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Review of a Study by Koch et al. on the Impact of Abortion Restrictions on Maternal Mortality in Chile

Background

Maternal mortality—that is, women dying from pregnancy-related complications—is driven by a range of factors. They include a country's overall level of development, women's status in society, the quality and accessibility of health services (including care before, during and after pregnancy), women's ability to time and space their pregnancies via contraception,[1] the legal status of abortion and the availability of safe abortion services (or, lacking those, access to adequate postabortion care).[2]

Previous research has found that unsafe abortion—procedures performed by an untrained provider, in an unsafe setting or both—is among the main drivers of pregnancy-related deaths in developing countries, accounting for about 13% of maternal mortality.[2] It is well-established that subregions with high unsafe abortion rates also have a high incidence of abortion-related maternal deaths,[2] and abortion-related mortality is low or nonexistent in countries with liberal abortion laws.[3,4]

Assessing a new study from Chile

A new study by Koch et al. asserts that the expansion of abortion restrictions in Chile in 1989 did not lead to an increase in the incidence of abortion-related mortality. The study concludes that "making abortion illegal is not necessarily equivalent to promoting unsafe abortion."[5]

However, as detailed below, the study has several serious conceptual and methodological flaws that render some of its conclusions pertaining to abortion and maternal mortality invalid:

1. **Chile's pre-1989 abortion law was already highly restrictive, thus no conclusions can be drawn about the impact of a change from liberal to restrictive laws:**

    - Before 1989, abortion was legal in Chile only to save a woman's life[6] (the law was sometimes interpreted to allow abortion if a woman's health was threatened[7]). This means that on the spectrum of abortion restrictions, Chile was already among the countries where abortion is highly restricted. The further tightening of these already severe restrictions in 1989 then put Chile firmly in the

group of countries with the most restrictive laws—those where abortion is banned under any circumstances.

- Relatively few legal abortions are performed to save the life of the mother or to protect the mother's health.[8] Thus, it is not surprising (and should in fact be expected) that after Chile's law was further tightened in 1989, the proportion of all abortions that were illegal did not increase substantially.

2. **The authors rely on a far too narrow, unreliable evidence base:** The authors state that they are using "empirical evidence" as a basis for their claims regarding the incidence of abortion and abortion-related mortality in Chile. However, their exclusive reliance on Chile's vital registration system to assess the incidence and consequences of abortion in a setting where the procedure is highly restricted—and therefore largely clandestine—is a critical methodological weakness.

   - To properly understand the impact of a clandestine practice, it is necessary to probe much further. A body of research using data sources such as surveys of women and surveys of health professionals has been developed, peer reviewed and published in scientific journals in recent decades specifically to address the severe limitations of registration systems in measuring the incidence and consequences of unsafe abortion.

   - Abortion as a cause of death is often misreported or underreported in countries where the procedure is illegal under all or most circumstances. In Chile, women who suffer complications after undergoing unsafe abortions are highly unlikely to admit to these actions given possible criminal sanctions (including prison sentences for having obtained abortions). For the same reason, many women may not seek medical help for abortion-related complications. Likewise, physicians treating women for postabortion complications may misreport (or not report at all) deaths and injuries from unsafe abortion to protect their patients from criminal sanctions.

3. **The argument that restrictive abortion laws do not have a negative impact on women's health is not supported by the existing body of evidence:** In addition to their own study, the authors cite low maternal mortality ratios in Ireland, Malta and Poland as evidence that restrictive abortion laws are safe for women. But women in these countries are known to travel to nearby countries with liberal abortion laws to terminate pregnancies or seek postabortion care. Moreover, these countries are exceptions to the rule.

   - Almost all of the countries classified as having the lowest maternal mortality rates in the world allow legal abortion on broad grounds, and almost all of the countries with the highest maternal mortality rates have highly restrictive abortion laws.[1]

   - In countries that have liberalized their abortion laws over the past two decades, such as Ethiopia, Nepal and South Africa, the evidence is beginning to

demonstrate that abortion law reforms are associated with improved health outcomes for women.[9–12]

4. **The authors underestimate the incidence of hospitalization for complications from unsafe abortion in Chile:** Though it does not affect the estimated trends in abortion mortality, it is worth noting that the authors seem to have underestimated the incidence of induced abortion complications treated in hospitals, by overestimating the proportion of all abortion cases that are the result of spontaneous abortions (miscarriages).

    - To estimate the numbers of cases that are due to spontaneous abortions, they rely on an unpublished methodology developed by the first author of the current paper.[*13] Using this approach, they estimated that 88% of all abortions were spontaneous abortions. By contrast, according to an approach that has been peer reviewed numerous times and published in a range of scientific journals,[14] only 28% of hospitalized abortion cases in Chile in 1990 were spontaneous abortions.[15]

Conclusion

For the reasons outlined above, the study by Koch et al. does not alter the existing body of evidence on the impact of abortion restrictions on maternal mortality. In particular, since Chile's abortion laws were already highly restrictive in the pre-1989 era, the study does not show that significantly restricting a country's abortion laws has no negative impact on women's health.

A body of research, largely published in peer-reviewed journals, makes clear that the decline in maternal morbidity and mortality from unsafe abortion in Chile in the past decades coincides with greater access to and use of contraceptives, as well as the use of less dangerous clandestine abortion methods. Misoprostol, a drug that can be used to induce nonsurgical abortions, is legally and widely available in Chile;[16] women's groups have helped make misoprostol available to women seeking abortions, and abortion providers and women themselves have been using the drug to terminate pregnancies since the 1990s.[16, 17] The use of misoprostol as an abortifacient is associated with a lower risk of severe health consequences than the use of illegal surgical procedures, and is considered an important explanatory factor in the decline in abortion-related deaths in the past two decades.[17–20]

By helping to reduce unintended pregnancy, family planning programs also help to reduce recourse to unsafe abortion. Contraceptive use has increased substantially in Chile

[*] The authors indicated that their methodology relied on a study of the incidence of spontaneous abortion among all pregnancies; that study included early spontaneous abortions, even those that occurred before the pregnancies were clinically recognized. Early spontaneous pregnancy loss is not uncommon, and women who experience them are highly unlikely to seek hospital care. Though the authors of the paper did not explain their approach to estimating the proportion of all cases due to spontaneous abortion, their reliance on this study probably helps explain the gross overestimation of the contribution of spontaneous abortions to the abortion caseload in facilities.

since the 1960s.[21–23] The initial rise in contraceptive use ushered in an extended decline in the incidence of unsafe abortion and abortion-related hospitalizations.[24]

The evidence on abortion laws, unsafe abortion and maternal health indicates that further reductions in Chile's maternal mortality and morbidity could be achieved by such strategies as liberalizing the country's abortion law and giving women meaningful access to safe and legal abortion services.

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