

# **Maternal Risk Factors among Pregnant Internally Displaced Person Women in Mardan, Pakistan**

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## **ABSTRACT**

**Objective:** To review the maternal risk factors present among pregnant internally displaced persons (IDP) women living in Mardan District, Khyber Pakhtunkhwa (KPK) province of Pakistan.

**Study design:** Descriptive retrospective study

**Methods:** The study was conducted at the Mardan Medical Complex, Mardan, from 21<sup>st</sup> May to 15<sup>th</sup> June 2009. The medical records of all the pregnant women who were referred from the internally displaced person (IDP) camps located in the Mardan District and the self-referrals of IDPs living outside the camps, presenting at the Mardan Medical Complex were collected retrospectively. The data was tabulated and analyzed using SPSS version 20. The percentages were calculated to determine the frequency of various maternal risk factors demonstrated among the pregnant IDPs.

**Results:** During the study period of 25 days, a total of 27000 female patients presented at the Mardan Medical Complex and among these 1154 were obstetric patients. There were 29 % primigravidae, 53 % multipara and 18 % were grand multipara. The total number of vaginal deliveries performed was 221 (76.2%) and caesarean sections were 68 (23.5 %) and there was one obstetrical hysterectomy (0.3%) performed as a life-saving procedure. More than 34 % of IDP women were admitted for at least one high-risk pregnancy complication. There was one maternal death (0.8%) due to obstructed labour and ruptured uterus of an IDP living outside the camps.

**Conclusion:** This study unmasks the high risk status of pregnant IDP women living inside and outside the camp setting. It is highlighted that strategies must be developed for the provision of appropriate obstetrical care to these displaced women. The lessons learned from this crisis may serve to reduce the maternal mortality rate among the unfortunate IDPs.

**Key words:** Maternal risk factors, Internally displaced persons (IDP), Maternal mortality.

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## **INTRODUCTION**

Over the last decade, Pakistan has faced a massive crisis due to large-scale internal displacement of men, women and children, caused mainly by the military operations against the militants in the Malakand region of the Khyber Pakhtunkhwa (KPK) province and the Federally Administered Tribal Area (FATA) bordering Afghanistan. According, to an estimate by United Nations High Commissioner for Refugees (UNHCR), as of October 2012 there were 724,200 internally displaced persons (IDPs) in the affected areas of Pakistan<sup>1</sup>. The problem is compounded by the presence of 1.6 million registered Afghans in these areas which are regarded by UNHCR as the largest and most protracted refugee population of the world<sup>1</sup>.

All individuals who suffer enforced displacement are exposed to a range of vulnerabilities, but women and children often suffer more, particularly in conflict-induced displacement settings<sup>2</sup>. The key challenges

for the service providers are to provide protection, basic needs and essential services like shelter, water, sanitation and food to the IDPs. Health care and education facilities remain dire and largely neglected in these areas. This situation is compounded by the fact that the security situation in these areas of Pakistan remains fragile and women can only leave their homes for medical treatment if chaperoned by male relatives and often reach the healthcare facilities in precarious life-threatening conditions and sometimes cannot be saved.

In a country, where over 5 million women become pregnant every year, about 15% of these face an obstetric or medical complication and almost 30,000 women die each year due to pregnancy related causes<sup>3</sup>. The pre-crisis conditions in the affected areas of Pakistan were already serious due to scarcely available prenatal care, assistance of deliveries by trained birth attendants (TBAs) and postnatal follow-ups<sup>4</sup>. Hence, it is no surprise that in Malakand, Buner, Dir, Swabi, Mardan, Swat, Charsadda and Nowshera, 75-80% deliveries take place in home settings and 31-69% of these are conducted by neighbours or family members who are

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not trained for the job contributing to a high Maternal Mortality Ratio (MMR) in region of 533/100,000<sup>5</sup>. The Pakistan Demographic and Health Survey<sup>5</sup>, highlights that such a high MMR is a sensitive indicator of the women's status in the society and of the poor emphasis on the quality as well as accessibility of maternal health services to these women. Armed conflict in the region further aggravates the situation by causing massive exodus of the refugees at an unprecedented rate and speed.

According to the report issued by United Nations Office for Co-ordination of Humanitarian Affairs (UNOCHA) in 2009 some 1.9 million IDPs were registered by the Pakistani authorities, of whom about 260,000 were living in 27 camps and the remainder with host families<sup>6</sup>. The situation still remains unpredictable, and there are approximately 80% IDPs living outside the camps with their relatives, friends, strangers or in rented accommodations. The rest are living in government schools, regular camps and spontaneous camps. The Internal Displacement monitoring centre (IDMC) in June 2013 reported that an estimated 5 million people have been displaced by conflict and sectarian violence in KPK as a whole since 2004<sup>7</sup>. In the year 2009, when this study was conducted the conflict-related displacement was at its peak, the UNFPA emphasized the risks to which the pregnant IDPs were exposed in KPK, due already existing severe lack of access to prenatal care, assisted delivery and emergency obstetrics care. It was claimed that of the displaced population, 69,300 were pregnant women and nearly 6000 were expected to deliver in the month of June, the time when this study was conducted. It was further estimated that about 900 women would need emergency obstetrical care to save their lives. It is easy to visualize the catastrophe in the setting of the current study which was conducted to highlight the various pregnancy related high-risk situations encountered by the health-care teams working in Mardan during the study period so that strategies could be developed to improve the level of health care and reduce maternal morbidity and mortality.

## METHODS AND MATERIALS

This retrospective descriptive study was conducted at Mardan Medical Complex and IDP Camps in Mardan District, Khyber Pakhtunkhwa (KPK) Province, Pakistan from 21<sup>st</sup> May to 15<sup>th</sup> June 2009. All pregnant women presenting at the Mardan Medical Complex (MMC) directly or referred from IDPs Camps in Mardan were included in the study. Functional definition of IDPs: The individuals or groups forced to flee their homes, particularly as a

result of or in order to avoid the effects of armed conflict, generalized violence, or violation of human rights, and who remain within the borders of their own country. Medical teams of specialist doctors, staff nurses, midwife and para-medical staff was went to Mardan from various hospitals of Punjab on duty and voluntarily, to provide health-care to the IDPs at the Mardan Medical Complex (MMC), and 12 IDP camps in the KPK in 2009 when the crisis was at its peak. The MMC had a newly established emergency obstetric care centre, which received referrals from the IDP camps for managements. It had the facilities of laboratory, ultrasonography and major surgeries like caesarean section and lifesaving procedures like obstetrical hysterectomy.

The doctors and ancillary medical staff on visit at the MMC worked on 24/7 basis and managed the high-risk obstetrical patients as well performed emergency and elective surgeries. The medical information of the pregnant IDP women presenting at the MMC during the study period was recorded from the admitted patients' charts and the registers for outpatients and inpatients medical data. The data was reviewed, tabulated and analyzed. The percentages were calculated by using SPSS version 20.

## RESULTS

During the study period, i.e. from 21<sup>st</sup> May to 15<sup>th</sup> June 2009, the total number of IDP patients seen in the MMC and the referral camps, by all the specialties was 61000, out of these 27000 (44.2%) were female IDPs. The total number of pregnant IDP women seen at the MMC during this period was 1154 and there were a total of 290 deliveries. Out of these 221 (76.2%) were vaginal deliveries and 68 (23.5%) were caesarean sections, and one (0.3 %) patient had obstetrical hysterectomy.

The obstetrical patients presenting at the MMC were mostly IDPs from Swat, Buner and Dir, several of them reaching Mardan camps after walking for miles and miles in search of safe place and shelter, from where those in need of medical help were referred to the MMC. Majority of these women were illiterate, wearing thick clothes in hot weather and penniless. They were evidently anxious and worried about their future and reflections of mental trauma were visible on their faces.

Out of the 1154 pregnant IDPs seen at the MMC, 335 (29%) were primigravidas, 612 (53%) were multipara between G<sub>2</sub> P<sub>1</sub> - G<sub>5</sub> P<sub>4</sub> and 207 (18%) patients were grand multiparas. Apart from the patients admitted for deliveries in emergency, 407 (34.56 %) patients were admitted with various high-risk obstetrical problems in the antenatal ward and

labour room for managements. Table 1 shows the various types of high-risk obstetrical patients managed at the MMC during the study period.

Table 1: Types of high-risk patients managed at Mardan Medical Complex

<b>Antenatal Disease</b>	<b>=n</b>	<b>%age</b>
Severe Anaemia with pregnancy	89	7.3
Fetal distress	76	6.6
Pre-term labour	49	4.2
Previous caesarean section	27	2.3
Hypertension with pregnancy	27	2.3
Obstructed labour	24	2
Diabetes with pregnancy	21	1.8
Intrauterine fetal demise (IUD)	20	1.7
Twins pregnancy	17	1.5
Hyperemesis gravidarum	15	1.3
Gastroenteritis with pregnancy	14	1.2
Intrauterine growth retardation (IUGR)	12	1
Eclampsia	6	0.5
Placenta previa major	4	0.3
Polyhydramnios	2	0.2
Post date pregnancy	2	0.2
Acute appendicitis at 25 weeks	1	0.08
Primibrech	1	0.08

Severe anaemia in pregnancy was the most common problem, present in 89(7.3%) patients. Most of these women presented late in pregnancy with Haemoglobin percentage (HB%) <7gm/dl, and 8 of these patients had a Rhesus negative blood group as well which further complicated the situation. They were admitted for management to build-up their Hb% as severe maternal anaemia carries significant risk of haemorrhage and infection in mother and a risk of preterm birth, low birth weight, low APGAR score and a high perinatal mortality in the baby.

A significant number of women (>13%) presented with preterm labour, fetal distress and previous caesarean section, were at a risk of operative delivery and the complications associated with it. The major medical problems in pregnancy encountered were hypertension, diabetes, eclampsia and gastroenteritis which were managed in liaison with the physician.

About 2% dai handled patients presented in obstructed labour after a several hours trial of labour for at home in an exhausted state with a dead baby. A patient presented with acute appendicitis, had perforated appendix at laparotomy performed by the surgeon, however luckily both the mother and her baby were saved and she delivered vaginally at term.

During the study period there were 290 deliveries, these included 221 (76.2%) vaginal deliveries, 68 (23.5%) were caesarean sections, and one (0.3 %) patient had obstetrical hysterectomy.

Table 2 shows the modes of delivery of the IDP women conducted at MMC during the study period.

Table 2: Modes of delivery of IDP women at Mardan Medical Centre (n=290)

<b>Modes of delivery</b>	<b>=n</b>	<b>%age</b>
Spontaneous vaginal delivery (SVD)	140	48.3
Spontaneous vaginal deliveries with episiotomy	79	27.2
Outlet forceps delivery	2	0.7
Caesarean section	68	23.5
Obstetrical hysterectomy	1	0.3

There was only one maternal mortality (0.8%), the patient who died was a G<sub>3</sub> P<sub>2</sub> A<sub>0</sub>, an IDP staying at somebody's house in Mardan. She went into labour at home and a dai was called who gave her some medicine by injection resulting in severe uterine contractions for more than 12 hours. She was brought to the MMC in a critical condition; her baby was already dead and obstructed in the birth canal. She had an O Rhesus negative (O -ve) blood group and was operated without any delay to save her life. Her uterus was found to be badly ruptured with a huge left-sided broad ligament haematoma. However, she developed disseminated intravascular coagulation (DIC) and due to delay in seeking help and non-availability of Rhesus negative blood, her life could not be saved.

## DISCUSSION

A high proportion of patients, 407 (34.56 %) out of 1154 pregnant IDP women seen at the MMC were admitted with at least one maternal risk factor. In that context in the current study the caesarean section rate of 23.5 % does not seem very high. Some of the highest rates of maternal morbidity and mortality have been reported in IDPs around the world due to lack of access to humanitarian assistance like the unbearable silence of the international community towards the forgotten war in Congo Brazzaville<sup>9</sup>.

The precarious condition in which these IDP women reached the camps and the MMC was no surprise. Traumatized physically and emotionally by the torture, the long journeys mostly on foot, with virtually nothing except the clothes they were wearing, going without food for days and are now living in crowded camps struggling to survive. According to a survey in KPK, more than 250,000 people mainly women and children have fled the conflict-areas, 75.8 % of the IDPs left their homes without any belongings and are extremely poor<sup>10</sup>. Women and children were especially vulnerable and in dire need of medical help, food, safe water and shelter from the sizzling temperatures.

The massive dislocation in KPK has placed the pregnant women at especially high-risk, exacerbating the already existing severe lack of access to antenatal care, assisted deliveries and emergency obstetric care in the region. In the current study a greater number of high-risk pregnancy complications were seen among the pregnant IDP women which is consistent with a study by Barlett et al<sup>11</sup>, which has reported an increased risk of maternal mortality and morbidity in Afghan-refugee camps as compared to Pakistani mothers' and it states that in nearly 70% cases the catastrophes could have been prevented with immediate access to health care resources.

Anaemia in pregnancy is a commonly encountered health problem in developing countries and factors like malnutrition, malaria and worm infestation are generally regarded as the main culprits<sup>12</sup> and in India it has been reported as high as 88%<sup>13</sup>. In Pakistan, severe anaemia, presenting late in pregnancy with no prior antenatal care, is a common occurrence among the women in the low socioeconomic settings. This problem was highlighted in the current study as 7.3% of the total pregnant IDPs seen had severe anaemia. It was observed that in addition to being displaced and living in shelters, ignorance, poverty, nutritional deficiencies and gender bias were the main contributing factors.

Review of literature has shown that in various situations, complicated by lack of health care facilities, maternal and neonatal health of the poor refugees is expected to be at a higher risk than the host population<sup>14,15</sup>.

Similar situation was found in the present study, where in addition to severe anaemia, the pregnancies of IDP women were complicated by pre-term labour, fetal distress, hypertension, diabetes, intra-uterine fetal demise and obstructed labour. It was observed in the current study that apart from the factors related to poor living conditions and lack of health care facilities, older maternal age was a contributing factor for adverse pregnancy outcomes. Earlier study by Badshah et al has quoted that higher proportion of old age mothers among Afghan refugees in their study sample and these women had a higher rates of adverse pregnancy outcomes compared to host Pakistani mother<sup>16</sup>.

It was felt by the medical specialist working in KPK that the mass exodus of families of IDPs created a tornado like spiral of maternal mortality and morbidity hovering over IDP pregnant women. The review of the case of one maternal death that occurred at the MMC during the study period highlighted the difficult conditions in which the IDPs who have taken shelter with other families (relatives or non-relatives) are forced to live in. The mishandling of the case by a local Dai, who was

unaware of the dangers and the abuse of uterotonic drugs or the signs of obstructed labour, the difficulty in arranging for transport, the distance from the hospital and finally the non-availability of the Rhesus negative blood contributed to the sad demise of two lives, the mother and her baby.

The Government of Pakistan (GoP) institutions and various humanitarian organizations have emphasized that the maternal health issues of IDPs living in camps<sup>17,18</sup> and those living in conflict areas<sup>19</sup> needs special attention and intervention. Pakistan is a signatory of several international healthcare strategies including Millennium Development Goals (MDG), which aims at reducing the maternal mortality rate from 276 to less than 140 per 100,000 live births by 2015, it is evident that a lot of effort is required to bridge this gap of 49.2%<sup>20</sup>. The Government of Pakistan is committed to improvement in maternal and child health. However, at present Pakistan is lagging behind other developing countries in achieving the MDGs 4 and 5 to be met by 2015. It is mainly due to interplay of various factors like nutritional deficiency, poverty, illiteracy, rapidly growing population, low societal status of women, inappropriate health-seeking behaviour, a poorly functioning health system and a poor access to health services. All these issues are magnified among the communities of IDP women, thus further compromising our aim to achieve the MDG targets.

During the stay at Mardan dealing with the IDPs, it was felt that maternal health care can be improved, if available human resources are properly used such as incorporation of reproductive health into primary health care in each IDP camp. Traditional birth attendants (TBAs) in the camps may be identified and trained. Population may be involved in planning and implementation phases. It is possible to improve the health education, prenatal and postnatal care in the IDP camps but provision of efficient obstetric care is only possible in a well-equipped hospital with expertise, blood transfusion services and efficient anaesthesia services available 24/7. These strategies could contribute towards reduction in maternal morbidity and mortality. Purdin et al recommend one emergency obstetric care centre for every 5 camps, along with networks of health care volunteers and a consistent presence of dedicated trained staff. International rescue committee (IRC) succeeded in their experience in Hangu District of Pakistan while working with Afghan refugee camps by reducing the MMR from 291 to 102 per 100,000 live births over a period of 4 years by focusing on the availability and accessibility of Emergency Obstetric Care (EmOC) services<sup>18</sup>.

However, it strongly felt that there is a need to focus on the IDPs living outside the camps, and to

establish a maternal and child health care (MCH) centre in each union council area for the pregnant women and to ensure an ambulance transport facility especially at odd hours. A field visit report from Lund Khwar union council of Mardan reveals the adverse conditions in which IDPs were living outside the camps. As many as 15-20 persons were living in a single room including pregnant women and there were no facilities to ensure safe motherhood in the vicinity nor the availability of appropriate transport<sup>21</sup>. Since almost 80% IDPs are living outside the camps, it is essential to register them and establish a separate data base for them and to look after their needs, which may otherwise be neglected.

The experience of working at the MMC guides the need for a more organized and systematic maternal health care in order to save the life of every expectant IDP mother and a message of care, empathy, peace and equal rights of women to a healthy life needs to be spread.

## CONCLUSION

This study unmasks the high risk status of the pregnant IDP women living inside and outside the camp settings and the urgent need to adopt a comprehensive and integrated approach to provide maternal health care for these desolate women. The three delays i.e. the delay in decision to seek care, the delay in reaching care and the delay in receiving care are considered to be the most important operational factors in the causation of maternal morbidity and mortality. The tragedy in Malakand and Swat has provided with a unique opportunity to interact, influence and educate the women folk of the nation who otherwise are never accessible to because of social, cultural and geographical constraints.

## REFERENCES

1. United Nations High Commissioner for Refugees. UNHCR Global Appeal 2013 Update. Geneva: The UNHCR; 2013: 194-195.
2. Human Rights Commission of Pakistan. Internal Displacement in Pakistan (HRCP): Contemporary Challenges. Lahore: The HRCP; 2010: 23-24.
3. Farooq N, Jadoon H, Masood TI, Wazir MS, Farooq U, Lodhi MS. An assessment study of maternal mortality ratio databank in five districts of North Western Frontier Province Pakistan. JAMC; 18 (2): 64-68.
4. United Nation Population Fund UNFPA Press Release. Pakistan crisis puts pregnant women at increased risk. Islamabad, Pakistan: UNFPA; 20<sup>th</sup> May 2009.
5. National Institute of Population Studies (NIPS) [Pakistan], and Macro International Inc. [USA]. *Pakistan Demographic and Health Survey 2006 – 2007*. Islamabad, Pakistan: NIPS and Macro International Inc; 2008: 167-168.
6. International Human Rights Observers. IDP Right are Human Rights. Proceedings of the National IDPs Conference, 2009 June 24, Islamabad, Pakistan: IHRO Secretariat, 2009.
7. Internal Displacement Monitoring Centre (IDMC). North-West Pakistan: Massive new displacement and falling returns require rights-based response. Geneva, Switzerland: Norwegian Refugee Council; 2013: 1-12.
8. United Nation Population Fund (UNFPA). Pakistan: Humanitarian Response for Displaced Women and Girls in the Northwest Frontier Province. Islamabad, Pakistan: 2009: 1-2.
9. Human rights watch World report 2001, [Homepage of the Human Rights Watch] [online] 2001 last update. [cited 2013 Jun 15]. Available from: URL: <http://www.hrw.org/legacy/wr2k1/index.html>
10. Saadi HN, Virk I. Rapid assessment od IDPs in host communities in Mardan and Swabi Districts. Save the children. [online] 2013 [cited 2013 Jun 15]. Available from: URL :<http://www.savethechildren.org/site>
11. Barlett LA, Jamieson DJ, Kahn T, Sultana M, Wilson HG, Duerr A. Maternal mortality among afghan refugees in Pakistan, 1999-2000. The Lancet 2002; 358 (9306): 643 – 649.
12. Jaleel R, Khan A. Severe Anemia and adverse pregnancy outcome. Journal of Surgery Pakistan 2008; 13 (4): 147-150.
13. Brabin L, Nicholas S, Gogate A, Karande A. A high prevalence of anemia among women in Mumbai, India. Food Nutr Bull 1998; 19:205-209.
14. Hynes M, Sheikh M, Wilson HG, Spiegel P. Reproductive health indicators and outcomes among refugee and internally displaced persons in postemergency phase camps. JAMA 2002; 288:595.
15. Badshah S, Mason L, McKelvie K, Payne R, Lisboa PJ. Risk factors for low birthweight in the public-hospitals at Peshawar, NWFP-Pakistan. BMC Public Health 2008; 8: 197-8.
16. Badshah S, Mason L, McKelvie K, Payne R, Lisboa PJG. Maternal risk factors inAfghan-refugees compared to Pakistani mothers in Peshawar, NWFP, Pakistan. J Pak Med Assoc 2011; 61 (2): 161-164.
17. Furuta M, Mori R. Factors affecting women's health-related behaviors and safe motherhood: a qualitative study from a refugee camp in eastern Sudan. Health Care Women Int 2008; 29: 884-905.
18. Purdin S, Khan T, Saucier R. Reducing maternal mortality among Afghan refugees in Pakistan. Int J Gynaecol Obstet 2009; 105: 82-5.
19. Kottegoda S, Samuel K, Emmanuel S. Reproductive health concerns in six conflict-affected areas of Sri Lanka. Reprod Health Matters 2008; 16: 75-82.
20. Mahmud G, Zaman F, Jafarey S, Khan RL, Sohail R, Fatima S. Achieving Millennium Development Goals 4 and % in Pakistan. BJOG 2011; 118 (Supp.2) : 69-77.
21. Relief response to IDP crisis. [Home page of the Institute for Development Studies and Practices: Pakistan] [online] 2010 last update. [cited 2013 July 10]. Available from: <http://www.idsp.org.pk/?p=242>.

22. Human rights watch World report 2001, [Homepage of the Human Rights Watch] [online] 2001 last update. [cited 2013 Jun 15]. Available from: URL: <http://www.hrw.org/legacy/wr2k1/index.html>