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ORIGINAL ARTICLE

# To Evaluate Knowledge of Obstetric Danger Signs & Birth Preparedness of Women

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## ABSTRACT

**Background:** In a developing country like Pakistan, there is a great need to save mother and neonatal life. Government has launched many programs but due to lack of knowledge and approach of health care delivery system to people, we lose many lives daily. Lack of adequate knowledge, negative attitude and inadequate birth preparedness results in loss maternal and neonatal life. Birth preparedness is a plan of the process of childbirth and it involves choice of place of birth, arrangement for transportation, blood donors and knowledge of health facility.

**Objective:** The objective of this study was to assess the knowledge of females towards obstetric danger signs and birth preparedness.

**Methodology:** This cross-sectional study was conducted on 760 obstetric patients (antenatal as well as postnatal), in Gynae Unit 1, Sir Ganga Ram Hospital, Fatima Jinnah Medical College, Lahore. A questionnaire was developed containing socio-demographic information, reproductive history, basic knowledge about antenatal care, knowledge on high risk pregnancy signs and about birth preparedness in the presence of any danger sign. The data will be entered into SPSS version 20.

**Results:** The mean age of females was 26.92±4.71 year. There were 34.4% primipara females, and 59.2% with parity 2-4. Regarding education status, 8.6% females were uneducated, 48.6% with primary level education and 34.2% females with secondary level education and only 8.6% were graduates. Majority 92.4% females were housewives.

Most (95.8%) of females had basic knowledge about antenatal care importance. Out of all females, 350(46.1%) had less than 4 antenatal visits while 409 (53.9%) females had more than 4 antenatal visits. More than half (57.7%) females said that first antenatal examination should be done in the 1<sup>st</sup> trimester, one fourth (26.3%) said in 2<sup>nd</sup> trimester, while only (16.0%) said first antenatal examination should be done in 3<sup>rd</sup> trimester.

Seventy five percent of the females had knowledge of the obstetric risks and danger signs of pregnancy and had positive attitude towards having antenatal care, going to health facility or health care provider and used benefits from health care system, and were birth prepared.

**Conclusion:** Three fourth (75%) of women had knowledge of high risk pregnancy signs and 70% of them were birth prepared in a comprehensive way. It is concluded that more and more counseling and courses are required to improve the knowledge, attitude and practice of females as well as their families towards birth preparedness and complication readiness in rural as well as urban areas of Pakistan, thus decrease perinatal morbidity and mortality.

**Key words:** Knowledge, attitude, practice, obstetric risk, danger sign of pregnancy, birth preparedness

## INTRODUCTION

The health care system must focus on maternal and newborn health in order to reduce pregnancy related morbidity and mortality. All over the world an estimated 529,000 maternal deaths occur every year, UNICEF 2004, and about 99% of these deaths occur in developing countries.<sup>(4-6)</sup> The maternal mortality rate in Pakistan is 276 maternal deaths per 100,000 live births [NIPS 2008]. Maternal morbidity and mortality represent the largest and the most persistent gaps in health indicators between the developed and developing

world, reflecting the dilapidated state of reproductive health care in some developing countries. Pakistan is unlikely to meet the Millennium Development Goals (MDGs) in maternal health and child health by 2015. The vast majority of maternal deaths occur around the time of delivery and are attributed to a lack of skilled care at birth, yet about 60 million deliveries worldwide take place at home without skilled care each year (Yasir et al., 2009). According to the International Conference on Population and Development Action Program (ICPD), every woman has the right to enjoy good reproductive

health, and every birth should be safe (United Nations, 1994). Antenatal care is the care that a woman receives throughout pregnancy.<sup>(1)</sup> It provides an opportunity to inform and educate pregnant women on a variety of issues related to pregnancy, its danger signs and birth preparedness.<sup>(2, 3)</sup> The main causes of maternal mortality are obstetric risks like hemorrhage, eclampsia, sepsis, abortion complications and obstructed labour. Lack of knowledge of obstetric danger sign and inadequate preparedness for childbirth enhances the effect of these complications on maternal health.<sup>(7)</sup>

WHO proposed a model of four antenatal visits.<sup>(4)</sup> At each visit women and their families are educated regarding obstetric danger signs and issues related to pregnancy.<sup>(8)</sup> If the women have knowledge about early signs of obstetric complications and their effect on pregnancy, they can consult facility without delay. According to different studies 97% women in Tanzania and 77% in India have at least one antenatal visit but there was lack of knowledge about danger signs along with lack of birth preparedness.<sup>(8, 9)</sup>

Birth preparedness is a plan of process of childbirth and it involves choice of place of birth, arrangement for transportation, blood donors and knowledge of health facility. In our society this includes not only family support but also male involvement for decision making, arrangement for transportation and adequate money.<sup>(10, 11)</sup>

Regular antenatal care and adequate birth preparedness play a key role in preventing delays in seeking health care facility. So this study was conducted to assess the knowledge of obstetric danger signs and birth preparedness among obstetric women. KAP study means knowledge, attitude and practice of community. It tells us what people know about certain things, how they feel and how they behave. Obstetric danger signs included vaginal bleeding, severe headache, blurring of vision, edema of hands and face, abdominal pain, fever, decrease fetal movements and breathlessness/tiredness. Birth preparedness included choice of place of delivery, arrangement for transportation, blood donor, knowledge of health facility, family support, male involvement for decision making, arrangement for transportation and adequate money.

## MATERIAL AND METHODS

This cross-sectional study was conducted at Department of Obstetrics and Gynecology, Sir

Ganga Ram Hospital, Lahore from June 2013 to May 2015. Seven hundred and sixty obstetric patients were included through simple random sampling technique. An informed written consent was taken. A questionnaire was developed containing socio-demographic information, reproductive history, knowledge on pregnancy and childbirth. Data obtained was maintained through specially designed Performa. The data was entered into SPSS version 20. The results were expressed in the form of frequencies and percentages.

## RESULTS

Seven hundred and sixty females who had confinement at or had come for antenatal checkup in Sir Ganga Ram Hospital, Lahore, were included in the study. The sample age range was 15 to 45 years (mean age of  $26.92 \pm 4.71$  years). Among them 61% were between 25-34 years of age. One third 33.4% women were of first parity and 59.2% females were of parity 2-4 (Table-1).

Eighty six percent of women were residents of Lahore. Only (8.6%) women were uneducated, nearly one half (48.6%) women had primary level education, three hundred and twenty five (42.8%) had secondary level education and 8.6% were graduates. Majority (92.4%) of females were housewives. (Table-2)

During interviews it was noted that, two hundred and eighty nine (38%) females were self motivated to get antenatal care (ANC), three hundred and fifty (42.4%) were encouraged by family to get ANC while one hundred and fifty (19.8%) reported that their husband encouraged them to get ANC. (Table-2)

Four hundred and ninety (64.4%) females had to come to hospital through public transport. Duration of travelling from home to health facility required less than one hour in four hundred and forty (58.6%) females while the remaining (42%) required more than one hour to travel to health facility from their homes. (Table-2)

Majority (96%) females had basic knowledge about ANC importance. Out of all females, four hundred and ten (54%) females had more than four ANC visits. Four hundred and thirty nine (57.6%) females said that first antenatal examination should be done in 1<sup>st</sup> trimester, two hundred (26.4%) said it should be done during 2<sup>nd</sup> trimester, while one hundred and twenty one (16.0%) said that first antenatal examination should be done in 3<sup>rd</sup> trimester (Table-3).

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Nearly three fourth (77% ) had knowledge of anemia, dyspnoea and palpitation as high risk obstetric sign, among them majority (520) said they would report to hospital. (Table-4) .Similarly four fifth (79%) reported that high blood pressure, headache, blurring of vision, epigastric pain, odema & fits are high obstetric risks, (Table-4). Results regarding other high risk obstetric signs are given in table-4 below. From these results it was concluded that three fourth 75% patients had adequate knowledge of high risk obstetric signs and majority chose the hospital for advice.

**Table 1:** Baseline characteristics of females presenting during pregnancy-(n=760)

<b>Age (mean)</b>		26.92±4.71
	<b>Para 1</b>	254 (33.4%)
	<b>Para 2-4</b>	450 (59.2%)
	<b>Para 5-8</b>	56 (7.4%)
	<b>Total</b>	760 (100%)

**Table 2:** Baseline characteristics of females presenting during pregnancy with (n=760)

		<b>Frequency</b>	<b>Percentage</b>
Residence	Lahore	653	86%
	Outside Lahore	107	14%
Education	Uneducated	65	8.6%
	up to primary	370	48.6%
	up to secondary	260	34.2%
	≥graduation	65	8.6%
Occupation	Housewife	702	92.4%
	Teacher	40	5.2%
	Doctor	12	1.6%
	lower job	6	0.8%
Encouraged to get ANC	Self	289	38%
	Family	321	42.4%
	Husband	150	19.8%
Transport used	Personal	270	35.6%
	Public	490	64.4%
Travelling time from health facility	< 1 hour	440	58%
	> 1 hour	320	42%

**Table 3:** Basic knowledge about obstetric risks

		<b>Frequency</b>	<b>Percentage</b>
Basic knowledge about ANC importance	Yes	729	96%
	No	51	4%
ANC attendance	<4	350	46%
	≥4	410	54%
When should first ANC examination done during	1st trimester	439	57.6%
	2nd trimester	200	26.4%
	3rd trimester	121	16.0%

Regarding birth preparedness, only thirty six (4.8%) females selected home as a choice of place for delivery, seventy (9.2%) selected a small clinic, while majority (86%) women said that hospital is

their choice for place of delivery. Families of majority (76.8%) used motorcycle, for transportation. Three fourth (76.9%) families had made arrangements of blood donor for delivery,

most (90.4%) women had knowledge of the health facility, majority (94.6%) females said there was male involvement in decision making, and arrangement for transportation. (Table-5) On

average 70% of women were prepared for birth in a comprehensive way.

**Table 4:** Knowledge of females about obstetric danger signs

	KAP			
	Knowledge	Positive attitude		
	Yes	LHV	GP	Hospital
Anemia, Dyspnea and palpitation	585 (77%)	18	47	520
Headache, High BP, blurring of vision, epigastric pain, odema, fits	600(79%)	30	54	516
High blood sugar level	580(76%)	17	45	528
Scarred uterus	576(75%)	9	25	542
Vaginal bleeding and retained placenta	565(74%)	18	34	513
Fever, puerperium foul smelling discharge, labour>12 hours, reduced fetal movement, puerpurium fever	579(76%)	15	40	524

Average= 76.1% had knowledge.

**Table 5:** Knowledge of families of pregnant females for birth preparedness for delivery

		Frequency	Percentage
Birth preparedness choice of place of birth	Home	37	4.8%
	Clinic	70	9.2%
	Hospital	653	86%
Arrangement for transportation	Car	141	18.6%
	Motorcycle	583	76.8%
	Ambulance	12	1.6%
	Others	22	3.0%
Arrangement for blood donor		584	76.9%
Knowledge of health facility		687	90.4%
Male involvement in decision making		718	94.6%
Male involvement in transport arrangement		685	90.2%
Male involvement for arranging adequate money	Rs 2000-5000	174	23.0%
	Rs >5000-8000	448	59.0%
	Rs>10000	136	18.0%
Male person accompanying patient to hospital		633	83.4%
Male person accompanying patient to hospital	One male member	497	65.4%
	Two male members	136	18.0%
Female person accompanying patient to hospital		588	77.4%
Female person accompanying patient to hospital	One female	418	55.0%
	Two females	170	22.4%

Average 70% patients were prepared for birth/ complications.

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Those women who had confinement in hospital had a male accompanying them in 83.4% cases, 65.7% had one male with them while 34.3% had two males with them. A female family member accompanied with the women in 77.4% cases, 55.1% had one female with them while 44.9% had two females with them. (Table-5).

## DISCUSSION

Education level and socio-demographic status has great influence on knowledge of high risk obstetric signs and for birth preparedness. Lahore is a major city of Pakistan and the capital of Punjab province; where as Sir Ganga Ram Hospital is located in the centre of the city, a teaching hospital attached to Fatima Jinnah Medical College. The majority (86%) of the study population was resident of Lahore city, and so was better educated regarding high risk pregnancy signs and hence birth preparedness. According to PDHS 2012 -2013, 57% of ever married women age 15-49 years have no education where as 66.5% of the population of Pakistan lives in rural areas. There are large differences in the use of antenatal care services between urban and rural women. Eighty-eight percent of urban mothers receive antenatal care from a skilled health provider, as compared with only 67 percent of rural mothers (PDHS 2012-2013). In our study 48.6% females had primary level education, 34.2% had secondary level education and only 43 (8.6%) were uneducated. Educated women have better power to make their own decision in matters related to their health and expected expenses. Hailu et al., reported that in their study 86.7% females belonged to rural areas. Educationally 49.9% respondents were uneducated and the rest 50.1% were educated at least they could read or write, and so were less prepared for birth/complications. In this study we observed that majority (92.4%) females were housewives. Hailu et al., also reported that occupationally 95.6% were housewives<sup>(10)</sup>. and so in both studies majority were housewives.

Women with parity 2 – 4 are more likely to be prepared for birth/complications than grand multiparas (more than four deliveries) and primipara (1<sup>st</sup> delivery). This is related to over confidence about experience of child birth by the grand multipara and lack of knowledge and experience of birth preparedness by the primipara women. In this study 59.2% females were para 2 – 4, and 39.4% were primipara (table-1)

In our study, we observed that 95.8% females had basic knowledge about ANC importance. Among all, 46% had less than 4 antenatal visits while 54% females had more than four antenatal visits, 57.6% females had their 1<sup>st</sup> antenatal visit in 1st trimester. In Bangladesh, 62.2% of women received any ANC, 23.1% of women received at least four antenatal visits, and 27.2% of women received the first antenatal visit during the first trimester. A greater proportion of women in Egypt received any ANC (73.2%), at least four ANC visits (65.8%), and the first ANC visit during the first trimester (59.5%). While 94.5% of women received any ANC in Rwanda, only 13.3% received at least four ANC visits and 8.1% received their first ANC visit within the first trimester.<sup>(5)</sup>

In our population, care-seeking behavior was observed in more than 75% females and actually practiced it. Delivery of care-seeking behavior also varied, for example 19.1% of women in Bangladesh, 71.3% of women in Egypt, and 32.0% of women in Rwanda delivered their last child in a health institution.<sup>(5)</sup>

We found that the knowledge of most common danger signs of pregnancy such as hypertension (either gestational or chronic), reduced fetal movement, anemia, dyspnea, or vaginal bleeding was 75%. Ekabua et al., reported the commonest danger signs experienced were as follows: in last pregnancy, prolonged labor (22.4%); in the baby, stillbirth (5.2%); after delivery, severe vaginal bleeding (19.1%).<sup>(11)</sup> The practice of going to health expert was high in our study as in current pregnancy 70% of the females chose a main hospital of the city for birth /complications. Kabakyenga et al., found that the final decision of choice of place of birth was made by the woman herself (36%), the woman with spouse (56%) and the woman with relative/friend (8%). But in our population it was observed that 4.8% females select home as choice of place for delivery, while 9.2% clinic, 86% hospital for delivery. Final decision for choice of place of birth was by the woman herself in 38%, by family in 42.4% and by the husband in 19.8%. Majority (94.6%) cases had male involvement in decision making.<sup>(12)</sup>

In our study, only 18.6% families of pregnant females had car for transportation of pregnant female to health facility, while 76.8% used motorcycle. But in study conducted by Hailu et al., reported that preparedness for transportation was found to be very low (7.7%).<sup>(10)</sup> Ekabua et al.,

reported that the commonest means of transport in last confinement was the motorcycle (64.7%).<sup>(11)</sup>

About 399 (76.9%) family member had arrangement of blood donor for delivery, 453 (90.4%) family members had knowledge of health facility, 474 (94.6%) females said that there was male involvement in decision making while 452 (90.2%) reported about male involvement for arrangement of transportation. Iliyasu et al. reported that only 32.1% of husbands accompanied their wives at least once to the hospital for antenatal, delivery or postnatal care. In our study, 83.4% males were with their ladies accompanied to hospital for delivery.<sup>(13)</sup> Thus 70% of patients were well prepared for birth and its complications in a comprehensive way, but ideally every pregnant patient should get prepared for child birth/ complications.

## CONCLUSION

This study was conducted in an urban area of Pakistan, in a teaching hospital, where the education level and antenatal attendance is much better than in rural areas of Pakistan, thus three fourth women were birth prepared and had awareness for complications of pregnancy. It is concluded that proper and effective counseling is required in rural as well as urban areas of Pakistan to increase the knowledge and birth preparedness in females having obstetrics risks. New course and guidelines can be planned to counsel more and more females to go for antenatal check up, placing more focus in rural areas of the country. Community based education about preparation for birth and its complications and empowerment of women by expanding educational opportunities are important factors in enhancing birth preparedness, and thus decreasing maternal morbidity and mortality.

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