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PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1288770>Available online at: <http://www.iajps.com>**Research Article****PERIPARTUM HYSTERECTOMY: INDICATIONS, MODE OF DELIVERY, HYSTERECTOMY TYPE, MATERNAL AND NEONATAL OUTCOMES**<sup>1</sup>Dr. Hassan Iftikhar, <sup>2</sup>Dr. Komal Sakhawat, <sup>3</sup>Dr Usman Mumtaz<sup>1</sup>DHQ Hospital Kasur<sup>2</sup>Rawalpindi Medical College/ HFH/ BBH<sup>3</sup>Services Hospital Lahore**Abstract:**

**Objectives:** To find out the variable factors affecting IPH (Inevitable Peripartum Hysterectomy), its impact on the maternal and fetal health and other demographic variables involved in hysterectomy.

**Methodology:** The study was conducted for twenty-two patients who underwent IPH during the time period of July 2016 to June 2017 at Allied Hospital, Faisalabad.

**Results:** The mean of the ages of the sample was calculated as 32.4 years. The sample age ranged from 18 years to 47 years. It has been observed that the incidences of IPH have increased with the increase in parity. The sample consisted of para 1 to para 9. Almost all the patients (21 cases) were referred from other healthcare facilities and most of them (16 cases, 72.7%) were not receiving prenatal care. Uterine atony and cracked uterus were the important indications for inevitable peripartum hysterectomy (IPH). The mode of delivery was decided on the basis of patients' condition and involved abdominal, C-section and vaginal deliveries. The mortality rate was higher in case of perinatal mortality (77.3%) than maternal mortality (59.1%).

**Conclusion:** The study concluded that ruptured uterus is a major factor and indication for Inevitable Peripartum Hysterectomy (IPH). Although the mortality rate in our study is very high but it is the poor ruptured uterus in pre-surgical state which is responsible for the high mortality rates not the IPH.

**Key Words:** Peripartum and Hysterectomy.

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**INTRODUCTION:**

In some countries including Nigeria, the removal of uterus is often refused by the patients due to the cultural and family issues. The only exception to this is IPH when the patient has no choice but to opt for hysterectomy.

The health care system for the mother and the new born does not meet the minimum quality standards in most of the under developed countries. Nigerian health system is also facing such problems. Nigeria is one of the nations with high birth rate, lower household income and poor health facilities which results in the undesired maternofetal outcomes.

The hysterectomy procedure becomes unavoidable in order to save the patient's life in cases of hemorrhage during the child birth [1]. Hemorrhage, in most of the under developed countries, is one of the three major factors which are directly related to the complications and deaths in pregnant women [2]. Cracked uterus [3] is another major complication observed in women requiring IPH. Ruptured uteruses often result in the high mortality rate for the new born babies [5]. Recently many studies have confirmed that placenta accereta is an important symptom for emergency hysterectomy [4]. The high rate of C-section procedure and successful uterine treatment are the leading factors for this. Our study was aimed at finding out the indications for unavoidable hysterectomy procedure in a hot country to examine the outcomes in the maternal and fetal side.

**PATIENTS AND METHODS:**

The study was conducted for twenty-two patients who underwent IPH during the time period of July 2016 to June 2017 at Allied Hospital, Faisalabad. Medical history for each patient was obtained. The study included twenty-two patients who underwent IPH during the final three months of the pregnancy. The IPH procedure was applied when deemed necessary (during labour and delivery) in cases of obstetrics hemorrhage.

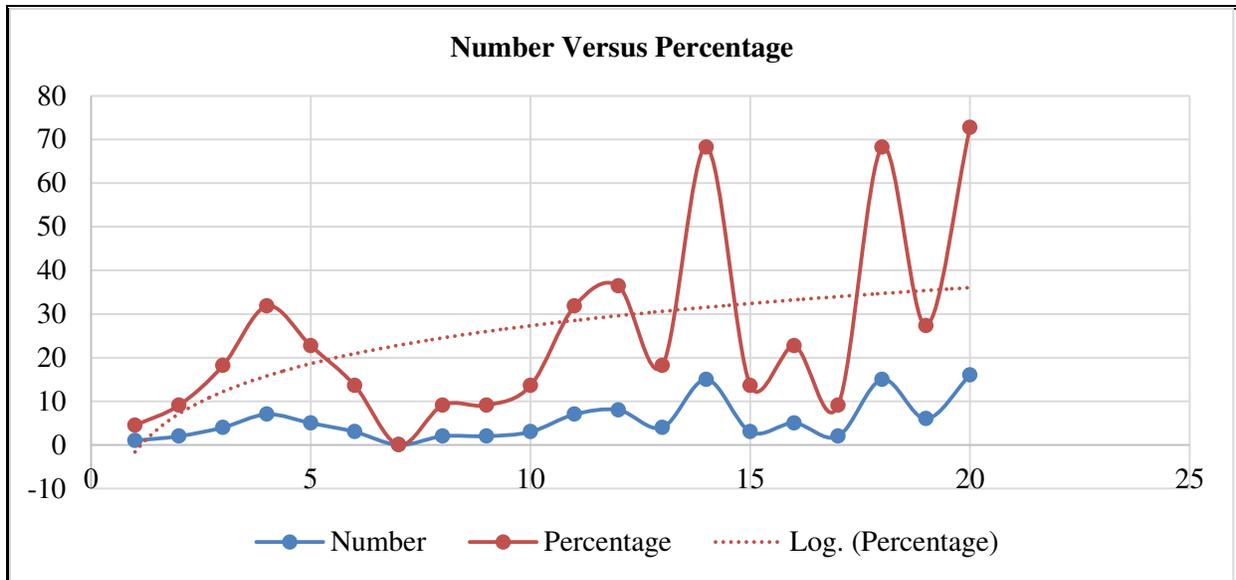
It was important to note the time gap between the diagnosis & IPH surgery which was dependent upon multiple factors. The factors include speed and effectiveness of emergency breathing procedures like CPR, hospital fee, blood transfusion requirements, availability of OT, availability of surgeons & paramedical staff etc. The outpatient unbooked subjects were more prone to delays in surgical procedures due to these factors.

**RESULTS:**

The history sheets of the patients were evaluated. The mean age of the sample was 32.5 years. The sample age range was between 18 to 47 years. 72% of the patients did not visit the clinic before the IPH surgery. These were referred from other health centers. Available menstrual & ultrasound record was analyzed for each patient. The pregnancy/gestational period were calculated to be 35 to 42 weeks.

**Table – I: Profile of Patients**

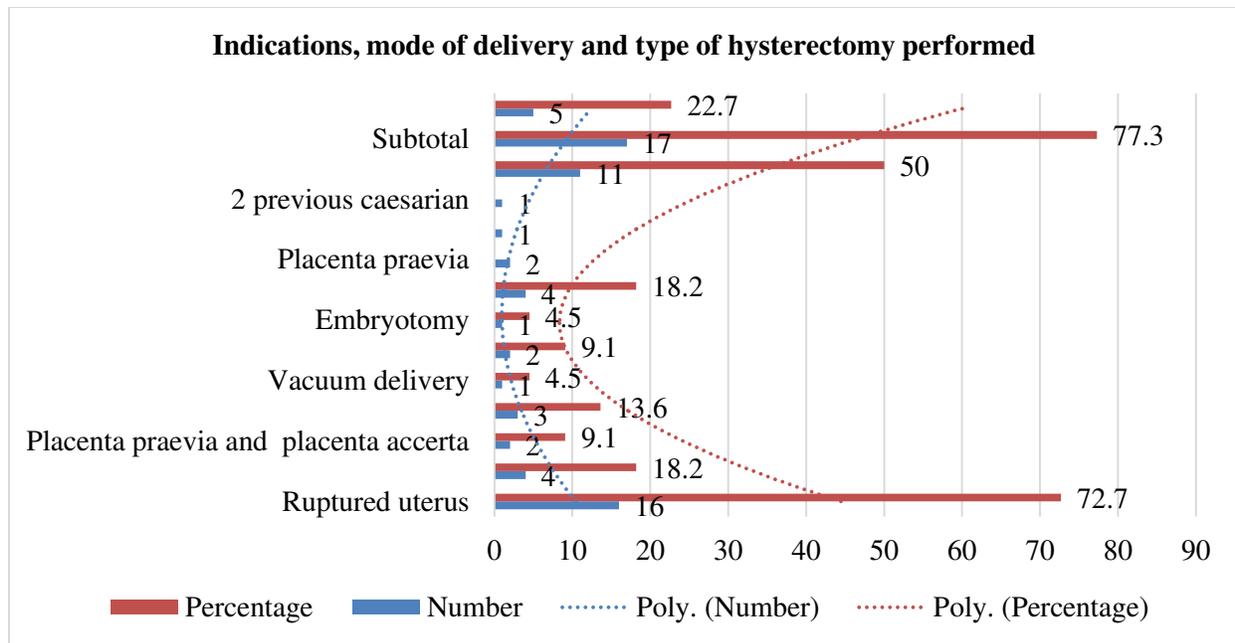
	Patient's Profile	Number	Percentage
Age (Years)	15 to 19	1	4.5
	20 to 24	2	9.1
	25 to 29	4	18.2
	30 to 34	7	31.8
	35 to 39	5	22.7
	> 40	3	13.6
Mean age 32 years Parity	Zero	0	0
	One	2	9.1
	Two	2	9.1
	Three	3	13.6
	Four	7	31.8
	> Five	8	36.4
Gestational period at delivery	Preterm	4	18.2
	Term	15	68.2
	Post term Previous uterine scar	3	13.6
	Previous caesarean section scar	5	22.7
	Previous myomectomy scar	2	9.1
	No previous scar	15	68.2
Antenatal care booking status	Booked	6	27.3
	Un-booked	16	72.7



Previous delivery procedure/mode was noted for the sample. 68.2% of 22 patients were clear of scars, 27.2% had a scar (C-section) whereas 9.1% had fibroids. 72.7% of the sample was found with ruptured uterus requiring hysterectomy (IPH). However other indications were less significant; placenta previa in 45% cases % uterine atony in 13.6% cases.

**Table – II:** Indications, mode of delivery and type of hysterectomy performed

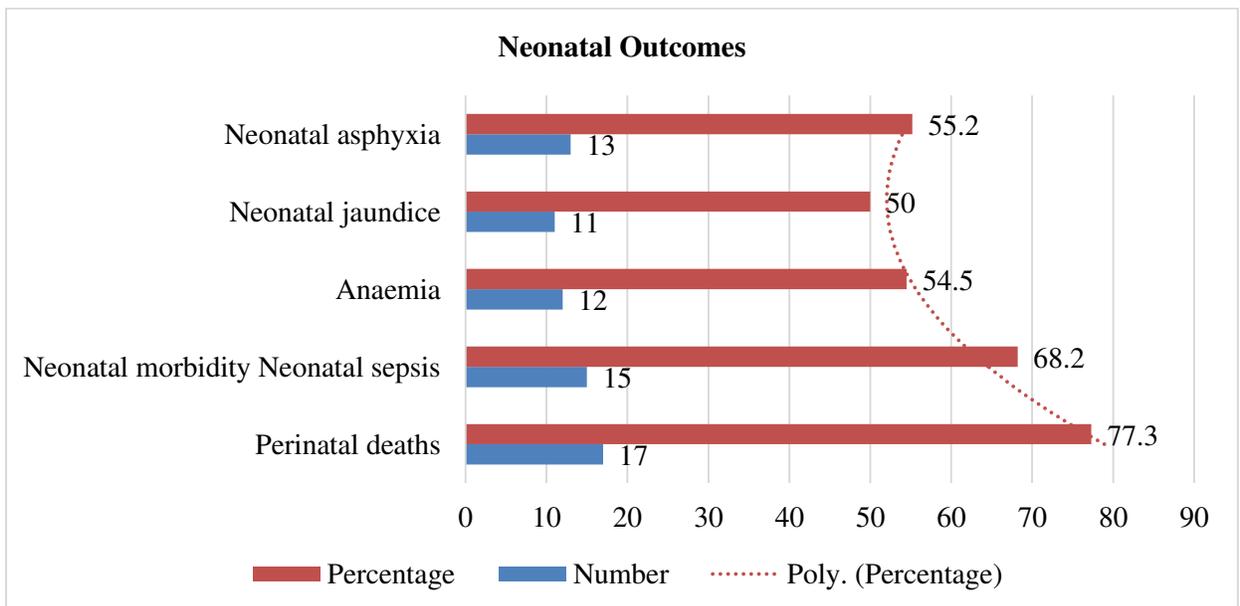
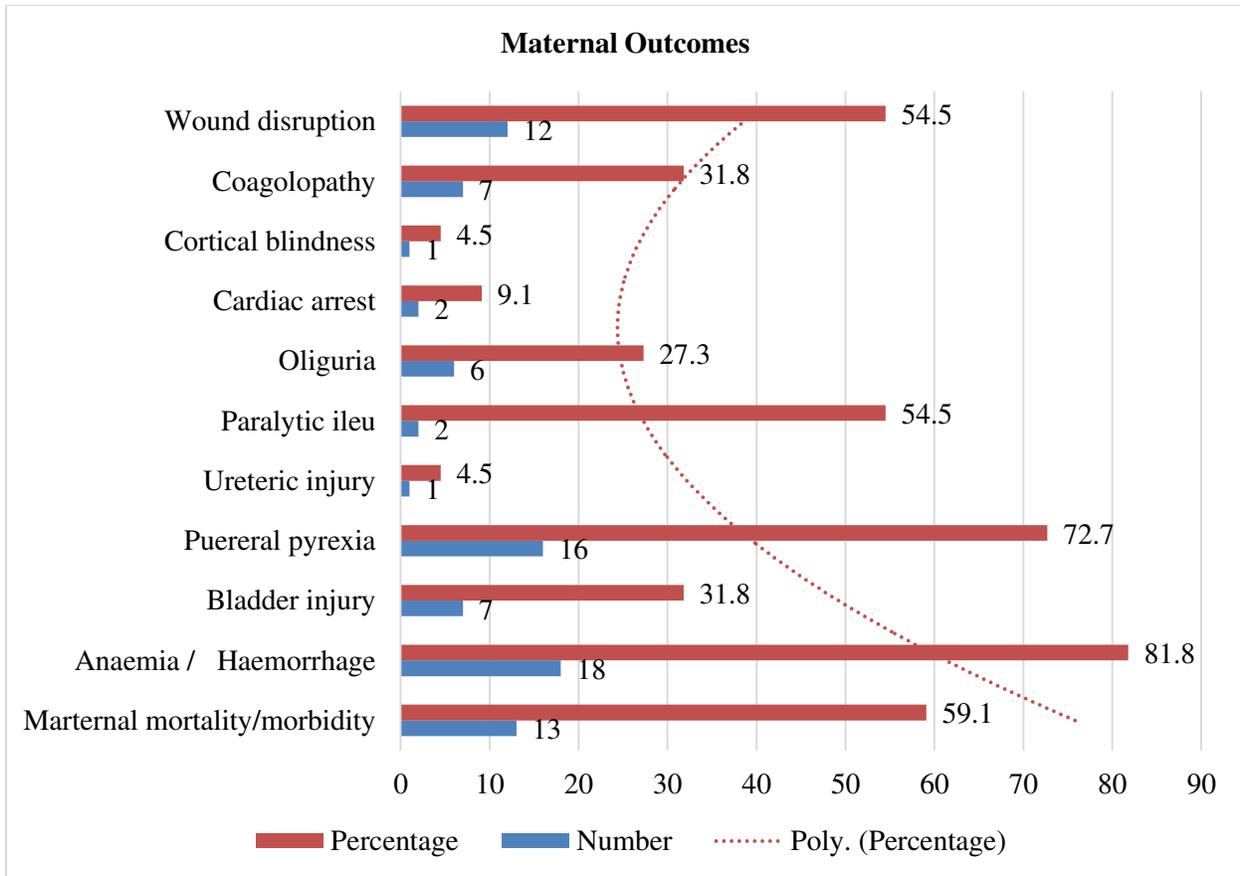
	Indications	Number	Percentage
<b>Ruptured Uterus</b>	Ruptured uterus	16	72.7
	Uterine atony	4	18.2
	Placenta previa and placenta accrete	2	9.1
<b>Mode of Vaginal Delivery</b>	Normal vaginal delivery	3	13.6
	Vacuum delivery	1	4.5
	Breech extraction (second twin)	2	9.1
	Embryectomy	1	4.5
<b>Abdominal delivery</b>	Caesarean section	4	18.2
	Placenta previa	2	
	Fetal distress	1	
	2 previous caesarians	1	
	Laparotomy for ruptured uterus	11	50
<b>Type of hysterectomy</b>	Subtotal	17	77.3
	Total	5	22.7



Different modes of delivery were utilized according to the situation of the patients. Eleven patients (50%) had to go for abdominal delivery due to ruptured uterus; four patients (18.2%) had to go for C-section whereas three patients were having normal spontaneous vertex delivery. Some other types of deliveries were also carried out which include cutting of fetuses to aid in abdominal delivery (embryotomy, 14.5%), breech extraction (when the baby position is not normal, 9.1%) and vacuum delivery (4.5%). The C-section was inevitable in cases of placental dislocation (2 cases), previous cesareans (1 case) and fetal distress (1 case).

**Table – III:** Clinical outcome of inevitable emergency peripartum hysterectomy

Maternal outcomes	Number	Percentage
Maternal mortality/morbidity	13	59.1
Anemia/Hemorrhage	18	81.8
Bladder injury	7	31.8
Puerperal pyrexia	16	72.7
Ureteric injury	1	4.5
Paralytic leu	2	54.5
Oliguria	6	27.3
Cardiac arrest	2	9.1
Cortical blindness	1	4.5
Coagulopathy	7	31.8
Wound disruption	12	54.5
Neonatal outcomes	Number	Percentage
Perinatal deaths	17	77.3
Neonatal morbidity Neonatal sepsis	15	68.2
Anemia	12	54.5
Neonatal jaundice	11	50
Neonatal asphyxia	13	55.2



Hysterectomy procedure was adopted for 15 subjects in cases of abdominal delivery. IPH was conducted in 7 cases in vaginal deliveries. The mortality rate in our study was very high (59.1% for maternal and 77.3 % for fetal segment). The maternal mortality was mostly due to the hemorrhage in ruptured uterus whereas fetal mortality was due to the complications of anemia, infection in immune system, jaundice and low quantity of oxygen in the body.

**DISCUSSION:**

Complications during and after delivery period are sometimes intense enough for removal of uterus. In some societies, the tendency of a large family and menses are given much importance. In those societies, the families try to avoid the hysterectomy procedure as far as possible. In our study, Inevitable Peripartum Hysterectomy is 1.83 per thousand birth cases which is comparable to IPH cases in America (1.2 – 2.7 per thousand cases [7, 8]. The European countries' statistics revealed that the incidences of IPH are lower than those reported by our study; Norway, 0.3 per thousand [10] and Ireland, 0.2 per thousand [9].

The rate of IPH is higher in USA as compared to Europe due to the fact that most of C-section cases in USA with placental complications are treated through hysterectomy [4, 6, 7].

In our analysis, hysterectomy after C-section was 0.5 per thousand births which is lower than the findings of a study conducted in Netherlands (1.6 per thousand cases) [1]. IPH after spontaneous vertex delivery reported in our study was 0.41 per thousand cases which was higher as compared to Europe and USA [4, 6, 8].

In many countries, the emphasis is given on vaginal deliveries to avoid surgical procedures in order to produce more children [12]. That's why the C-section cases are reduced in many countries despite of the no-standard and pathetic antenatal/perinatal healthcare facilities.

In our study ruptures uterus is considered as the leading cause for IPH contrary to the findings of the other studies conducted in USA where abnormal placental attachment was considered as the most important indication for peripartum hysterectomy. In most of the cases in our study, the uterus was ruptured at the time of visit [15] and fetus shifting to peritoneal cavity. The delays due to financial problems and blood requirements make the situation even worse. Almost in all studies including this, sub-total hysterectomy was performed and found to be the best procedure especially in the cases of gravid ruptured uterus [3]. The morbidity and complications are reduced to minimum as the damaged uterus is removed.

The maternal mortality (59.1%) was very high in our study as compared to another study led by Anneka (4%). This was probably due to poor condition of uterus at the time of presentation instead of IPH

procedure. Another study of 163 patients by Ghatak [3] produced the maternal mortality of 46.5% (Mostly caused by ruptured uterus) which is comparable to the findings of the study.

The fetal mortality (77.3 %) in our analysis was very high as compare to the findings of another study conducted in Netherland (6.3%) [1]. The high fetal mortality was due to delay in medical intervention hemorrhage complication in the uterus. Ghatak and Greone reported fetal death of 93% and 100% respectively [17] whereas Makinde et al reported 17.6% mortality rate [18].

It is pertinent to highlight that the increase mortality rate is due to the ruptured uterus and associated complications. The IPH procedure is not responsible for the high mortality rate in both maternal and fetal cases.

**CONCLUSION:**

The study concluded that ruptured uterus is a major factor and indication for Inevitable Peripartum Hysterectomy (IPH). Although the mortality rate in our study is very high but it is the poor ruptured uterus in pre-surgical state which is responsible for the high mortality rates not the IPH.

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