**VERBAL AUTOPSY**

Verbal Autopsy (VA) is an approach used to obtain cause of death by interviewing lay respondents on the signs and symptoms experienced by the deceased before death. It is used where vital registration systems are weak or the proportion of a population under medical care is low, and involves three steps:

1. data collection by interviewing bereaved relatives or others familiar with the circumstances of the death and who ideally were with the deceased during the events leading to death
2. assignment of cause of death using either individual or multiple physician reviews, expert algorithms or data driven algorithms (regression or neural networks, Bayesian approaches with probabilities of various diagnoses)
3. coding and tabulation of causes, ideally using the ICD

VAs aim to:

1. identify maternal deaths that occur in communities (either within or outside health facilities)
2. identify broad sub-causes of maternal mortality - VA is often used as part of community-based maternal death reviews or Confidential Enquiries and is coupled with questions to ascertain both the medical and non-medical factors that precipitated a maternal death via in-depth interviews and questionnaires (including open ended verbatim accounts, symptom checklists or checklists with filter questions)

These are then used to:

3. highlight non-medical factors that contribute to maternal deaths
4. provide descriptive information about women who die of maternal causes including age, parity, etc.

VA can be done on a one-off basis or routinely as part of SAVVVY, DSS, or Active Surveillance of Pregnancy-Related deaths. VA has been used to measure cause specific mortality in populations (e.g. as part of SAVVVY in India, China, and Tanzania) and to investigate cause of death in specific age, sex, or cause groups such as women of reproductive age, maternal, neonatal, infant, child or injury related deaths. They have also been used to investigate epidemics and to assess the effectiveness of disease specific interventions

**Identification of death**

Varied and sometimes multiple sources used to identify deaths:

- existing records (civil registration, facility records)
- survey/census of households
- key informants
Ascertainment of maternal/pregnancy related status

This is done by asking pregnancy-related questions (Please see information on pregnancy-related questions in the page on Decennial Census), followed by questions to ascertain sub-causes of maternal death.

For example relatives of women who died postpartum can be asked:

- “Did she have vaginal bleeding?”; or
- “Was the bleeding heavy?”

Responses to these questions would them be used to determine if the woman died of post partum haemorrhage.

Advantages:

- in contexts where most deliveries and deaths take place outside of health facilities, it can be the only way of ascertaining the cause of death
- in addition to medical causes of death, can be coupled with other questions to provide important information on social and community factors associated with a maternal death and identifies barriers to accessing obstetric care

Limitations:

- assumes most causes of death have distinct symptom complexes (and that these can be recognized, remembered and reported by lay respondents and that is possible to classify causes into meaningful categories)
- causes of death have limited reliability when reported by lay-persons and can be subjective
- causes of death may be subject to under or over-reporting
- data collection is subject to the quality of training provided to field workers and interviewers as well as the quality of the VA questionnaire

Measurement issues:

- can be supplemented with information from medical documents if available in the household or from health facilities

Measurement requirements:

- duplicate deaths need to be excluded
- sub-causes of maternal deaths must be coded and classified as maternal deaths
- data on births are needed
Guidelines


http://www.who.int/reproductive-health/publications/verbal_autopsies/verbal_autopsies_maternal_deaths.pdf

Scientific articles


Additional resources

InterVA-M:
A collection of computer-based models designed to assist in the interpretation of Verbal Autopsy interviews. Umeå University, Sweden and Immpact, University of Aberdeen, United Kingdom.
http://www.interva.net/

InterVA-M User Guide:
http://www.umu.se/phmed/epidemi/interva/InterVA-M%20UG.pdf

General presentation on verbal autopsy:
http://www.ceda.berkeley.edu/events/AMDC_Papers/Lopez-pres-amdc6.pdf