

Factors Associated with intrauterine fetal demise: A retrospective Record Based study In a Tertiary Care Hospital Mandya

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ABSTRACT

Background: An Intrauterine Fetal Demise (IUFD) is a major obstetrical catastrophe at any gestational age but the emotional pain and distress caused by this event increases in direct relation to the duration of pregnancy. The objective of the present study was to determine the possible causes of Intrauterine Fetal Demise (IUFD), and to determine preventive measures. Intra uterine fetal death (IUFD) is defined as fetal death after 20weeks of gestation. It can be further classified into early or late IUFD. Early IUFD, if fetal death occurs before 28 weeks of pregnancy and late IUFD, if fetal death after 28 weeks.

Materials and methods: This is a retrospective study carried out in the Department of OBG, at Mandya Institute of Medical Sciences, Mandya, Karnataka, India, for a period of 1 year. Approximately 7500 deliveries are conducted per year in the hospital; the majority of patients belong to below poverty line income group. All the pregnant women delivered at the hospital at or after 20 weeks of gestation with Intrauterine Fetal Demise or Fresh Still Birth, were included in present study. The parameters for the analysis included maternal age (<20 years, 20- 30 years and >30 years), parity, and probable cause for IUFD (if found on gross examination, preexisting maternal or fetal complication diagnosed during pregnancy), booked case or unbooked case, mode of delivery (vaginal /LSCS/ Laparotomy), maternal complications-early and late IUFD.

Result: There was a total of 7500 deliveries with 142 cases of intrauterine fetal demise (IUFD). When maternal characteristics were studied (Table 1), 93 of the mothers were between 21-30 years of age (65.49%). 19 were less than 20 years (13.38%) and 30 in more than 30 years (21.12%) of age group. Out of 142 women, 61 were primigravida (42.9%) and 81 were multigravida (57.04%). 90% of them had non consanguineous marriage. When gestational age was observed, 33 of the IUFDs were less than 28 weeks (23.23%) of gestation. 69 were between 28-34 weeks (48.59%), 40 were more than 34 weeks (28.16%). 103 (72.53%) had vaginal delivery and 39 (27.46%) had Caesarean delivery for other obstetric indication. When fetal parameters were studied 88 (61.97%) were boys and 54 (38.02%) were girl babies.

Conclusion: This study was conducted to determine the incidence of IUFD and associated maternal risk factors. By understanding the contributing factors, we can seek ways of avoiding recurrence by proper antenatal care and early diagnosis of complications and its proper management. Antenatal screening for anemia, preeclampsia, previous pregnancy loss and antenatal supervision can play an important role in decreasing the incidence of IUFD. By determining the cause of IUFD the chances of recurrence can be reduced and further pregnancy complications can be prevented.

Keywords: Maternal, Fetal outcome, Risk factors, IUFD.

INTRODUCTION

An Intrauterine Fetal Demise (IUFD) is a major obstetrics catastrophe at any gestational age but the emotional pain and distress caused by this event increases in direct relation to the duration of pregnancy. Lot of importance is given for maternal, neonatal and child health all over the world. There is increasing attention and investment in the field of maternal and neonatal health care but still births remain most under studied or documented.^[1]

Intra uterine fetal death (IUFD) is defined as fetal death after 20weeks of gestation. It can be further classified into early or late IUFD. Early IUFD, if fetal death occurs before 28 weeks of pregnancy and late IUFD, if fetal death after 28 weeks.^[2]

The causes of IUFD, in a large percentage of cases remain unknown, even where extensive testing and autopsy have been performed. A rarely used term to describe this is “sudden antenatal death syndrome” or SADS, a phrase coined by Cacciature and Collis in 2000.^[3] Many still births occur at full term to apparently healthy mother and a post-mortem evaluation reveals a cause of death in only 40% of autopsied cases.^[4]

It is important to investigate the cause of IUFD. If the cause of an IUFD can be identified, the family will have answers about the possibility of recurrence and can seek appropriate medical

treatment to prevent recurrence. Identification of causes of IUFD will be helpful in counselling the parents as well as for formulating preventive measures.^[5] Health education to encourage the utilization of the available antenatal care services, family planning and genetic counselling are being advocated strongly as possible preventive measures.^[6] Objectives of this study were to find out the incidence and possible causes of IUFD, and to suggest preventive measures.

MATERIALS AND METHODS

This is a retrospective study carried out in the Department of OBG, at Mandya Institute of Medical Sciences, Mandya, Karnataka, India, for a period of 1 year. Approval taken from Institute scientific committee. Approximately 7500 deliveries are conducted per year in the hospital; the majority of patients belong to below poverty line income group.

Inclusion Criteria

All the pregnant women delivered at the hospital at or after 20 weeks of gestation with Intrauterine Fetal Demise or Fresh Still Birth, were included in present study.

The parameters for the analysis included maternal age (<20 years, 20- 30 years and >30 years), parity, and probable cause for IUFD (if found on gross examination, preexisting maternal or fetal complication diagnosed during pregnancy), booked case or unbooked case, mode of delivery (vaginal /LSCS/ Laparotomy), maternal complications-early and late IUFD.

Statistical Analysis

Data collected were compiled and entered in MS Excel spreadsheet and analyzed using appropriate statistical tools in Open Epi statistical software, version 2.3.1.

RESULTS

Table-I: Distribution of Maternal Age

Age	Total Number of Cases	Percentage
<20	19	13.38
21-30	93	65.49
>30	30	21.12

There was a total of 7500 deliveries with 142 cases of intrauterine fetal demise (IUFD). When maternal characteristics were studied (Table 1), 93 of the mothers were between 21-30 years of age (65.49%). 19 were less than 20 years (13.38%) and 30 in more than 30 years (21.12%) of age group.

Table-II: Distribution of Gestational Age

Gestational Age	Total Number of Cases	Percentage
<28 weeks	33	23.23
28-34 weeks	69	48.59
>34 weeks	40	28.16

When gestational age was observed, 33 of the IUFDs were less than 28 weeks (23.23%) of gestation. 69 were between 28-34 weeks (48.59%), 40 were >34 weeks (28.16%) in Table II.

Table-III: Distribution of parity

Parity	Total Number of Cases	IUFD
Primigravidae	3500	61 (42.9%)
Multigravidae	4000	81 (57.1%)
Total	7500	142 (100%)

Out of 142 women, 61 were primigravida (42.9%) and 81 were multigravida (57.01%) in Table III.

Table IV: Distribution of Consanguinity

Yes	13	9.15
No	129	90.84

In Table IV, 90% of them had non consanguineous marriage

Table V: Distribution of Mode of delivery

Vaginal	103	72.53
Caesarean	39	27.46

In Table IV, 103 (72.53%) had vaginal delivery and 39 (27.46%) had Caesarean delivery for other obstetric indication.

Table VI: Distribution of Sex of baby

Boy	88	61.97
Girl	54	38.02

In Table VI, when fetal parameters were studied 88 (61.97%) were boys and 54 (38.02%) were girl babies.

Table VII: Distribution of Maternal Complications

Complications	Number	Percentage
HTN Disorder	57	40.14
Anaemia	39	27.46
PROM & Preterm Labour	41	28.87
Gestational Diabetes	5	3.52

In table VII, hypertensive Disorder (40.14%) was the commonest obstetric complication in these mothers followed by PROM & Preterm Labour (28.87%), anaemia (27.46%), and Gestational Diabetes (3.52%).

DISCUSSION

In this study, a total of 7500 deliveries with 142 cases of intrauterine fetal demise (IUFD) were there. This may probably be due to poor maternal health condition, low socio-economic status and less visits to health care facility.

Death of a fetus is a distress to the family as well as to the obstetrician. Despite the advances in diagnostic and therapeutic modalities, stillbirth rates in developing countries are still high.^[10] Hence, proper documentation and evaluation of the risk factors will be very helpful in management aspect as well as advocating plan in maternal health sector.

Among different risk factors for IUFD, PIH, anaemia and PROM, APH, LBW were found in majority. Similar observation were reported by other studies too.^[8-11] PIH cases were more likely to have placental insufficiency with high risk for fetal death. Timely interventions can reduce complications like abruption, IUGR and Stillbirth.^[12] Iron preparation are free of cost from government supply to pregnant ladies, Iron deficiency anaemia still accounts comparable to study conducted by Choudhary A and Gupta V.^[13] Deworming and consumption of nutritious diet during pregnancy is must. Majority (63.69%) of stillbirth babies belonged to LBW as compared to Mathuriya et al.^[14]

Majority of risk factor for intrauterine fetal death like hypertension, placental abruption and anaemia will be preventable with timely ANC. Early detection of high-risk pregnancy and timely referral to equipped centre will definitely reduce IUFD ratio. Health education and emphasis on institutional delivery under supervision of skilled personnel needs to be propagated in the community aggressively. This will help in reducing a number of preventable fetal deaths and huge loss of our national assets.

CONCLUSION

This study was conducted to determine the incidence of IUFD and associated maternal risk factors. understanding the contributing factors, we can seek ways of avoiding recurrence by proper antenatal care and early diagnosis of complications and its proper management. Antenatal screening for anemia, preeclampsia, previous pregnancy loss and antenatal supervision can play an important role in decreasing the incidence of IUFD. By determining the cause of IUFD the chances of recurrence can be reduced and further pregnancy complications can be prevented.

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