

The Magnitude of Unintended Pregnancy and The Proposed Interventions for Botswana

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Abstract

Unintended pregnancies are a significant global public health issue with profound health, economic, and psychosocial impacts. They constitute nearly half of all pregnancies globally, with sub-Saharan Africa. In Botswana, about 43% of pregnancies are unintended, highlighting gaps in contraceptive access and education despite a 67.4% contraceptive prevalence.

A thorough literature search was conducted using databases online databases like CINAHL, PubMed, Google Scholar, and EBSCOhost. National and international policy documents and guidelines were included, applying a ten-year filter, which yielded nine relevant articles.

Socio-economic factors, contraceptive failures, misinformation, and gender dynamics are primary contributors to contraceptive failure and untimed pregnancies, disproportionately affecting adolescents. These pregnancies are linked to adverse outcomes such as unsafe abortions, increased maternal mortality, and psychological distress.

Addressing unintended pregnancies requires a multifaceted approach. Collaborative efforts among healthcare providers, policymakers, and communities are vital for sustainable solutions, empowering individuals to make informed reproductive health decisions within their cultural and societal contexts.

Introduction

Unintended pregnancy remains a serious global public health problem with far-reaching impacts on individuals, families, and society. It is a type of pregnancy that is mistimed, occurring earlier than expected, completely unwanted, or occurring when a person no longer wants to have children (Zelege et al., 2021). It is one of the most serious public health challenges and has significant implications for the health, economic, and psychosocial well-being of pregnant girls, women and their families (Herd et al., 2016).

World Health Organization (WHO) reflects that approximately 121 million unintended pregnancies occurred globally each year between 2015 and 2019, accounting for nearly half of all pregnancies (Kareem, 2024). Unintended pregnancies account for 20 to 40% of pregnancies in sub-Saharan Africa (Mayondi et al., 2016). Contraception is one of the most important tools for couples and individuals to exercise their right to decide freely and responsibly regarding the number and spacing of their children, and the use of contraceptive methods is increasing worldwide (Kantorová et al., 2020). However, most women of childbearing age who wish to avoid pregnancy do not use any contraceptive method (United Nations, 2019). By 2030, the Sustainable Development Goals aim to reduce the global maternal mortality ratio to less than 70 per 100,000 live births, with no country exceeding twice the global target (Asmamaw et al., 2023). Adopting this goal calls for periodical reviews by local and international organizations to

evaluate the progress and challenges faced by hence interventions to improve programmes. Globally, approximately 20 million pregnancies are classified as high-risk, leading to around 800 maternal deaths due to pregnancy-related complications (Johnson et al., 2024). Every pregnancy can still encounter complications due to the presence of some risk factors such as age being over 35 or under 17, lifestyle choices, pregnancy-induced health conditions and pre-existing medical conditions.

Women are encouraged to register for antenatal care as early as eight weeks to ensure a safe pregnancy through regular health assessments, screening for high-risk pregnancy which may require specialized care thus lowering possible complications reducing mortality and morbidity. It is therefore important for all pregnant mothers to undergo screening for high risk and those identified with high risk conditions to be followed up regularly. Each year, 2.9 million newborns and 265,000 mothers die from complications that occur during pregnancy, childbirth, and the postpartum period and more than half occur in Sub-Saharan Africa (Asmamaw et al. 2023).

Mayondi et al. (2016) state that, in Botswana, 44% of women report unintended pregnancies, 64% reported contraceptive use before unintended pregnancy. Mayondi et al. (2016) also added that contraceptive methods mostly used in Botswana are short-acting contraceptives, 81% of women with unintended pregnancies report using a male condom. Curtis et al. (2016) state that, the strategies to prevent unplanned pregnancies, include assisting women at risk of unplanned pregnancy and their partners with choosing appropriate contraceptive methods, helping them use the methods correctly and consistently to prevent pregnancy.

Discontinuation of implants is a perpetual problem worldwide, on average, within the first year of use, 9 % of women discontinue using implants (Pleaner et al., 2017). Barden-O'Fallon et al. (2018) found that irregular bleeding, lower abdominal pain, and vaginal discharge play an important role in the early discontinuation of hormonal implants. Irregular bleeding is the highest (34 %) cause of implant discontinuation (Qamar et al., 2019).

This article aims to discuss factors that contribute to unwanted pregnancy as well as the effects of such pregnancy. It also proposes interventions to address the problem

Methodology- desk top review

A thorough literature search was conducted using the University of Botswana library online databases such as CINAHL, PubMed, Google Scholar, and EBSCOhost. Literature was explored to retrieve peer-reviewed journal articles on the relevant topic. The keywords used in the search were unintended, pregnancy, contraception and Botswana. Furthermore, Boolean operators such as 'AND', 'OR', and 'NOT' were incorporated into the search to retrieve as much information as possible on the topic. National, regional, and international policy documents as well as practice guidelines were also foraged to expand the scope of the search and provide information on the study variables and objectives. In the process, a ten-year filter was applied to retrieve timeline-relevant articles. Due to the scarcity of recent studies in Botswana, nine articles were retrieved. The literature was arranged in ascending chronological order, starting with the oldest and followed by the latest information.

Botswana has made great progress in increasing the use of modern contraceptives, especially male condoms. Nevertheless, research findings indicate a high rate of unintended pregnancy (43%) due to a combination of failure/misuse (72%) and unmet need (28%), highlighting that women's need for contraception is not fully met in Botswana (Doherty et al., 2018). Unintended pregnancies are more likely to result in adverse outcomes for the mother, newborn, and lead to a higher rate of unsafe abortion placing

an emotional and financial strain on families and the government. Factors **associated with unintended pregnancy** Unintended pregnancies arise from a diversity of factors. A systematic review on prevalence and determinants of unintended pregnancy in Sub-Saharan Africa claims that age is a key determinant of unintended pregnancies (Ahinkorah, 2020), with adolescents having the highest odds. It has been discovered that the youngest age of females to be admitted for medical voluntary abortion (MVA) was 11 years. This concurs with the claim that age is a key determinant of unintended pregnancy. Previous unintended pregnancies and previous abortions were reported to be risk factors for subsequent unintended pregnancies. This could be an indication of inadequate sex education, contraception education, or sub-optimal post-abortion counseling among women with previous unintended pregnancies (Mohammed et al., 2016). There is a likelihood that women who did not receive post abortion counselling are likely to return to the facilities as repeat abortion because of unintended pregnancy. Cultural, societal pressures, poverty, and gender inequality also increase the occurrence of unintended pregnancy (UNFPA, 2022).

Contraceptive failure

Family Planning and contraceptive use

Family planning allows individuals and couples to anticipate and attain their desired number of children, their spacing and timing of their births (Black et al., 2015). Individuals and couples are offered different methods of contraception through the use of modern or traditional contraceptive (Cleland et al., 2015). The use of contraception and the effectiveness of the method used to prevent pregnancy are important factors affecting pregnancy, birth rates, and the ability of couples to plan their pregnancies and avoid unintended pregnancies (Daniels et al., 2015). The unmet need for contraception among married women around the world is 10.7% (Bahamondes et al., 2015).

The chance that a woman will have an unplanned pregnancy can vary by which contraceptive method she or her partner uses, for example, the probability of a contraceptive failure within the first 12 months of typical use of male condom is 18% compared with 9% for the oral contraceptive pill, 0.8% of the copper intrauterine device (IUD) and, 0.2% of the contraceptive implant (Daniels et al., 2015).

Despite being widely acknowledged for playing an important role in decreasing maternal and neonatal morbidity and mortality, which is often associated with an unplanned pregnancy; as well as the socio-economic burden usually associated with it, contraceptive discontinuation continues to rise among users (Polis et al., 2016). About 26.5 million unplanned pregnancies occur annually due to the incorrect use or failure of contraceptives globally (Wolde & Mekebo, 2021). New users of oral contraceptives are more likely to discontinue use within the first year, many because of side effects, such as breakthrough bleeding, amenorrhea, and other medical problems (Klima, 1998).

Most common side effects associated with the use of the implant include excessive or irregular bleeding (Birhane et al., 2015; Maina, Osanjo, Ndwigah, Opanga, & Therapeutics, 2016; Mrwebi et al., 2018; Pleaner et al., 2017; Qamar et al., 2019; Sato et al., 2020). The study of Birhane et al. (2015) revealed that minor factors like use inconvenience, desire for pregnancy, contraceptive failure, and doctor's advice also led to discontinuation of the implant.

Method related Factors

Kaye et al. (2020) stated that the major reason for early removal of implants was due to side effects that accounted for 84.1% that included 80% for menstrual disruption, 32.2% for headache, weight body changes 24.7%, insertion site pain 12.1%, acne and pruritus 5.7%, and loss of sexual desire by 4% of the

study participants. Siyoum et al. (2015) found that 67.2% of the participants in their study faced side effect of Implanon. Among them, 60.7% faced menstrual disturbance, 36% faced headache, 19% weight gain, 28.9% arm pain and 5.7% faced mood change. Among those who had menstrual disturbances, 19.5% had heavy bleeding, 51.6% prolonged bleeding, 14.1% amenorrhea and 14.8% faced spotting.

Worry about focusing on side effects

Progestogen-only methods like depo provera and implants are associated with disruptive bleeding patterns, and managing the breakthrough bleeding, or spotting between periods is problematic for the young women as they voiced anxiety about where such additional blood was coming from. This reflected concerns about a malfunctioning or damaged body, women viewed any ‘breakthrough bleeding’ as an experience they likened to menstruation with the added concern of unpredictability, thus heightening concerns about body watching (Newton et al., 2015; Jeffreys & Clark, 2012).

Partner dissatisfaction

Qiu et al. (2017) state that, clients and health care providers described partner dissatisfaction as a reason for implant discontinuation, some clients described receiving their IUCD, depo and implant without informing their partner, and were required to remove it after their partner found out. Qiu et al. (2017) add that some clients described their partner’s desire to have another child, resulting in them removing their method of choice, and others indicated that changes of partners may also result in the disruption of contraceptive use. Women who had the approval of their partner were 2.1 times more likely to use contraception for a longer period (Qiu et al., 2017).

Birhane et al. (2015) and Sznajder et al. (2017) emphasized that while menstrual disruptions may not pose significant health risks, they can impact intimate relationships. Women often express heightened concern about vaginal bleeding and may choose to discontinue the method to prevent interference with their sexual relationships. Gender power dynamic plays an important role in both uptake of contraception, as well as continued use, especially a husband’s support and approval are significantly associated with modern contraceptive use and continued use (Prata et al., 2015; Qiu et al., 2017). This implies that the male involvement should be incorporated into counselling issues regarding the method of contraceptive.

The influence of others

The study of Qiu et al. (2017) revealed that health providers described clients returning to have their chosen method removed due to misinformation about IUCD, pill and implants that circulate in the community. Some of the information obtained from the community include implants and IUCD melt in the body or move within the body, cause permanent infertility, and death by moving in the body and when it comes to the head the person dies with thrombosis. Qiu et al. (2017) and Brown et al. (2019) found that, there were also statements from participants reporting that there are some people violently removing implants from women’s arms in the community (Peterson et al., 2019).

Socio-economic factors

Educational level

Women with no formal education were found to discontinue the method earlier than their counterparts with secondary or higher levels of education (Tadesse et al., 2017; G/Medhin et al., 2019). This disparity may be attributed to the role of education in enhancing individuals' ability to comprehend and critically

evaluate the benefits and drawbacks of the method. .

Age

Nageso and Gebretsadik (2018) found that as the age of the women increases, it is less likely for the women to discontinue the implant. In their study, they found that women aged between 20–35 years, are 92% less likely to discontinue the method compared to women under 20 years. Similarly, Tadesse et al. (2017) state that, women of age category of less than 20 years had increased odds of implant (Implanon) discontinuation compared to women of age category greater than 35 years (AOR: 3, 95% CI: 1.16–7.80). This might imply that, being young has a high probability of desiring to have more children, which might lead to high discontinuation rate.

Information on contraceptives

Nageso and Gebretsadik (2018) state that women who do not have information on all contraceptive methods before insertion were 1.52 times more likely to discontinue use of implant as compared with those who have information on general contraceptive methods (AOR = 1.52 (95% CI: 1.1–2.28). This implies that women with lack of prior information and had not used any form of contraception before may be more concerned about side effects and would want to discontinue in order not to interfere with their daily activities.

Taking other medication

Recipients may discontinue contraceptives because they are taking other medications which may **contradict** or **interfere** with the contraceptive like implant (Pleaner et al., 2017). The study of Brown et al. (2019) revealed that women on (ARV) anti-retroviral therapy, particularly Efavirenz, influences discontinuation of the Implant because they were advised that anti-retroviral drugs reduce its effectiveness. The type of medication used therefore influences the continued use of implants, especially if the prescription was done after uptake of implant. Other drugs that interact with Implant include anti-epileptic drugs (Sodium valproate, Phenytoin, and Carbamazepine) and anti-tuberculosis drugs (Peterson et al., 2019). Mrwebi et al. (2018) found that some 24 participants discontinued Implanon because of taking anti-retroviral drugs, 1 on antipsychotic and 1 on antituberculosis drugs.

Myth and rumors

Although there are limited studies on the relationship between rumors and myth about a methods and discontinuation, Castle (2011) observed that myth and rumors about the biological or social effects of certain methods can lead to discontinuation. For example, a study on Perceptions of implant use among women with HIV and AIDS by Brown et al. (2019) revealed that health providers indicated that, their clients were affected by the information they had heard about the implant. Such information included that implant may be a ‘chip’ used for surveillance of women; thus women discontinue using it.

In addition, multiple births and a preference not to have more children are associated with a higher risk of unintended pregnancy (Zelege et al., 2021). On the other hand, women who do not work have a higher rate of unintended pregnancy than their counterparts who are employed, and women who know their ovulation cycle and women who do not know almost have the same prevalence of unintended pregnancy. Furthermore, all women with an unmet need for contraception are at high risk of unintended pregnancies (Nyarko, 2019). Moreover, physical violence and reproductive coercion increase the risk of unintended pregnancy in women (Alhusen et al., 2020). Sexual violence is a significant problem in Botswana, where an estimated one in three women are victims of sexual violence at some point in their lives (Grace, 2021)

with adverse effects such as unwanted pregnancies as well as other negative health consequences. Access to family planning in Botswana remains inadequate, contributing to high rates of unintended pregnancies, unsafe abortions, and maternal mortality, particularly among adolescents. While condoms are widely accessible and preferred due to ease of use, limited knowledge about other contraceptive options hinders their effective utilization. Contraceptive prevalence is at 67.4%, with male condoms being the most used (64.2%), yet unintended pregnancies persist, highlighting gaps in education and post-abortion contraceptive provision (Rakereng et al. (2024).

Implications

Unintended pregnancy increases the risk of maternal morbidity and mortality (Dehingia et al., 2020). Women with unintended pregnancies are less likely to receive adequate antenatal care (ANC) (Rahman et al., 2016). Not receiving adequate ANC is associated with an increased risk of complications. The reasons why women with unwanted pregnancies do not receive adequate care during pregnancy remain unclear. However, one possibility is that women with unwanted pregnancies may find out they are pregnant at a later stage and miss out on the opportunity to access comprehensive maternal healthcare services during pregnancy (Habib et al., 2017). An alternative explanation could be that women experiencing unwanted pregnancies may exhibit reduced proactivity in seeking healthcare services, potentially due to the psychological burden of stress. (Dehingia et al., 2020).

Unintended pregnancies contribute substantially to the prevalence of unsafe abortions, placing a significant financial burden on healthcare systems (Behulu et al., 2019). In countries where abortion is legally restricted, such as Botswana, women with unwanted pregnancies opt for illegal and dangerous procedures that lead to increased morbidity and mortality associated sepsis, septic abortion, and hemorrhage (Ngwako & Banke-Thomas, 2020). Overall, women who had an unintended pregnancy compared with those who planned a pregnancy had a significantly higher risk of postpartum depression (Qiu et al., 2020). A lack of strategic planning, coordination of community health services, and robust monitoring systems further exacerbates the challenge. Strengthening education on contraceptive methods, integrating family planning into post-abortion care, and improving access to a range of contraceptives are critical to addressing these issues.

Interventions

Unintended pregnancy needs to be tackled from all aspects of life, and one of which is using theories such as the health believe model. This model suggests that people are more likely to take action to improve their health if they believe that they are susceptible to a health problem, that the problem is serious, and that taking action will be beneficial (O'Dwyer et al., 2019). Using the Health Belief Model, the effect of perceived susceptibility to pregnancy in modern contraceptive use among adolescents can be evaluated and assist in designing health education strategies that can encourage women especially adolescents in using contraceptives. O'Dwyer et al. (2019) resonates with this statement by asserting that attempts in using the health believe model to the challenge of high-risk sexual behaviors has produced confounding results from sexually active adolescents discount the seriousness of consequences or their susceptibility to sexually transmitted diseases and unintended pregnancy.

Pre Conception-Education And Male Partner Involvement

Moreover, pre-conception education plays a crucial role in reducing unintended pregnancies by empower-

ing individuals to make informed decisions about their reproductive health before pregnancy occurs (Olson, 2020).

There is need to intensify male partner involvement in antenatal care and family planning (FP) education as a way of reducing unintended pregnancy. Male partners in antenatal care is strongly associated with reduced unintended pregnancies and increased use of modern FP, highlighting the potential benefits of including men in all public health strategy to increase uptake, access and demand for FP (Peach et al., 2021).

Review of Abortion Laws

Women in Ngami sub-district of Botswana proposed psychosocial counselling, youth-friendly services, economic empowerment, and legalization of abortion to reduce the rate of unsafe abortions and prevent unintended pregnancy. Life skills can help women build confidence, advocate for their sexual rights and avoid unwanted pregnancies (Kuti., 2023). There is therefore a need to consider review of abortion laws in Botswana to fight the scourge of unintended pregnancy and curb its consequences such as illegal abortions which lead to increased maternal mortality. Universal access to contraception has been prioritized in the SDGs through the FP2030 global partnership as a means for women and their partners to exercise their rights to decide freely and responsibly the number and spacing of their children (Askew et al., 2023).

In Botswana, it is important to engage the community in family planning programme , interventions ,intention, and strategy. This will improve community engagement in family planning programmes. There is need for community commitment and this should be encouraged to alter certain approaches locally, and feedback should be incorporated through a quality improvement process. All finalized family planning policies and guidelines should be widely shared with the community prior to implementation (Rakereng at el 2024).

As part of the Safe Motherhood Initiative advocacy, all women should have access to family planning methods of their choice to enable them to space pregnancies according to their preferences and to prevent unintended pregnancies. However, many women do not utilize family planning services because they remain uncertain or indecisive about the contraceptive method that best suits their needs. Continued health education during pregnancy is essential to enable women to be well informed about all SRH programmes and services offered. Addison & Dagnev (2021), observed that in Sub Saharan Africa :Educational level, residence, gravidity, ANC visit, and place of delivery were identified as factors influencing postnatal care service utilization. It is therefore assumed that health institutions do not provide similar services if place of delivery could fall under such factors.

The above-mentioned interventions require a collaborated multifaceted approach that considers cultural, social, and economic contexts. Effective strategies often require collaboration between governments, healthcare providers, community organizations, and advocacy groups to create sustainable and inclusive solutions.

Conclusion

Moving forward, collaborative efforts between healthcare providers, policymakers, and communities are critical for implementing effective strategies to address root causes of unwanted pregnancy. By recognizing the complex interaction of factors and adopting community-centered solutions, we can aim to reduce the rate of unintended pregnancies and ease the burdens associated with health, economic and

social burdens. Ultimately, a comprehensive and inclusive approach is essential to promote a healthier future for individuals and communities affected by unwanted pregnancy.

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