International Seminar on Measurement of Abortion Incidence, Abortion-Related Morbidity and Mortality

Paris, France, 7-9 November 2007

Organized by the IUSSP Scientific Panel on Abortion
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SUMMARY REPORT

The IUSSP Scientific Panel on Abortion, in collaboration with the Centre Population et Développement (CEPED) and the Centre de Recherche et de Documentation sur l'Amérique Latine (CREDAL – UMR7169 CNRS-Université de Paris III Sorbonne nouvelle), held a seminar on "Measurement of Abortion Incidence, Abortion-Related Morbidity and Mortality," at the Sorbonne, in Paris, France, on 7-9 November 2007. The seminar was supported by funds provided by the UNFPA, the IUSSP, CEPED and the Population Council, Mexico.

The goal of the seminar was to bring together researchers engaged in the measurement of abortion and its correlates to exchange the latest scientific knowledge on measurement of the incidence of induced abortion, and abortion-related morbidity and mortality. This area of abortion research is at a stage where, due to changes in available abortion methods as well as recent legal changes affecting the availability of abortion and the state of ongoing methodological innovations, it was of great benefit to engage in scientific exchange at this point in time. The 20 papers that were accepted for presentation at the seminar addressed issues that included assessment of the current methodologies; newly proposed methods; country specific case studies comparing results from different estimation methods; factors that influence the quality of reporting on abortion; challenges of measurement of abortion in legal settings; and papers that describe and apply methods for measuring abortion morbidity.

Seminar participants came from diverse backgrounds and regions. They included demographers, sociologists, epidemiologists, anthropologists, and health service providers and represented Latin America (6), Asia (6), Sub-Saharan Africa (4), North America (7), and other developed countries (3). Participants represented different career stages – about one-third were junior scholars. Approximately one-quarter of the participants were male (6).

One important outcome of the seminar will be a report based on the papers presented at the seminar, reviewing methods for estimating abortion incidence and abortion-related morbidity, to be developed during 2008.

Assessment of Existing Methods for Estimating Abortion Incidence

The first session of the seminar presented an assessment of current methods of measuring abortion incidence, with some papers including comparisons of two or more methods. Authors discussed the need for measurement of incidence at the national level on a regular basis, and

recommended further study of underreporting and correction factors. An overview of what is necessary to get good data on incidence at the country level identified weaknesses of existing methods. Papers described and assessed the strengths and limitations of some existing methods including an assessment of experience in use of the Health Facilities Complications Method (HFCM), a method for estimating abortion incidence using indirect techniques, implemented in over 12 countries during the past 15 years; a study of the implications of misoprostol self-use on hospital abortion complication rates in two Mexican states – Chiapas and Guanajuato— over the years 2004-2007; the application of the sealed envelope method in the Philippines; and the Anonymous Third-Party Reporting method (ATPR) which was unfortunately withdrawn.

The Mexican study on misoprostal self-use found that when sales of misoprostal decreased, hospital abortion complications increased, but were less severe than the ones observed before the widespread use of this drug. The Philippine's study showed that in a setting where abortion is highly stigmatized, the sealed envelope technique generated much better reporting of abortion than face to face interviews, and compared reasonably well with the HFCM method. One strength of the sealed envelope method is that it can be added into a general demographic and health survey with little additional effort.

An anthropological study of abortion in Cameroon advocated incorporating local context in designing field instruments to improve upon techniques used to elicit sensitive information on pregnancy termination. Another paper looking at menstrual induction highlighted the importance of seeking input from knowledgeable medical personnel which also has the potential to increase communication between medical personnel and patients.

Newly Proposed Methods for Estimating Abortion Incidence

Three papers proposed new approaches to estimating abortion incidence. The first paper presented a straightforward and simple method for estimating the total abortion rate, which was tested in over 40 countries, based on three factors: the percent of married women using modern contraceptive methods, the percent using traditional methods, and the TFR. The objective of this method is solely to arrive at an estimate of the national abortion rate, not to provide individual-level information. A second new approach is an adaptation of the "preceding birth technique" or PBT that has been used to estimate rates of child mortality using information on the survival of the preceding birth interval. This approach stressed the importance of approaching the topic of abortion indirectly, using locally appropriate language, and of including different types of clinics—public and private— in the study site (Accra, Ghana). The fact that the study sample consisted of women obtaining antenatal or delivery care may, however, affect the representativeness of the results. A third approach analyzed the difference between expected sex composition and actual sex composition of live births as a means of assessing the extent of abortion using national survey data for India from 1998-99. The approach differentiated between abortion resulting from sex selection and from contraceptive failure. The study found that sex selection accounts for a bigger share of induced abortions than contraceptive failure. The approach provides an indicator of the minimum level of the abortion rate given that abortion is also occurring for other reasons.

Country-specific Case Studies of Abortion Incidence

Case studies for Botswana, Argentina and Bangladesh – settings where abortion is highly restricted by law – applied different combinations of existing methods to estimate abortion incidence, providing good examples of the value of triangulation as well as valuable insights on the use of particular methods in these countries. The Botswana study presented differences in abortion estimates using the Randomized Response Technique (RRT), a face-to-face interview using an indirect approach to questioning which is aimed at destigmatizing the abortion and direct questioning *via* face to face interviews. All three methods produced extremely low prevalence levels; and although the RRT method resulted in a higher abortion prevalence than the other two approaches, the fact that a high proportion of respondents reported a high level of mistrust of interviewers (that is, they believed that interviewers would know their response) suggests a likelihood of substantial underreporting from this method. In the case of Argentina, abortion incidence was estimated using the Health Facilities Compilations Method (discussed above) and the Bongaarts model of the proximate determinants of fertility. In the case of Bangladesh, where measurement of abortion incidence is difficult despite the fact that menstrual regulation procedures are legally permitted, estimates of the abortion rate were generated using both direct and indirect approaches based on different data sources. Direct estimates (based on face-to-face questioning) come from a DHS survey, the Demographic Surveillance System (DSS), and from a survey with a new interview approach, Abortion Frequency Survey(AFS), specially designed to elicit good reporting on abortion. Indirect estimates using the Bongaarts proximate determinants of fertility model are calculated based on data from three different surveys (two DSS and one DHS). The study concludes that none of the direct survey-based estimates reflect the true rates and trends of abortion in Matlab, but that the higher rates of induced abortion found in 1997 by the AFS are probably closest to reflecting true rates. Results from the Bongaarts residual estimation technique were very variable across data sources. The study concluded that while the Bongaarts residual technique produced acceptable estimates in some instances, results are very sensitive to errors in the input data.

Challenges of Measuring Abortion in Legal Settings

In settings where abortion is legal, relying on official abortion data poses another set of challenges. Case studies of China and Vietnam provide good examples of the range of issues that can arise in measuring abortion incidence. Chinese abortion statistics are considered to be far from complete, partly due to differential data capture of use of different abortion methods and types of providers and also because of the likelihood of concealing sex selective abortions. There is also some evidence that in some particular situations, the number of abortions may be over reported (for example, to increase reimbursement). Vietnam is of interest for abortion research because while official data for the early to mid 1990s showed that it had one of the highest abortion rates in the world (a total abortion rate of 2.5 abortions per woman), more recent official statistics suggest a very sharp recent decline. At the same time, survey estimates, while underreported, do not indicate a decline since the early 1990s. Part of what is likely to be contributing to the varying results is the increase in the role of the private sector in providing abortions which may not be captured by official health statistics. Furthermore, with the DHS data

only capturing ever married women, the abortion situation for never married women remains unknown. With different estimation approaches and data sources producing widely varying estimates, there remains a great deal of uncertainty about the abortion rate in Vietnam.

A third paper examined recent trends in morbidity resulting from unsafe abortion in Nepal, a country that legalized abortion in 2002, to assess the extent to which implementation of safe abortion services, beginning in 2004, affected abortion-related morbidity. Two different measures of morbidity were assessed: one based on the severity of symptoms and the second on the type of medical treatment received. The study found that it was difficult to categorize medium severity cases because of a lack of uniformity in the way medical charts were entered. Mild infection was also considered likely to be underreported because the study was a retrospective study and so clinicians were not attuned to recording it. The results are biased toward more severe symptoms, which result in longer hospital stays and more medical intervention. Ultimately, these measures of morbidity based on medical records of hospitalized patients are only as good as the clinical record-keeping, organizational system for chart storage, physical characteristics of the chart storage system and the resources and skills of the research staff involved in chart abstraction.

Measuring Abortion-Related Mortality and Morbidity

Papers presented two primary ways of capturing abortion morbidity: facility-based data and self-reported data obtained from individuals. This group of papers highlights some key challenges in measuring abortion-related morbidity. The first concerns the balance between data representativeness and accuracy of measurement. Facility-based studies capture one important component of morbidity, but do not reflect morbidity among women who do not obtain care in a facility, while community-based studies include all women, but suffer from underreporting due to the sensitivity of the issue. Facility-based studies are in a better position to collect more accurate, objective and clinical data on morbidity (and treatment) than community-based studies that rely upon self-reported, in most cases retrospective, information from individuals. These factors relate to the degree of accuracy and comparability across studies in our measures of morbidity, important criteria for research in this area. These studies also highlight the lack of and need for standardized and tested measures of morbidity, both in facility-based settings and for community-based studies.

Two papers covered facility-based studies. One of these proposed and tested a new indicator, the number of deaths due to abortion per 100,000 hospitalizations for the same cause, using government hospitalization statistics on abortion-related deaths and morbidity for Mexico. An advantage of this indicator is that it permits monitoring trends over time, and in the case of Mexico, given the data available, by age, by type of health institution, and by state. The results show that this rate increased from 11.4 in 2001 to 23.5 in 2004, for all health systems combined. Despite limitations of the data, for example, deaths due to abortion may be underreported, the quality of data on mortality may have increased over time, leading to a perceived rather than actual increase in the mortality rate. The indicator can be useful in countries where health service institutions maintain data systems that have a high degree of accuracy and completeness.

A second facility-based study assessed a methodology for measuring abortion-related morbidity that uses a combination of medical record data, and information obtained through patient interviews at health facilities, based on applications of the method in South Africa, Kenya and Cambodia. The methodology grew out of studies conducted in the 1980s by Figa-Talamanca and others, and subsequently applied by other researchers. In the South African study, the methodology was further improved by Jewkes et al. 1997, who developed an index of severity of abortion morbidity and used this index as a means of measuring the impact of liberalization of the abortion law, by carrying out a baseline study and a follow-up study a few years later. This methodology uses a prospective data collection approach. These three studies used a nationally representative sample of public-sector facilities. The paper shows that patterns of morbidity differ between the three sites, but determines that this difference is largely a result of differences in patient temperature resulting from variation in when patients' temperature was taken, and concludes that standardization of the index would increase comparability. The authors advocate for nested validation studies to test the methodology.

Three papers addressed the issue of measuring abortion morbidity through self-reported information obtained in face-to-face interviews of individuals using qualitative and quantitative techniques. An important contribution of all three of these papers is that they cover the cross-section of women in a community, as opposed to women who obtain services at health facilities, who are likely to be a more selective group. One study, carried out in Uganda and Guatemala, discussed results of using qualitative techniques to better understand women's experience with induced abortion with a focus on post-abortion complications and their consequences among women who do not make it to a health facility for treatment. This study found a very high level of social stigma surrounding abortion among men and women, and in addition, fears of legal repercussions, especially among health care providers. This high level of stigma limited the data that could be gathered from women, men and health care providers, even when questions were about their friends and other community members.

A second paper analyzed national survey data (Reproductive and Child Health Survey 2002-04) to examine abortion-related morbidity and mortality, drawing on information obtained directly from women themselves as well as indirectly from other household members, for the year preceding the survey. The author acknowledges that there may be substantial underreporting of abortion as a cause of death, especially given the reliance on reporting by other household members, and also points out that other data reporting issues are likely to affect survey results on the sensitive topics of maternal mortality in general, and on abortion morbidity and mortality. However, the results indicate 10% of all maternal deaths are abortion-related, just a little below the proportion estimated by the WHO for the region of South Asia. In addition, this survey obtained detailed data on the characteristics of morbidity for women whose last pregnancy resulted in an abortion. Only about 3% of ever-pregnant women, however, reported that their last pregnancy ended in abortion, indicating a high level of underreporting.

A third paper reported on results from a quantitative survey that obtained self-reported data on abortion-related morbidity conducted in the state of Madhya Pradesh, India. Compared to the much larger scale national RCH Survey, this study used more detailed questions and a more flexible approach to obtaining information (approximating an in-depth interview). This study considered abortion attempts as the unit of analysis, and used three measures of abortion

morbidity: one based on the severity of reported symptoms, one on the number of days of bed rest, and a third that combined these two measures. These measures had different advantages and disadvantages, and point to the difficulty in measuring morbidity, but make a significant step towards the important goal of achieving a more standardized measure that would permit comparison across studies. Similar to the national RCH survey, there was substantial underreporting of abortion. Nevertheless, respondents reported an abortion ratio of 5.5 abortions per 100 live births, significantly higher than the level reported in the 1998-99 NFHS survey in Madhya Pradesh (1.2 abortions per 100 live births).

Some important general points arising at the seminar

Discussion of several papers highlighted the fact that the concept of menstrual regulation (MR) is used differently across diverse settings. A key point is that in some countries, MR procedures are provided without pregnancy testing; and in some settings the term menstrual regulation is used in a general sense, partly to avoid using the much more sensitive term abortion. In studies where MR procedures are reported and included as abortions but pregnancy testing is not done and being pregnant is not a criteria for obtaining an MR procedure, researchers face the dilemma of how to interpret the data. In these circumstances, some women who have had MR procedures are appropriately classified as having had an abortion if they were pregnant, but some women are not pregnant and although they had an MR procedure, it would not have induced an abortion, but since this is unknown, the researcher typically counts all women who had MR procedures as having had an abortion. Several papers stressed that using culturally relevant concepts to capture abortion is imperative. Yet more attention is needed to know how to treat menstrual regulation procedures when measuring the incidence of induced abortion, and how to interpret estimates that include all MR procedures.

There was also a call to be clear about what it is we are measuring: abortion or unsafe abortion. As the data from India demonstrates, legal abortion should not be equated with safe abortion. Therefore, it is clearly important to use the most appropriate term for the event being studied if we are to have clarity in what we are measuring.

Standardization of measurement techniques is needed in order to improve comparability and trend analysis. Participants called for a coordinated effort to achieve this. Likewise, it is important to have assumptions explicitly stated in all of the estimation approaches.

Use of more than one method to estimate abortion incidence or morbidity is encouraged because confidence in results is strengthened by triangulation of methods.

Misoprostol is an important new additional method of abortion and it has the potential to greatly reduce the severity if not the frequency of abortion morbidity. Traditional methods for measuring morbidity and incidence may need to be rethought to account for this newcomer to the market.