RAMOS

Reproductive Age Mortality Studies (RAMOS) use varied sources, depending on the context, to identify all deaths of women of reproductive age and ascertain which of these are maternal or pregnancy-related. The defining features of RAMOS are not well defined in the literature. We characterize its key feature as starting with all reproductive aged female deaths (or a representative sample). Others have characterized RAMOS as relying on multiple sources of deaths, or as taking an in-depth look at multiple determinants. RAMOS provides an estimate of the proportion of maternal deaths among female deaths (PMDF) but can be combined with other data to obtain the maternal mortality ratio (MMR), the maternal mortality rate (MMRate) and the lifetime risk (LTR).

Identification of death

Varied and sometimes multiple sources may be used to identify all deaths of reproductive aged women including:

- Existing records (civil registration, health facility records, morgue records, burial/cemetery records, newspapers
- Survey/census of households with direct questions (not sisterhood)
- Survey of Key Informants

Ascertainment of maternal/pregnancy related status

All deaths are investigated (using family verbal autopsy reports, death certificates with medical cause, health facility reports or medical record reviews) to ascertain if they are pregnancy related/maternal.

Advantages:

- if rigorous, can provide one of the most complete estimations of maternal mortality
- may provide additional information on cases and circumstances of maternal deaths for investigating avoidable causes of death

Limitations:

- it requires complete death reporting, which may require multiple sources to ensure coverage
- use of multiple sources to ensure complete death reporting can be complex
- time consuming to conduct on a large scale
- if multiple sources are used, duplicate deaths need to be avoided
Measurement requirements:

- an adaptation for ensuring more complete identification of maternal deaths in facilities is termed RAPID
- if verbal autopsy questions are used they must be coded and classified as maternal deaths (ICD coding)
- data on births are needed to calculate MMR and LTR
- data on the population of women aged 15-49 are needed to calculate the MMRTE

RAMOS Questions

- for verbal autopsy questions see Verbal Autopsy page
- for classification of causes of maternal death/ICD-10 coding see ICD Coding page

Guidelines


Scientific articles


Additional resources

Example of a recent RAMOS-based national maternal mortality study: