

## From research to better policy & practice

### OP-34 TRANSLATING RESEARCH INTO A CAPACITY-BUILDING TOOL TO STRENGTHEN OBSTETRIC COMPETENCE

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**Background** In disadvantaged regions, risks like anaemia and pregnancy-induced hypertension contribute majorly to obstetric emergencies. Yet, verbal autopsies conducted as part the Gender and Health Equity Project – an action research initiative aimed at improving functioning of the public health system in northern Karnataka with a particular focus on maternal mortality – indicate that doctors and staff nurses engaged in provision of antenatal and intrapartum care often fail to identify and/or manage these risks. The project also found that prevailing training programmes for skilled birth attendants are altogether weak.

In order to support better obstetric practice in disadvantaged regions, the project assessed the quality of diagnostic decision-making in obstetrics and used this evidence to make strategic decisions about the structure and content of a capacity building tool.

**Methods** Study respondents included all the doctors (n=72) and select staff nurses (n=48) from primary health centres and community health centres across Koppal district in Karnataka. Respondents were presented case vignettes depicting: (1) pregnancy-induced hypertension; (2) anaemia; (3) postpartum haemorrhage; (4) cortical venous thrombosis; and (5) normal labour. Respondents were encouraged to discuss in-depth each of the cases and elicit additional clinical information from the interviewer to diagnose these cases.

A medical doctor and a public health researcher analysed the processes and gaps in diagnostic decision-making from the interview transcripts. Their thematic analysis informed the development of a handbook for doctors and staff nurses.

**Findings** Regarding evidence on provider competence, we found that the concept of ‘risk’ in obstetrics was poorly understood. Doctors and staff nurses were often inaccurate or incomplete in their diagnoses. Moreover, their process of gathering clinical evidence was unsystematic. Doctors and staff nurses often failed to elicit all of the necessary information to support their diagnoses. By focusing on just one symptom, one sign or one test result, they often failed to account for overall clinical presentation of risk. They responded to the case vignettes with either a ‘checklist approach’ (one that does not establish logical connections between symptoms, signs and test results) or a ‘text-book approach’ (one that considers only typical symptoms). Moreover, they rarely considered the severity of risk.

Translating this evidence to support better practice, the handbook – focusing on 15 obstetric and 12 co-morbid risk conditions – engaged with two ideas: (1) women in disadvantaged regions can have co-existing risks; and (2) behavioural responses to symptoms of risk in unhealthy populations can complicate everyday obstetric practice.

Our approach to risk identification and assessment was tactile and practical, in tune with the doctors’ and staff nurses’ bent of mind. Beginning with a systematic clinical evaluation, we enumerated all of the risk indicators (symptoms, signs and test results) that would be elicited through it. We depicted risk

conditions as clusters of symptoms, signs and test results with different grades of severity, and advocated the use of these clusters to identify and assess risks. Emphasising the possibility of co-morbid conditions (both obstetric and non-obstetric), we showed how overlapping symptoms are to be analysed. We then demonstrated steps to a differential diagnosis via which pregnant women: (1) report atypical symptoms; (2) come to antenatal clinics with symptom-free conditions; (3) do not recognise symptoms; or (4) suffer from multiple obstetric and/or co-morbid conditions.

**Discussion** Most studies on the competence of medical providers stop at assessing their knowledge without systematically exploring the reasons for the observed gaps. Consequently, these studies do not adequately lend themselves to identifying effective remedial measures. In our work, we deconstructed the processes that drive erroneous diagnostic decision-making and used this analysis to construct a capacity-building tool in form of a handbook.

Insights from our study indicate that training programmes must be strongly anchored in problem-based learning using cases drawn from real life. All too often, training programmes and manuals take an instructive approach and use stylised cases to illustrate key messages. Such predominant focus on disease-based symptomatology is out of sync with risk presentations in everyday practice. Our handbook responds to this problem by taking a symptomatology-based diagnostic approach that makes it possible to identify any number of co-morbidities.

The process of research translation building up from a systematic analysis of obstetric competence critically determined the form and content of our handbook. It led us to an improvised approach with a few key elements: (1) a checklist approach to systematically enumerate all indications of risk; (2) a cluster approach to explain presenting indications of obstetric and co-morbid conditions; and (3) a step-wise algorithmic analysis leading up to robust diagnoses of risk. This approach responds to the complexity of risk identification and assessment in the everyday practice of primary care providers.

Further research is needed to assess the extent to which such a handbook improves the knowledge of doctor and staff nurses. Such research could also help us understand the challenges of converting our grounded capacity-building tool into action.

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