. Maternal mortality is referred to the death of referred women during labor or within postpartum period (till discharged from the hospital), irrespective of the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes.

RESULTS

Mean age of females was 27.49 ± 4.46 years. Patients presented at mean gestational age of 34.03 ± 4.07 weeks. The mean parity of females was 1.44 ± 1.08 children. About two third women (63%) were referred from rural areas and 76%. (Table-I).

There were about 61 (34.9%) patients who had hemorrhage, 64 (36.6%) had anemia, 22 (12.6%) had dystocia, 52 (29.7%) had preeclampsia, 41 (23.4%) had eclampsia and 26 (14.9%) had sepsis (Figure-1). Maternal mortality rate was 12.6% while perinatal mortality was 21.7%. (Table-II).

Characteristics	Means & Percentage
Age (Years)	27.49±4.46
Gestational age (Weeks)	34.03±4.07
Parity	1.44±1.08
Came from Urban area	37%
Came from Rural area	63%

Table-I. Characteristics of females n=175

Mortality	Frequency (%)
Maternal mortality	22(12.6%)
Perinatal mortality	38(21.7%)

Table-II. Frequency of maternal & perinatal mortality

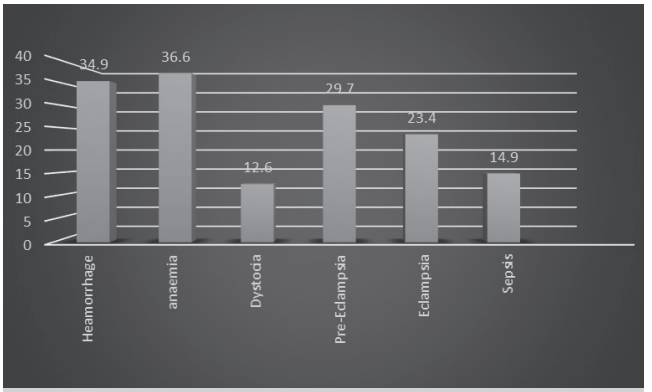

Figure-1. Frequency of maternal morbidities

DISCUSSION

Keeping in mind the culture and customs of every region of the world there are certain difference in the recommendations of antenatal visit but yet the basic premise is the similar which is to early detect the risk factors of maternal and neonatal morbidity and mortality and to prevent them. For its implementations there are acceptable remedial or curative interventions device internationally which are cumulatively called as antenatal care. These are must for pregnant women to have safe and healthy delivery.[14,15]

It is well known the most common factors leading maternal deaths in developing countries are haemorrhage (antepartum or postpartum), preeclampsia, eclampsia, obstructed labor and sepsis. Anemia caused due to high incidence rate of malaria in tropical region countries also causes significant increase in obstetrical morbidity &mortality. All these factors can be controlled to very low levels if the antenatal visits are completed thoroughly. But in our countries practices of antenatal visits are not don by 100% of pregnant women especially those living in peri-urban or rural areas. When they develop one or other complication then are referred to tertiary care setup. The current study has assessed the prevalence of maternal & fetal morbidity & its factors in such referred pregnancies.[14,16-21]

It was noted in this study that many of the referred case were of younger maternal age with a mean ± SD age of 27.49 ± 4.46 years. Most of cases presented with third trimester gestational age. It is common finding that the referred pregnancies are come late which may be because of either late diagnosis or lack of awareness about the severity of complications. Further; low educational level and financial constrains also many of such cases from early reaching to a tertiary care setup which was evident from the fact that more than half of referred cases in this study had monthly family income of less than 20,000 rupees.

It was found in this study that maternal mortality rate among referred women was 12.6% while almost double (21.7%) of that were cases of perinatal mortality. Other studies have reported that maternal mortality among non-ANC patients was about 8% while a perinatal mortality rate was documented to upto 32% which is much higher than our study. This discrepancy in rates is due to difference in the study population and regional difference as well. We found that the major contributors to the maternal and high fetal mortality are haemorrhage (35%), anaemia (36.6%), pre-eclampsia (29.7%) & eclampsia (23.4%) while other but less potential factors were sepsis (15%) and dystocia (12.6%). Prior studies have found more or less similar picture. These factors are universally accepted as main culprits of maternal & perinatal health.[20,21]

It has been found that hemorrhage is the leading cause of maternal mortality all over the world, about>30% maternal mortality in Asian and African countries. In the current study it accounted for about one third of cases of maternal morbidity. Antepartum haemorrhage was major reason and affected about half of all haemorrhage patients.[21]

In a recent study it was found that in suburbs of Karachi, only 51% women received antenatal care in their most recent pregnancy. A study from Nigeria found that among the women who presented to a tertiary care hospital without any antenatal visit, the maternal mortality was 7.86% (48/610) compared to 0.76% (4/523) among those females who had done at least one antenatal care visit (P value <0.05).Maternal morbidity is also very common in such patients. Common morbidities found were pre-eclampsia (20%), eclampsia (33%), Puerperal sepsis (17%)

hemorrhage (51%), anaemia (21.2%) & dystocia (14.8%). Perinatal mortality rate as documented by one study was 32.5% in cases that did not go for antenatal checkup throughout the pregnancy.[20-23]

As per World Health Organization, 39.1% (95% CI;29.6-49.5%) Pakistani females who are pregnant have anemia. While in a local study Siddiqui SA, et al. found that sever anemia was present in 21.2% patients, one third patients in current series were found to anemic. This study also found that age of females, parity, residence and monthly family income also do affect the incidence of maternal and perinatal morbidity as well as mortality. in current study it was found that with increasing age the frequency of haemorrhage increased which may be due to laxity of women's uterine vasculature with age.[24]

Confidential investigationsto determine the causes of frequent maternal deaths is lack of antenatal care as a risk factor for maternal death. The major reasons of pregnancy-associated maternal deathsin developing countries are antepartum or postpartum hemorrhages, preeclampsia, eclampsia, obstructed labor or sepsis, etc., while these conditions can be detected earlier and prevented if pregnancy is supervised by healthcare practitioner through antenatal care. The most commonly observed hindrances to visit forantenatal care are the poor socioeconomic status, illiteracy, ethnicity or residential areas, troubles in getting appointment for antenatal care and longer distance between health care facility and residence of pregnant female.[16-19]

All the interventions to save motherhood focus on preventing and controlling these issues. The achievement of the"antenatal screening program" depends on presence of noticeable pre-morbid condition in pregnancy and presence of adequate, efficient and operational interventions. Cultural practices should be customized so that they donot hurdle or minimize the acceptability and effectiveness of the antenatal care interventions. These therapies for decades have been playing key role in improving maternofetal health in developed countries.

Assessment of maternal and perinatal morbidity as well as mortality is only a step of knowing the severity of condition of referred cases. The actual task is to reduce the maternal mortality. We need to understand the underlying mechanisms which drive the conditions serious and address them through practical ways.[25,26] The current study has highlighted a very crucial area regarding maternal health complications in our setting. Yet there were certain limitations of this study. One is that there was short time and resources and sample was not very large. Therefore it might not represent the actual rates of maternal morbidity & mortality. In depth analysis of other factors may also give more elaborative results which may be conducted in future researches studies.[26]

CONCLUSION

On the pattern of developed countries, the antenatal screening is the most important solution which can work in developing countries will in reduction of maternal mortality. The current study recommends the regular and complete antenatal check-up of pregnant women throughout the population. This recommendations is based on the results found in this study which show that maternal and perinatal morbidity & mortality are very high among women who have not attended the antenatal check-up. The major causes are haemorrhage, anemia, pre-eclampsia/ eclampsia, dystocia and sepsis. Rapid and near access to antenatal care services will contribute significant reductions in maternal mortality.

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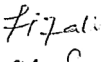
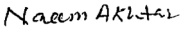
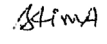
AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Amber Khawaja	Conception and design, Statistical expertise.	
2	Fiza Ali Khan	Critical revision of the article for important intellectual content.	
3	Asifa Abdul Jabbar	Data collection critical revision of drafting of the article.	
4	Naeem Akhter Khokhar	Data collection.	
5	Saima Farook	Data collection.	
6	Shahida Karamat	Drafting.