The estimated incidence of abortion in Malawi

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Short abstract

Unsafe abortion is a serious problem that affects over 20 million women each year globally, leading to almost 68,000 yearly deaths. In a legally restrictive setting, such as Malawi, women turn to unsafe abortion to manage unwanted pregnancy. This study utilized the Abortion Incidence Complications Methodology to estimate abortion incidence. Data were collected over a 30 day period on patients presenting for post-abortion care (n=2076) and on facility service provision from 166 public, non-governmental and private facilities representing all levels. In-depth interviews were conducted with 56 stakeholders concerning women's access to care. It was estimated that 70,194 induced abortions (range 50,696-89,692) occurred in Malawi in 2009, yielding an abortion rate of 24.0 abortions per 1000 women aged 15-44 (range 17.4-30.7). Study findings warrant careful consideration as government and civil society organizations in Malawi continue efforts to fulfill the Millennium Development Goals and improve the health of women and their families.

Extended abstract

Introduction:

Unsafe abortion is a major public health concern for many developing countries. WHO estimates 20 million unsafe abortions globally and almost 70,000 abortion-related deaths occur each year (WHO, 2007). It has been estimated that 98% of unsafe abortions take place in developing countries. Africa has the highest maternal mortality ratio in the world of 1,000 deaths per 100,000 live births of which 13% are due to abortion complications. Globally, the risk of death from unsafe abortion in Africa is the highest, with an estimated 650 deaths per 100,000 unsafe abortion procedures compared to about 10 deaths per 100,000 procedures in the developing world (WHO, 2007).

There are several estimates of MMR in Malawi from different sources; the newest estimates show 1140 deaths per 100,000 live births (range 675-1813) (Hogan et al, 2010). This range encompasses a bit older estimates from 2006 of 807 (range 696-918) to 980 and 1,120 from the 2004 and 2000 DHS, respectively (National Statistical Office and UNICEF, 2008; National Statistical Office and ORC Macro, 2005). All of these estimates show quite high rates of maternal deaths over the past decade. Singh et al have demonstrated that in places where abortion is clandestine, unsafe abortion is one of the major contributing factors to a country's high level of pregnancy-related deaths (2005).

In Malawi, abortion is restricted by law to circumstances where it is performed to preserve the pregnant woman's life. In legally restrictive settings, women turn to unsafe abortion to manage unwanted pregnancy. Many suffer long-term health consequences including chronic pain and sterility. This study estimated the incidence of induced abortion in Malawi**.**

Methodology:
Data were collected over a 30 day period on the caseload of patients presenting for post-abortion care (PAC) (n=2076) and on facility service provision from 166 public, non-government and private for profit health facilities representing the primary, secondary and tertiary levels of the health system. In addition, in-depth interviews were conducted with 56 stakeholders and health professionals on women's access to care.

This study builds on methodology from previous abortion incidence and magnitude estimates conducted in South Africa, Uganda, Kenya and Ethiopia (Jewkes et al, 2002; Singh et al, 2005; Gebreselassie et al, 2005; Gebreselassie et al, 2010; Singh et al, 2010). Specifically, this study combined the Prospective Morbidity Methodology (PMM) to estimate the morbidity of women presenting for post-abortion care (PAC) and the Abortion Incidence Complications Methodology (AICM) to estimate the incidence of abortion.

According to the AICM methodology, the incidence of abortion is calculated by adding:

1. the number of women who had complications and received treatment at a health facility,
2. the number of women who had complications and were not treated at a health facility , and
3. the number of women without complications who have no need for treatment.

To determine the first number, the number of women who had complications and received treatment, we collected caseload data at health facilities for 30 days. In addition, we asked providers to estimate the number of PAC procedures their facility conducts in a typical month and in the month prior to data collection. Caseload estimates were multiplied by 12.2 and the health facility estimates were multiplied by 12 to generate annual estimates of women treated for abortion complications per facility. The three estimates per facility were averaged to create an average case load, which was then summed for all facilities and weighted, resulting in an annual weighted estimate of the number of women who received treatment for abortion complications at PAC facilities in Malawi in 2009.

Due to the complexity of determining if the woman reported for care due to a spontaneous miscarriage or an induced abortion procedure, and the stigma woman may experience if they reported an induced procedure, these data were not collected. Therefore, the AICM and PMM methodologies were used to take the number of women treated for abortion complications in Malawi and estimate how many of these women were treated for induced abortion complications and how many were treated for spontaneous miscarriage complications. Data from the 2008 Malawi Census, 2004 DHS, and 2006 HMIS were used in these calculations. A multiplier is generated from information relayed from the stakeholder interviews to estimate the second two numbers. The product of the number of women treated for induced abortion complications and the multiplier is an estimate of the number of induced abortions in Malawi in 2009. Incidence calculations were based on the 2009 estimates of a total population of 13,443,320 Malawians, 2,921,320 women aged 15-44, and 628,084 live births. Data were analyzed using Stata version 11. This study received IRB approval from the Malawi National Health Sciences Research Committee.

Results:
It is generally believed that caseload estimates are underreported when each case is counted and overreported by provider estimates. Using this knowledge, an average value of these three estimates was developed, yielding an estimated 31,021 (95%CI 26,674-35,368) women treated for abortion

complications in public, non-government and private for profit health facilities Malawi in 2009. This range of 50,696 to 89,692procedures in one year includes both spontaneous and induced abortion complications. Almost half the cases treated in facilities were in public hospitals compared to other facility types and an average of 187 women was treated in each of the 166 facilities offering PAC in the year 2009.

To obtain the number of women treated for complications of induced abortion, established methodology was used that combined biological patterns of miscarriage with the assumption that all women having miscarriages at 13-21 weeks gestation would experience complications that would lead her to seek care from a health facility. Based on this, late miscarriage is equal to approximately 3.41% of all live births (Harlap et al, 1980; Bongaarts and Potter, 1983; Singh et al, 2010). In 2009, it is estimated that there were 628,084 live births of which 21,418 are estimated to be late miscarriages.

While women may experience complications that warrant health care, not all women will be able to access health care, based on a variety of reasons. Sources outside of our data collection indicate high levels of access to facilities and health care in general. The DHS (2004) estimates indicate that 42% of women deliver in hospital facilities, the MICS (2006) indicates 53.8% of women deliver at a hospital and PRB (2009) estimates that births attended by medically trained personnel ranges from 43% of the poorest income quintile to 83% of women in the richest income quintile. Using the proxy of 54% of women delivering at a hospital to estimate the percentage of women who would come to a health facility to seek care for post-abortion complications, we estimate that about 19,500 women were likely treated for induced abortion complications in health facilities in Malawi during 2009.

As previously noted, the incidence of abortion includes the number of women treated for unsafe abortion complications plus those women who experienced complications but did not receive treatment and those women who did not have complications. To determine these last two numbers, the in-depth interview was used to collect data on health providers' assessment of access to care for women who were poor and non-poor, and those living in rural and non-rural areas, to generate a multiplier. A multiplier of 3.6 was applied to the estimate of the total number of women treated for abortion complications to estimate that 70,194 induced abortions (range 50,696-89,692) occurred in Malawi in 2009. This estimate yields an abortion rate of 24.0 abortions per 1000 women aged 15-44 (range 17.4-30.7) and an abortion ratio of 11.2 abortions per 100 live births (range 8.1-14.3).

Discussion:

The estimated rate of abortions per 1000 women aged 15-44 was 24.0 for Malawi in 2009. The WHO estimated the incidence rate of abortion for the African continent as 29 and for Eastern Africa (which included Malawi) as 39, indicating that our estimate falls within a reasonable range (WHO, 2007). Comparison studies indicate an abortion rate of 23 for Ethiopia in 2008 and a rate of 54 in Uganda, calculated in 2003 (Singh et al, 2005; Singh et al, 2010).

According to the United Nation's MDG monitor, Malawi is "off track" for achieving the MDG goal of a 75% reduction in maternal mortality by 2015 (MDG Monitor, 2010). Global recommendations offer three major steps to improving maternal and reproductive health for women: increasing "access to family planning", increasing "access to quality care of pregnancy and childbirth", and increasing "access to safe abortion services" within the current law, including the provision of PAC for complications of induced and spontaneous abortions (Women Deliver, 2010).

Sexually active Malawian women, regardless of age or marital status, need greater access to family planning services and contraceptive choices. According to the 2004 DHS, one quarter (25.7%) of all women reported currently using any contraceptive method, 40.9% of currently married women wanted no more children, and 27.6% of currently married women reported an unmet need for family planning. While the reported current use of modern contraception by married women rose from 28.1% in 2004 to 39% in 2009, more than one in five women (22.7%) in this study reported that they were seeking PAC services for a pregnancy that came about while they were using a contraceptive method (DHS, 2004; PRB, 2009). Half of all women seeking PAC in this study were under 25 years of age. These figures point out that women, especially young women, need increased access to contraceptive services that include options and information to increase efficacy and reduce the occurrence of contraceptive failure.

Of the 1.5 million visits made to family planning services in 2008, the overwhelming majority (81.1%) were made for a 3-month supply of Depo-Provera. About 10% requested a 3-month supply of oral contraceptive pills and 7.6% requested a 3-month supply of condoms (HMIS, 2008). Further information is needed to determine if women are choosing Depo-Provera due to preference or lack of other options and what types of contraceptive choices will meets women's needs. The low request for condoms is disheartening, especially considering that 50% of the women presenting for PAC were under 24 years of age, and the HIV prevalence for youth aged 15-24 years is estimated at 8.4% (UNAIDS/WHO, 2008). Further work needs to tease out interwoven needs of young women for prevention of unwanted pregnancy and HIV.

The Reproductive Health Unit has begun increasing the number of public facilities that provide PAC in a deliberate effort since 2003, through provider training and facility upgrade. Continued emphasis on this program is needed, including assuring that trained providers and equipped facilities are continually paired together, even with the necessary transfer of providers that needs to occur in order to ensure continuous health care coverage throughout the country. In addition, trained providers need constant access to the critical tools of maternal mortality reduction: options of short term and long term contraceptive options for the prevention of unwanted pregnancy, misoprostol for treatment of postpartum hemorrhage, and MVA for the treatment of incomplete abortion.

Unsafe abortion leads to maternal mortality. Indeed, Malawi has one of the highest maternal mortality rates in the world, with about 17% attributable to unsafe abortion (WHO, 2007). It is clear that women are suffering in Malawi as one in five experienced severe complications and induced abortions are occurring at a high rate of 35 abortions per 1,000 women aged 15-44 years. Since abortion is legal only to save the life of a woman, the vast majority of the induced abortions occurring in Malawi are considered to be unsafe- completed by a person who is not properly trained and/or in unhygienic conditions (WHO, 1995).

The findings of this study warrant careful consideration as the government and civil society organizations in Malawi continue efforts to fulfill the Millennium Development Goals and improve the health of women and their families. At a minimum, measures include increasing access to contraceptive services throughout Malawi, with a special focus on information and services for young people as well as training in abortion-related care for health care providers in both the public and private sectors. Reforming the abortion law to allow explicitly for more indications for induced abortion would also decrease the number of women presenting in health facilities with severe and moderate complications of unsafe abortion. The health of women and their families in Malawi deserve highest priority attention.

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