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Research Article

**THE DEMOGRAPHIC FEATURES DUE TO WHICH A
SERIOUS OBSTETRIC PATIENT WAS SHIFTED TO ICU**¹Obaidullah Qureshi, ²Iqra Aslam, ³Muhammad Ammar Ashraf¹Ghazi Khan Medical College D.G Khan²Shaheed Mohtarma Benazir Bhutto Medical University³Sheikh Zayed Medical College Rahim Yar Khan**Abstract:**

Objective: The aim of the study was to highlight the demographic features due to which a serious obstetric patient was shifted to ICU. The treatment of these patients in ICU is also included in the objectives of study.

Methods: This was an illustrated and backdated study organized between August, 2017 and June 2018. The place of organization of this study was Services Hospital, Lahore, Pakistan. The patients selected for the study were from the department of Obstetrics and Gynaecology and seriously ill females. They were shifted to intensive care unit. A proforma was designed for the assemblage of demographic information of every patient. This information also includes involvement of patient in department, their attestation and initial identification, logics of transferring to ICU, treatment and stay. Ultimate results were also recorded in the proforma. Using SPSS 21, information was assessed.

Results: Total patients included in this study were 150. The mean age of the patients was 30.3 ± 5.047 years. The number of patients who needed ventilator support was 38 (25.3 %). However, support of oxygen and inotropic was given to 112 (74.7 %) patients. 41 (27.3 %) was the final death rate of females. From these 41 patients, patients with ventilator and without ventilator were 22 (57.8 %) and 19 (16.9 %) respectively. In ICU, the mean stay was 4.47 ± 2.53 days. The most common factors that leads to the shifting of patients to intensive care unit were eclampsia / pre-eclampsia, bleeding disorders and septic trauma with the ratio of 80 (53.33 %), 25 (16.65 %) and 24 (16 %) respectively.

Conclusion: The female patients who died were mostly supported with ventilator. Main factors that leads to the shifting of patients to intensive care unit were bleeding disorders and hypertensive.

Keywords: Outcome, ICU, Critically ill, Obstetric patients.

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INTRODUCTION:

Between the time period 1990 and 2015, three fourth of the death rate of mothers is decreased through the Millennium Development Goal (MDG) 5A. Approximately 400 females died per 100,000 live births in 1990. On individual basis, the maternal mortality rate is enhancing in countries. Although, in 2010 this ratio has decreased to 210 (-47 %) [1]. 75.80 % death of mothers are due to major direct factors of maternal mortality [1]. On the basis of investigations of World Health Organization (WHO), the incidence MMR in Pakistan was 490 in the year 1990. However, in 2010 this ratio decreased to 260 (-46%) [2]. Different difficulties during pregnancy may lead to the death of patient. These difficulties may include risky abortion, long term labour, high level of blood pressure (HBP) and eclampsia. Moreover, other socio-economic factors may also lead to death in one way or the other. The other factors that push close to risky events are hypertensive diseases and haemorrhage [3].

Such patients are transferred to ICU due to their serious condition. This thing is being followed by all hospitals where ICU is available. ICU is still not found in the hospitals of backward areas. The aim of the study was to highlight the demographic features due to which a serious obstetric patient is shifted to ICU. The treatment of these patients in ICU is also included in the objective of study.

PATIENTS AND METHODS:

This was an illustrated and backdated study organized between 27 August, 2017 and June, 2018. The place of organization of this study was Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, Pakistan. The patients selected for the study were from the department of Obstetrics and Gynaecology and seriously ill females. They were shifted to intensive care unit.

All the patients shifted to ICU were from the department of Ob/Gynin emergency. These patients were very serious. Some voluntary patients were also included who became serious afterwards. More treatment was given to these patients in ICU.

There were some patients who were serious but their case was solved in the department of Ob/gynin emergency. So, they didn't need to shift to intensive care unit for further treatment. A proforma was designed for the assemblage of demographic information of every patient. Institutional ethics review board approved this proforma. The information also includes involvement of patient in department, their attestation and initial identification, logics of transferring to ICU, treatment of patients

and their stay. Ultimate results were also recorded in the proforma. Using SPSS 21, information was assessed. The results of demographic features were calculated. For quantitative variables, mean \pm standard deviation (SD) were used. Whereas, for quantitative variables, percentages and frequencies were calculated.

RESULTS:

Total patients included in this study were 150. The mean age of the patients was 30.3 ± 5.047 years (range: 16 – 50 years). The number of patients who needed ventilator support was 38 (25.3%). However, support of oxygen and inotropic was given to 112 (74.7%) patients. 41 (27.3%) was the final death rate of females. From these 41 patients, patients with ventilator and without ventilator were 22 (57.8%) and 19 (16.9%) respectively. 2.49 ± 2.207 (range: 0 – 10) was the value of mean equality. The female who were pregnant for the first time were seven (4.6%). The indirect relationship was found between parity and number of total difficulties ($P > 0.05$).

The patients who had lower segment Caesarean section (LSCS), peritonitis, without burst abdomen were 16 (10.66%). Moreover, patients who had lower abdominal pain and amenorrhea of about one month were 3 (2.0%), indications of peritonitis and record of induced labour were found in 5 (3.33), presence of discharge of fits and foul smelling, bleeding PV and record of hospital delivery was noticed in 6 (4.0%) and home delivery and other indications along with foul smelling vaginal discharge or bleeding per vagina (PV) was noticed in 19 (12.66%) patients. Initially, fever and other indications like HBP, dyspnea was observed in 32 (21.3%) patients, related indications of fits were found in 61 (40.6%) and number of patients who had been in hospital with 28 – 40 weeks of pregnancy were 93 (62%). On the other hand, the patients with fits and expecting for less than 28 weeks were 4 (2.66%).

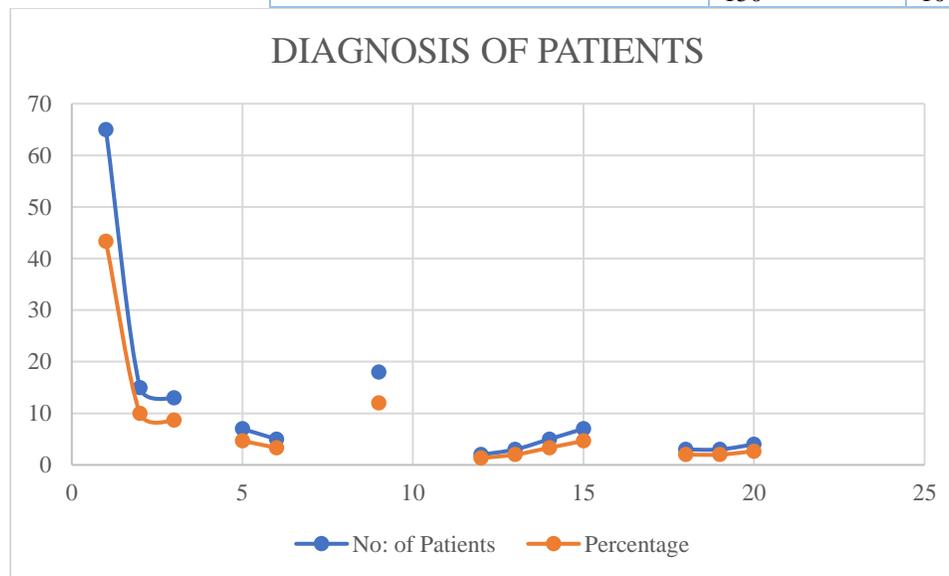
A total of 18 (12%) patients were found with ofpris, antepartum haemorrhage were observed in 5 (3.33%) patients and primary PPH and secondary PPH was found in 13 (8.66%) and 7 (4.66) respectively. The indications of eclampsia and pre-eclampsia were found in 65 (43.33%) and 15 (10%) respectively.

From those participants who were in hospital from beginning, LSCS was observed in 70 (46%) patients. And spontaneous vaginal delivery was noticed in 16 (10.7%). From other patients, total abdominal hysterectomy was observed in 4 (2.7%), laparotomy in 16 (10.7%), subtotal abdominal hysterectomy in 23 (15.3%) and removal of retained products of

conception (RPOC) was noticed in 4 (2.7%)

Table No 01: Initial Diagnosis of patients

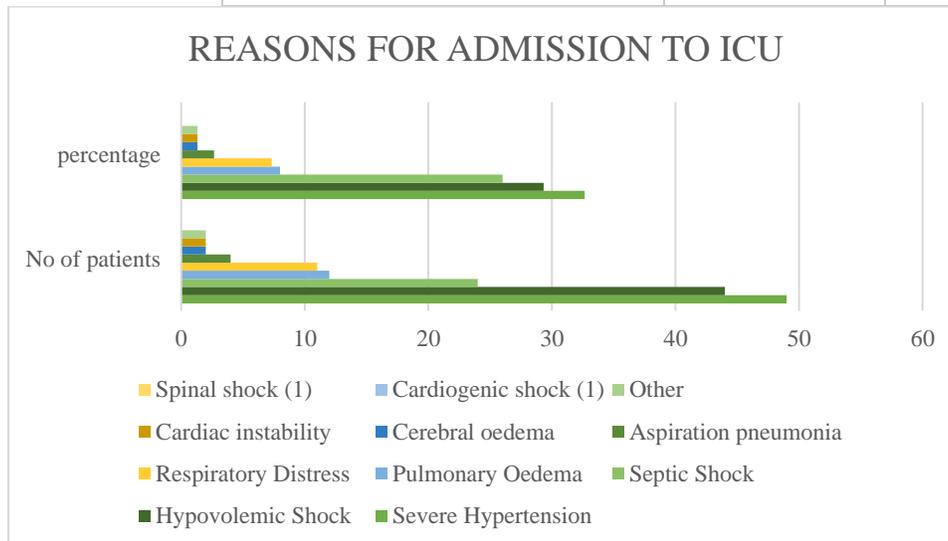
<i>Diagnosis</i>	<i>Associated conditions</i>	<i>No: of Patients</i>	<i>Percentage</i>
<i>Eclampsia</i>	PPH(3), HELLP synd(1)	65	43.33
<i>Pre-eclampsia</i>	APH (1), PPH (1)	15	10
<i>Primary PPH</i>	Cervical tear (2), DIC (1), Intra-abdominal bleed (1)	13	8.66
<i>Secondary PPH</i>	P sepsis (1)	7	4.66
<i>APH</i>			
<i>a) Abruptio (3)</i>		5	3.33
<i>b) Placenta Previa (2)</i>			
<i>Sepsis</i>			
<i>a) Choioammitis (4)</i>	RPOCs (7), IU Collection (6), DIC (1)	18	12
<i>b) P Sepsis (14)</i>			
<i>Obstructed labour</i>		2	1.33
<i>Rupture Uterus</i>	DIC (2)	3	2
<i>Perforated Uterus</i>	Int: perforation (1)	5	3.33
<i>Full term pregnancy with</i>	Cardiac problems (4), Intestinal obstruction (1) Cerebral Malaria (1) CLD (1)	7	4.66
<i>Burst abdomen</i>	CLD (1)	3	2
<i>Ectopic Pregnancy</i>		3	2
<i>Ovarian Tumour advanced (2)</i>			
<i>Ca endometrium advanced (1)</i>		4	2.66
<i>Ca cervix advanced (1)</i>			
<i>Total</i>		150	100



Other difficulties found were hypoulaemic shock, septic shock, respiratory distress or pulmonary oedema, severe hypertension (HP) with or without cerebral oedema with number of patients as 44 (29.33%), 24 (16%), 23 (15.33%) and 49 (32.66%) respectively.

Table No 02: Post-management complications/ Reasons for admission to intensive care unit

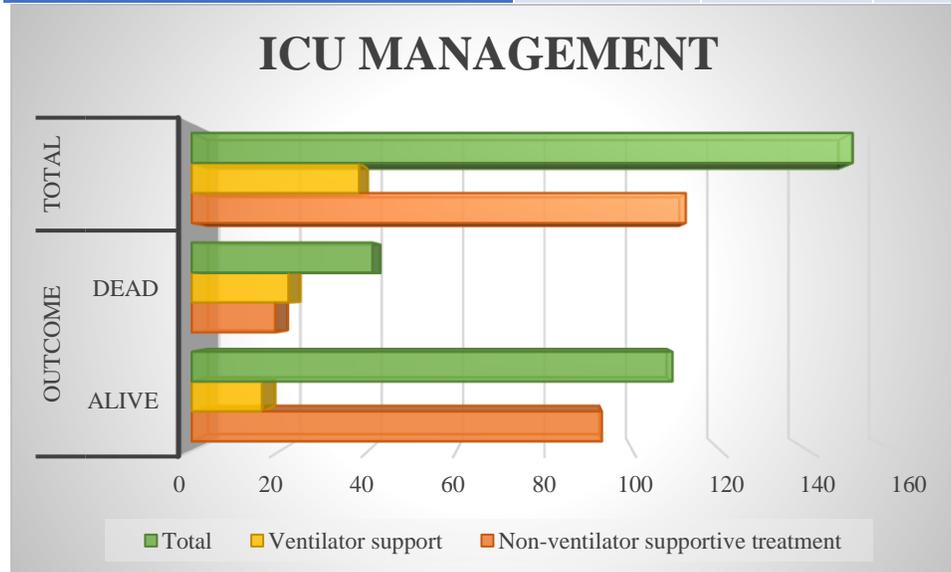
Main Complications	Associated Complications	No of patients	percentage
<i>Severe Hypertension</i>	Cerebral Oedema (23) Uncontrolled fits (2) Respiratory distress (1)	49	32.66
<i>Hypovolemic Shock</i>	Respiratory distress (5), Pulmonary oedema (3) DIC 5, Renal failure (2)	44	29.33
<i>Septic Shock</i>	Respiratory distress (2), DIC (1)	24	26
<i>Pulmonary Oedema</i>	DIC (1)	12	8
<i>Respiratory Distress</i>	Cerebral edema (2), DIC (1)	11	7.33
<i>Aspiration pneumonia</i>		4	2.66
<i>Cerebral oedema</i>		2	1.33
<i>Cardiac instability</i>		2	1.33
<i>Other</i> <i>Cardiogenic shock (1)</i> <i>Spinal shock (1)</i>		2	1.33
<i>Total</i>		150	100



The number of patients who stayed upto 5 days were 113 (75.3%). 4.47 ± 2.53 days (range: 24 hours to 11 days) was the mean stay in surgical ICU.

Table No 03: Comparison of management in SICU with outcome

ICU Management	Outcome		Total
	Alive	Dead	
Non-ventilator supportive treatment	93	19 (16.9%)	112
Ventilator support	16	22 (57.8%)	38
Total	109 (72.6%)	41 (27.3%)	150



DISCUSSION:

Some of the patients from the Ob/Gyn department need serious treatment in ICU due to their delicate conditions. While most of the patients didn't required further treatment in ICU. In the ICU, patients were treated exclusively. However, ICU is to assist renal replacement therapy, danger of at once catastrophic deterioration and to support 2 or more than 2 organ system [4]. High dependency unit (HDU) is gaining much more importance on treating obstetric patients. In those hospitals where HDU is not available, ICU is used for further care. In the current research study eclampsia and pre-eclampsia was indicated in 65 (43.33%) and 15 (10%) females and overall females were 80 (53.33%). In another similar study [5], 50% of the maternal obstetric cases were because of hypertensive diseases of pregnancy. According to another study [6], in 52% cases, hypertensive admission of patients. On the other side, in 55 (36.2%) cases, hypertensive diseases were responsible for patients' admission according to another study [7]. Eclampsia / pre-eclampsia or hypertensive disorders lead to the shifting of patients to the ICU as indicated by studies performed in

Turkey [8], Netherland [9], USA [10] and UK [11]. The second common reason that lead to shifting of patients to ICU was bleeding disorders comprising 25 (16.65%) patients. Primary PPH, secondary PPH and APU was observed in 13 (8.66%), 7 (4.66%) and 5 (3.33%) patients respectively.

Obstetric haemorrhage was the second most contributing factor for transferring of patients in ICU as illustrated by studies conducted in Turkey [8], UK [11] and Lebanon [12]. In our study, 4.47 ± 2.53 was the mean stay in ICU. This value is almost similar to the value of another study in which 4.61 days was the average ICU stay. However, 3.7 ± 4.6 days and 7 ± 5 days was the mean stay according to two similar studies [10, 12]. As showed by another study, 22.8% cases shifted to ICU due to obstetrical haemorrhage and 18.9 % cases according to identical local study [13]. Sepsis contribution in the patients transferred to ICU was 14%, 10% and 13.5% in similar other studies [13, 14]. In our study, sepsis was identified in 18 (12%) patients. Most of the patients (74.7%) in our study were not given ventilator support. It was due to unavailability of HDU. In current research

study, patients who needed ventilator support and oxygen and inotropic support were 38 (25.3%) and 112 (74.7%) respectively. Ventilator support was given to most of the patients in other studies [15, 16]. Whereas, in similar study [14] ventilator and non-ventilator support was given to 40.5 % and 59.4% respectively. Furthermore, 30 % cases needed ventilation support according to another identical study [15]. Another study [17] support the fact that patients do not need to shift to ICU and recovered fast where facility of HDU is available. HDU offers many benefits [18]. Some of the benefits are improved postnatal care and continuity of antenatal, prevent the risk of emergency transport and presence of expert obstetric attention.

In the current study, the death rate of patients was 27.3% which is almost similar to other research studies [16]. The death rate is lower (21.6%) in a study organized in India [19]. Most patients {112/150 (74.66%)} in our study were not given ventilator support. Due to this rate of death of patients in our study is low. From these patients, 19 (16.9%) died. Whereas, 22/38 (57.8%) patients died who were provided with ventilator support i.e 38/150 (25.33). So, it is concluded from this research study that most of the obstetric patients died were those who were given ventilator support.

CONCLUSION:

Further analysis is required for the high death rate among the patients with ventilator support. The main factors that contribute to the transfer of patients to the ICU were bleeding disorders, sepsis and hypertensive disorders. Shifting of patients to ICU can be prevented by treatment in HDU obstetric setting as concluded by the study.

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