

Incidence, Mortality and Morbidity of Pre-eclampsia & Eclampsia

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Definition, Aetiology

- Pre-eclampsia: Blood pressure elevation and proteinuria
- Eclampsia: Above findings and convulsions
- Aetiology: Unknown
- Incidence of pre-eclampsia: 2-8% of all pregnancies

Why is it important?

Pre-eclampsia and eclampsia

- high morbidity/ mortality rates
- probably accounts for more than 50 000 maternal deaths worldwide each year
- is a multisystem disorder with adverse effects on the fetus
- long-term effects in the mother and the premature or growth impaired fetus have adverse impact on health systems

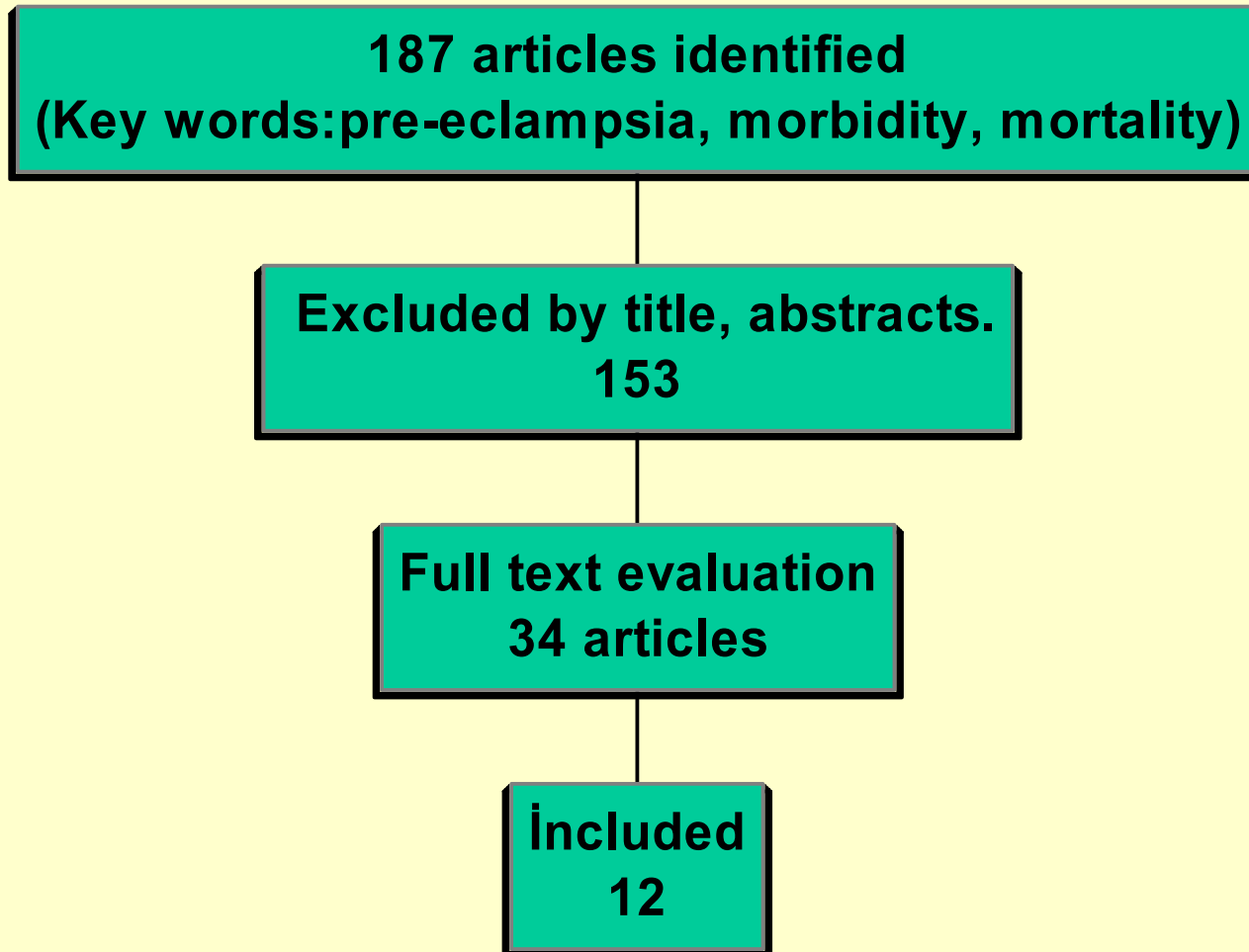
Objective

- To provide recent data on incidence/prevalence of pre-eclampsia and eclampsia in developing and developed countries
- To provide up-to-date data on maternal and fetal morbidity/mortality estimates due to pre-eclampsia and eclampsia
- To provide up-to-date data on effective interventions for prevention and treatment of pre-eclampsia and eclampsia.

Methods

- To assess the current literature the search was restricted to 1990–2002
- Data collected for the WHO Systematic review of incidence/prevalence of maternal mortality and morbidity
- Pubmed (Medline)
- Articles that were not published in English and that did not have a definition for pre-eclampsia or eclampsia were excluded

Results



Types of studies

- 5 hospital-based descriptive studies with varying objectives (5 retrospective, 1 both)
- 1 population-based cross-sectional study
- 6 randomised controlled trials on prevention and treatment strategies

Definition of the disease

- All of the studies used clear definitions but they were not consistent. (Definition made by the ACOG, U.S. Consensus group, ASCS, various authors were used)
- The review confirms the widespread variations in the definitions for the disorder

Definition of the diagnostic procedure

- 10/12 did not describe the diagnostic procedure for blood pressure measurement
 - 1 used Vth Korotkoff sound
 - 1 used IVth Korotkoff sound
- Proteinuria: Mainly dipstick analysis was used - the concentration of urine can affect the results

Incidence

- Different denominators were used for incidence, maternal and fetal mortality rates (No of pregnancies, deliveries, mothers)
- Highest rate for eclampsia: 0.8% (Colombia)
- Highest rate for pre-eclampsia: 7.1% (Zimbabwe)

Maternal and fetal morbidity

- Same pattern of complications was seen in developing and developed countries
- Mother: multisystem involvement
- Fetus: IUGR, low Apgar score, admission to NICU.
- The rates could not be compared – inconsistent definitions

Maternal and fetal mortality rates

- Maternal mortality rates:
 - In pre-eclampsia highest rate 0.4% (Magpie trial, multicentre, mainly developing countries)
 - In eclampsia highest rate 6.1% (Colombia) and lowest 1.8 % (UK)
- Perinatal mortality rates:
 - Pre-eclampsia: highest rate 11.5% (Magpie trial)
 - Eclampsia: highest rate 30.7% (The collaborative eclampsia trial conducted in developing countries)

Prevention

Low-dose aspirin

- studies have not shown beneficial effects on the incidence, mortality and morbidity rates

MgSO₄

- in severe pre-eclampsia significantly reduces eclampsia,
- may reduce maternal mortality
- has no effect on fetal morbidity/mortality rates

Treatment

- **MgSO₄ versus diazepam or phenytoin:**
 - significantly reduces recurrent convulsions
 - may reduce maternal mortality
 - Similar effect on
 - maternal morbidity
 - fetal morbidity/mortality

Conclusion

- Pre-eclampsia and eclampsia remains as continuing problem worldwide
- Universal definitions for the disease and the diagnostic procedure should be introduced
- MgSO₄ should be available in the treatment regimens for severe pre-eclampsia and eclampsia.
- Further well designed multicentric large-scale studies are needed to understand and reduce the incidence and the adverse effects of this disorder