

Review Article

PREGNANCY INDUCED HYPERTENSION – IN CONTEXT OF AFGHANISTAN

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ABSTRACT

Just like many south asian countries, PIH is one of the major causes of maternal mortality in Afganistan. In many cases it is avoidable .in the present article the treatment protocol that is being followed in Afganistan and its comparison with many south Asian countries will be discussed. Recent advancements and their applications have also been reviewed. Above all our review article is directed to come up with new treatment protocol to reduce maternal mortality in Afganistan.

Keywords: PIH, incidence, risk factors, health setup, management.

Introduction

Maternal mortality is unacceptably high; about 830 women die from pregnancy- or childbirth- related complications around the world every day. It was estimated that in 2015, roughly 303000 women died during and following pregnancy and childbirth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented. Please add something about maternal death in Afghanistan as well.

Pregnancy Induced Hypertension (PIH) is among the most common causes of maternal mortality. It is one of the most common form of pregnancy-related hypertensive disorder, which accounts approximately 10% of maternal deaths in Southern Asia and as high as 20% maternal deaths in Afghanistan [1]. Yet the majority of maternal and newborn deaths related to PE/E could be avoided if women received timely and effective care. Criteria for diagnosis of pre-eclampsia includes onset of a new episode of hypertension during pregnancy, characterized by persistent hypertension (diastolic blood pressure \geq 90mmHg) and substantial proteinuria ($>0.3g/24$ hours). Criteria for diagnosis of eclampsia includes generalized seizures, in addition to pre-eclampsia criteria.

Among the hypertensive disorders, PIH have the greatest impact on maternal and newborn morbidity and mortality. Dietary requirement for different nutrients increases during pregnancy. The dietary intake of many Afghan women,

however, is significantly below the recommended dietary requirements. Two of the most important nutrients are iron and calcium. Adequate calcium intake during pregnancy and lactation has the potential to prevent pre-eclampsia, pre-term birth, improve maternal bone mineral content, breast milk concentration and bone development of neonates. While there is national guideline available on calcium supplementation for different age groups, this protocol is developed to guide the proper calcium supplementation during pregnancy in order to prevent PIH.

Pregnancy and birth-related complications are leading causes of death among women of reproductive age in developing countries. In 2008 alone, an estimated 358,000 women worldwide died from complications related to pregnancy or childbirth (WHO et al. 2010). The vast majority of maternal deaths occur in developing countries, where hemorrhage, obstructed labor, eclampsia, abortion, sepsis, and infection are the main causes of pregnancy-related complications (WHO et al. 2010).

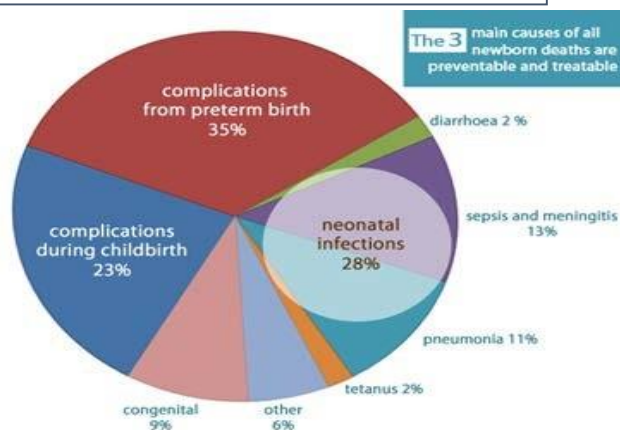
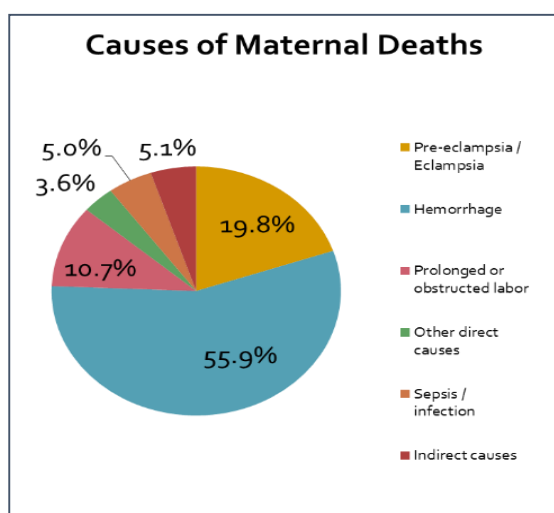
Afghanistan has long been recognized as having one of the highest levels of maternal and new born mortality in the world. And it was estimated 40% to 50% of women's death during the childbearing years are related to complications during pregnancy and childbirth [2].

Maternal mortality in Afghanistan has declined overall during the past 15 years but may have increased slightly since about 2010 because of increasing insecurity. The 2000–2002 MMR of 1,600 per 100,000 found in the Reproductive Age Mortality Study I (RAMOS I) is well

attested⁷. It is agreed that the MMR of 327 in the 2010 Afghanistan Mortality Survey (AMS) was too low and that the AfdHS 2015 MMR of 1,291 is too high, in both cases because of data problems. However, the lack of overlap of their confidence limits suggests that there was some increase in the MMR between the two studies.

An MMR of 661 per 100,000 is suggested instead of the 1,291 reported in the AfdHS (RMNCAH strategy 2017-2021)^[3].

The newborn mortality rate for the period 2011–2015 was 22 per 1,000 live births, this means that 40% of all under-five deaths occur in the first month of life⁴. Newborn mortality has continued to decline as access to and use of both SBA and child health services have improved, but this decline has been slower than the declines in post-neonatal and child deaths.



Source: Liu L, Johnson H, Cousens S et al. 2012. Global, regional and national causes of child mortality: an updated systematic analysis. Lancet 379(9832):2151-61.

INCIDENCE AND SPECTRUM OF THE DISEASE IN THE RESPECTIVE COUNTRY

PIH is among the most common causes of maternal mortality in Afghanistan after which account approximately 10% of maternal deaths in Southern Asia and as high as 20% maternal deaths in Afghanistan^[8]. There is no specific data in HMIS on PIH it included in pregnancy complications and still there is no research about exact data of PIH, but

According to quality of care study 2016 - 2017 in 246 health facility assessment in 34 provinces of Afghanistan below are major findings related to PIH^[9]:

- 806 interviews with Skilled Birth Attendant (SBAs)
- Facility Readiness to Prevent and Manage PE/E**
- 66% of facilities report providing delivery services 24 hours/day, 7 days/week
- 90% facilities have a functioning blood pressure apparatus
- 81% facilities have injectable magnesium sulfate (MgSO₄) available in the delivery room for management of PE/E
- 52% facilities have injectable calcium gluconate available in the delivery room in case of MgSO₄ toxicity

PE/E Prevention Practices Observed^[10]

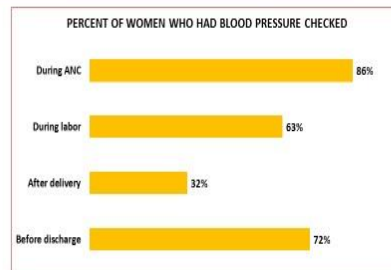
- 36% of pregnant women are asked about severe headaches and/or blurred vision
- 63% of women have their blood pressure checked at least once during labor
- 34% of postpartum women have their blood pressure checked before discharge from facility after childbirth

SBA Knowledge of How to Manage Severe Pre-eclampsia

- 83% of SBA know to administer magnesium sulfate
- 57% of SBA know to administer anti-hypertensive
- 43% of SBA know to deliver the baby within 24 hours of severe pre-eclampsia being diagnosed

DETECTION AND MANAGEMENT OF HYPERTENSIVE DISORDERS

EARLY DETECTION OF SEVERE PRE-ECLAMPSIA REQUIRES REGULAR BLOOD PRESSURE MONITORING DURING PREGNANCY, LABOR AND THE POSTPARTUM PERIOD.



37%
of women do not have blood pressure checked during labor

68%
of women do not have blood pressure checked after delivery

81% of facilities have MgSO₄ for treatment of pre-eclampsia/eclampsia in the delivery room

GLOBAL EPIDEMIOLOGY: HYPERTENSIVE DISORDERS ACCOUNT FOR 1 IN 8 MATERNAL DEATHS.

FACILITIES AVAILABLE-PERIPHERAL HOSPITALS/TEACHING INSTITUTIONS/HDU/ANY SPECIALIST INSTITUTE

In the basic package of health services (BPHS) and essential package of hospital services (EPHS) provision of maternal and neonatal health services are major part of health services provision, which also includes PIH prevention, diagnosis and management as per MOPH standardized protocols^[11].

The standardized classification of health facilities that provide the basic health services in the BPHS are as follows:

- Health posts
- Mobile health teams (MHTs)
- Health sub-centers (HSCs)
- Basic health center (BHC)
- Comprehensive health center (CHC)

- District hospital (DH)

The EPHS was endorsed by the MOPH in July 2005. For each of the three levels of hospitals— district, provincial, and regional and specialty hospitals

EPHS identifies ^[12].

- The hospital services provided;
- The diagnostic services that should be available;
- The equipment necessary for providing the services in the hospital;
- The elements of the Afghanistan Essential Drug List needed at each type of hospital

Beside provision of PIH prevention, management and referring PIH is integrated as major component of BEOC training in preservice training curricula of medical universities there are teaching hospitals from MOHE and of health and Science institutes and 22 Community midwifery Education and community health nursing education in which PIH is component of their curricula ^[13]

Also, beside government there are Private medical institutes and universities and 510 private hospital which includes 300 OPD private clinic who provide management and referral of PIH cases ^[5].

MANAGEMENT STRATEGIES FOLLOWED IN THE COUNTRY

According to RHMNACH protocol Calcium Supplementation protocol as Primary Prevention of PIH among Pregnant Women in Afghanistan according to WHO 2013 guideline is providing high doses (>1gm/day) ^[14], especially in areas where dietary calcium intake is low the management strategies for PIH are:

- Train and orient all health care providers and Community Health workers (CHWs) on importance of calcium supplementation as a primary prevention of PE/E.
- Enhance the distribution and uptake of calcium tablets along with Iron Folic Acid tablets among all pregnant women during Ante Natal Care (ANC) visits.

- Raise community awareness on PE/E dangers and establish the referral and linkage between community and health facilities to contribute in timely prevention and management of PE/E.

- Strengthen ANC visits and encourage pregnant women to attend four ANC visits.
- Assure pregnant women, families and communities get awareness on PIH.

ANY HEALTH POLICY EXISTING IN THE COUNTRY IN RESPECT TO PIH AND ANY UP-GRADATION REQUIRED

According to current RHMNACH strategy 2017-2021 the raise strategic approaches for scaling up implementation of high impact evidence-based interventions Like ^[15].

- Introduction of calcium tablets during pregnancy for primary prevention of pre- eclampsia/eclampsia.

Also, there is another strategic approach that emphasis on maintaining and improvement the quality of midwifery and obstetric care in all public health facilities by strengthening and maintaining the availability of quality routine maternity

care, basic or comprehensive emergency obstetric and newborn care as appropriate in different levels of facility which includes below specifications:

- Maintain the regular use of the National Health Facility Integrated Monitoring Checklist to monitor facilities at the provincial level.
- Conduct periodic in-depth national EmONC assessment of facilities at all three levels of obstetric care.
- Scale up mentorship program for midwives across the country.

Routine maternity care should always include cleanliness of the facility and midwifery technique, use of the partograph to monitor progress of labor, and AMTSL. The provision of BEmONC services includes, but is not limited to, intravenous and intramuscular administration of drugs such as antibiotics, uterotonics, anti-hypertensive, and anticonvulsants; assisted vaginal delivery; manual removal of the placenta; manual vacuum aspiration; and stabilization and referral of obstetric emergencies not managed at the basic level. The provision of CEmONC services for mothers includes all the above services plus caesarean sections and blood transfusion services.

The RMNCAH Directorate advocates appropriate pre-service and in-service training of all cadres of health care providers in normal obstetric care, BEmONC, CEmONC, and respectful maternity care, post abortion care and other newly introduced refresher/initial trainings ^[16].

Specific actions will include:

- Strengthen pre-service and in-service training and follow-up after training through regular review and revision of learning packages, protocols, and guidelines.
- Advocate on provision of regular in-service and refresher training according to needs assessments and national policy.
- Develop job aids (checklists, wall charts and ...) for essential EmOC procedures, especially in facilities where they are not frequently formed ^[21].
- Support national professional associations and regulatory bodies in implementation of accreditation and certification programs.

According to MOPH technical guides below are policies for prevention and management of PIH:

- Supplementation of oral chewable calcium tablets as part of the antenatal care is recommended for all pregnant women after 14 weeks.
- Each calcium tablet should contain 500 mg elemental calcium.
- Dietary counselling during the Ante Natal Care visits to all pregnant women.

Discussion:

PIH is the cause of around 20% maternal deaths in Afghanistan and overall PIH complicates approx. 5% of pregnancies. Both maternal and neonatal morbidity and mortality are increased in pregnancies complicated by PIH, and it is the main maternal cause of pre-term birth. Optimizing health service delivery to prevent and treat women with PE/E is a necessary step towards reaching the targets set to end preventable maternal and newborn deaths due to PIH. Meanwhile, according to evidence-based standards, provision of quality Antenatal Care (ANC) services serve an important entry point for early identification and prevention of PEE. A functional and accountable health system with up to date competent staff who are able to provide the best care possible at the right time and in the right place play a key role in improved maternal and newborn health indicators.

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