PROSPECTIVE (COHORT) STUDIES

Prospective studies follow a group of individuals (cohort or selected population) over a period of time to observe health outcomes, including mortality. Within the context of maternal mortality, a prospective study could involve following a population of pregnant women or women of reproductive age. When an entire population is followed over time, this is usually termed a Demographic Surveillance System (DSS). Prospective studies seek to test for an association between a certain exposure and the outcome of interest. Randomized controlled trials are a special form of prospective study in that the exposure (treatment) is deliberately administered at random to individuals in the cohort.

Identification of death

Active surveillance is used to identify deaths usually by asking about enumerated members of the cohort.

Ascertainment of maternal/pregnancy-related status

- if the cohort is already comprised of pregnant or recently delivered women, they are by definition pregnancy-related deaths
- cause of death will need to be established to determine whether it is a maternal death
- if the cohort is women of reproductive age, then pregnancy status will either be ascertained from the woman herself while she was alive or from relatives

Advantages:

- active surveillance makes it less likely that deaths are missed
- pregnancy status can be confirmed
- many exposures and risk factors can be collected in advance of the outcome, including from the woman herself, thus potentially improving data quality
Limitations:

- large sample size are needed - for example, even in a setting where the MMR is 1000/100000, one hundred pregnant women would need to be followed for each expected death; if the general fertility rate is 75/1000 then 1333 women of reproductive age would need to be followed for each maternal death
- may be complicated as early pregnancies may be hidden by women
- there may be false reports of pregnancy or early pregnancy loss where pregnancy status is not possible to confirm
- pregnant women may move out of the study area to deliver and so may be lost to follow-up when at highest risk, pregnant women may move into a study area to deliver and not be counted
- the fact of surveillance or enrolment in a trial with careful follow-up may reduce levels of mortality, making the cohort un-representative
- by it very nature, the cohort is unlikely to represent a national population

Scientific articles


