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Family planning practices and women's impression of the reproductive life plan in Eswatini

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ABSTRACT

Objective: Family planning is limited and unplanned pregnancies are common in Eswatini. The Reproductive Life Plan (RLP) is a counselling tool to improve pregnancy planning. Mentor mothers, i.e. community health workers, were trained in using an adapted RLP and introduced it into family planning discussions with their clients. This study evaluates the clients' impression of the RLP and investigates their family planning practices.

Method: Data were collected in 2018 from anonymous questionnaires filled out by the clients: mothers or pregnant women aged 15–44 years. The questionnaire comprised 20 questions on demographic background, fertility desires, pregnancy planning as well as quality and perceived need for family planning support. Chi-square tests or Fisher's exact test were used for group comparisons.

Results: 199 women were included. Most women (74%) chose the option that family planning discussions using the RLP had helped them 'very much'. A majority also had a perceived need for these discussions as 70% wanted to have more support from their mentor mother and 92% wanted more information about family planning. Women with lower educational level and younger women wanted more support compared to women with higher educational level and older women ($p < 0.001$ and $p = 0.028$). The unmet need for family planning was 22%.

Conclusion: The introduction of the RLP used by mentor mothers was well received among women but most of them requested more family planning support. Using the RLP may help women in this context achieve their reproductive goals.

Introduction

In the past two decades, increased use of contraception in low-and middle-income countries has reduced the number of maternal deaths by 40%, mainly by reducing the number of unplanned pregnancies [1]. Yet, millions of women in these countries have an unmet need for contraception and if this could be satisfied globally, a further reduction of maternal deaths by 30% is expected [1]. The definition of unmet need for contraception is fertile women of reproductive age, either married or in a union, who do not want to have any (more) children or want to postpone a pregnancy but are not using any contraceptive method [2]. To achieve a reduction in maternal deaths, access to family planning services including tailored and effective contraceptive counselling is crucial.

Family planning means the ability to decide number and timing of pregnancies [2] and is used synonymously with contraceptive use in this study [2]. Family planning is one of the most cost-effective interventions in health [3], and improves health by preventing mother to child transmission of HIV (Human Immunodeficiency Virus), contributing to child spacing, decreasing the infant mortality and by reducing the number of unsafe abortions [2].

Women that are healthy before pregnancy are more likely to have healthy pregnancies as well as healthy children. Pregnancy planning enables actions to improve preconception health [4]. These actions may include adherence to prescribed medication, intake of micronutrients such as folic acid, cessation of harmful lifestyle habits and weight loss for overweight women.

In order to improve family planning and preconception health, national health authorities in the United States recommend reproductive life plan assessment [5–7]. A reproductive life plan encompasses an individual's pregnancy intentions in light of their personal values and life goals. There are several clinical tools available to guide conversations on reproductive life planning, one such tool is called the *Reproductive Life Plan* (RLP) and was developed by Merry K Moos in 2006 [8]. In this study, we refer to this tool when writing 'RLP'. The RLP consists of a set of non-normative questions that can be used by health care

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providers together with clients, using the client's reproductive preferences and intentions as a starting point for discussing family planning [8]. They can then collaborate and create an individual, personalized plan to achieve the reproductive goals [8]. The long-term goals with using the RLP are to improve outcomes of pregnancies that are desired, and to prevent pregnancies that are undesired by providing family planning counselling [8]. Previous studies from high-income countries have shown that the RLP is an effective tool for counselling women and increasing their knowledge about preconception health [9–11], although it is not known if it increases contraceptive use among those wanting to prevent a pregnancy [12,13].

In a former study from Eswatini [14], we developed an adapted RLP tool together with community health workers called mentor mothers. The adapted RLP tool was implemented and evaluated among the mentor mothers and using this tool with their clients, they observed progress in pregnancy planning and thought it improved the quality of contraceptive counselling.

This study aimed to evaluate the client's impression of this tool and to investigate their family planning practices.

Methods

Setting and study population

The Kingdom of Eswatini (formerly Swaziland) is a small country in Sub-Saharan Africa, bordering South Africa and Mozambique. Eswatini has among the highest HIV prevalence in the world at 32.5% among women [15]. The maternal mortality ratio in Eswatini was 437 per 100,000 live births in 2017 and 17% of women have had a live birth before 18 years of age [16,17]. Family planning is limited, abortion laws are restrictive and most pregnancies are unplanned [18,19]. In 2015, the unmet need for contraception was 15.2% among currently married women in Eswatini [17]. With this discouraging demographic evidence as a background, Eswatini was chosen as the setting for this study.

Siphilile Maternal and Child Health is a non-governmental organisation active in peri-urban areas outside Eswatini's largest city, Manzini. Many inhabitants in these areas are internal migrants that have moved from rural areas to earn their living by working in factories. Previous studies have shown that this population is disadvantaged regarding both health and social standards [18,20]. Many do not have access to clean water, the prevalence of HIV among women (41%) is higher than in the general population and the proportion of single mothers is high [20]. Siphilile works to improve maternal and child health through a community-based mentor mother program. This program is built on the Philani Mentor Mother Model, first developed in the townships of Cape Town, South Africa. The Philani model is effective on several health outcomes, including prolonged breastfeeding and increased condom usage [20,21]. Mentor mothers are peer supporters that are recruited from the neighbourhoods as they are positive deviants i.e. women who have raised healthy children despite poor living conditions. They are similar to community health workers but address multiple health issues. Siphilile's mentor mothers are educated in a four-week course about basic health issues such as nutrition, HIV and family planning. The mentor mothers make home visits to pregnant women and mothers of young children, aiming to support and empower women to make informed decisions about their own and their children's health.

The Reproductive Life Plan project was initiated at Siphilile after identifying that 70% of pregnancies in this population were unplanned [18]. The project was developed through a close collaboration between Siphilile, the mentor mothers and the research team using a participatory approach [14]. As former family planning counselling by the mentor mothers had been limited to reminding the client to go to the family planning clinic and as no regular follow-up was provided [14], there was room for improvement. The mentor mothers were involved in adapting the RLP tool to their context and were trained in using it with their clients starting in January 2018. This process, described in detail elsewhere [14], included team meetings with Siphilile's management as well as educational workshops and focus group discussions with the mentor mothers. During the workshops, the mentor mothers gave suggestions on how to adapt the original RLP tool to their context, e.g. by putting greater emphasis on the clients' social situation. This work resulted in a pocket RLP tool guide that the mentor mothers were instructed to use with their clients. The mentor mothers were instructed to ask the client how many children she desired, preferred timing of pregnancies and if the client had taken any action to achieve this plan. For women wanting children, counselling included information on e.g. dietary supplements, early antenatal care and testing for HIV. For women not wanting children it included mainly family planning counselling. The mentor mothers were also instructed to take notes on which clients that had been participating in RLP counselling and if there had been any challenges. The mentor mothers were offered local supervision by the Siphilile management as well as digital supervision by the research team through a mobile application.

The Swati government supports family planning by the development of national policies on sexual and reproductive health and by providing contraceptive methods that are either free of charge or subsidized. No specific contraceptive counselling tool is currently implemented within community or public health in Eswatini. Contraception can generally be accessed at governmental or public family planning clinics, but the method diversity is small and methods are often out of stock. Contraceptive counselling is limited and misconceptions among both healthcare providers and clients are common [14,18,22]. These short-comings limit Swati women's accessibility to contraception.

Study design

Data for this cross-sectional study were collected in September to October 2018 through anonymous questionnaires designed by the research team (Supplementary file 1). It contained 20 questions divided into two sections: one with demographic background questions and one with questions about family planning and impressions from the RLP discussions. Demographic background questions covered nationality, age, number of living children, educational level, housing conditions, marital status and number of sex partners in the last month. Age categories were divided into to the following age spans: 15–19, 20–34 and 35 years and older, due to a higher risk of adverse pregnancy outcome in either end of the reproductive age span. Questions on family planning were inspired by the RLP questions used in the U.S. and included desire for children, use of contraception and if the woman had discussed contraception and number of children with her partner. Finally, to evaluate the use of the RLP in family planning conversations, women were asked about the quality of family planning support and the perceived need for this support from their mentor mother. Questions were 'Have discussions with your mentor mother about family and pregnancy planning helped you?' and 'What do you think about discussing family planning and pregnancy with your mentor mother?'. Women could choose to answer 'very much', 'a little', 'not at all', 'no difference' or 'don't know'. Most other questions were also multiple choice and women were instructed to choose one or more alternatives.

The questionnaire was translated into the local language Siswati by a person with advanced language skills in Siswati and English. A pilot study was performed in order to validate the questionnaire. Two mentor mothers and six clients were included in the pilot study. Five of the clients could fill out the questions without any guidance and one woman needed help to read the questions due to limited reading skills. All participants in the pilot study gave feedback on the questionnaire and amendments were made where needed. Written instructions were also added to the final draft of the questionnaire.

Participants and data collection

All women recruited to this study were clients enrolled by Siphilile;

women aged 15–44 years who are either pregnant or have children less than 6 years old. Only clients who had engaged in the RLP discussion with their mentor mother were included. Twenty-nine out of 53 mentor mothers had been trained in using the RLP [14], covering all geographical areas where Siphilile is working. Nine of these were no longer employed by Siphilile and two were on sick leave. The remaining 18 mentor mothers were still working for Siphilile and clients from each one of them were included in this study. Approximately 1500 clients had engaged in the RLP discussions with their mentor mother in the past year. The mentor mothers were informed about the study procedures and the purpose of the study by the Siphilile management.

Women (clients) were recruited during home visits, purposively selected to cover all geographical areas where Siphilile is active. To avoid possible selection bias of clients from the mentor mother's side, she was not informed about what day data collection would happen until the researcher met her in the field on the very same day. In that way, the mentor mother had already chosen which clients she was going to visit that day. The mentor mothers were then informed about the study procedures and instructed to do her daily work as usual. The Siphilile management guaranteed that the time required from the mentor mother's side would be covered within their regular working hours.

After meeting with the woman (the client), the researcher informed her about the questionnaire in English. If the woman did not know English very well, the mentor mother translated the verbal information into Siswati. The woman was also provided written information in Siswati and was given the opportunity to ask questions, either in English or in Siswati, whatever she preferred.

Women who approved participation answered the printed questionnaire. To ensure that the woman felt comfortable and to assure anonymity, the researcher and mentor mother waited where they were not able to see the woman's answers. When the woman had finished, the researcher immediately put the questionnaire in a closed folder to assure anonymity. A few women had poor reading skills and they were offered assistance by the mentor mother who read the questionnaire out loud from another part of the room, again to ensure that the mentor mother would not be able to see the client's answers. Each questionnaire took about 30 min to fill in. Women who declined to participate or women who responded to less than 50% of the RLP questions were excluded, as this would make the analysis uncertain.

Statistical analyses

Data analysis was performed in IBM SPSS Statistics version 25. Chi-square tests or Fisher's exact test (when sample size was less than 5) were used to analyse group differences. P-values of <0.05 were considered significant. The unmet need for contraception was calculated as the percentage of married women or women in a union who did not want to become pregnant but were currently not using any modern contraception.

Ethical considerations

The study was approved by the ethical committee in Eswatini (SRH010/2018), by the regional ethical review board in Uppsala (2017/514-1) and by the Executive Board of Siphilile. All participants were clients within the Siphilile project and had formerly been informed that information about them would be collected and handled with confidentiality, and all had given their written consent to participate in the Siphilile project. Women younger than 18 years were considered emancipated minors as they were mothers, but permission was obtained from parents or guardians if available.

All questionnaires were answered anonymously and each questionnaire was assigned a unique identification number in the analysis. All participants received oral and written information about the study; that the questionnaire would be answered anonymously, and that participation was entirely voluntary. The oral information was provided in either English or Siswati, depending on the preferred language by the woman, and the written information was provided in Siswati. The women were given the possibility to ask questions and those who wanted to participate gave their verbal consent. A written consent was not used as we deemed it inappropriate to collect any identifiable information on participants in a country with authoritarian traits. The approach used makes it impossible to track the information to any specific person.

Results

Description of study population

A total of 207 women were recruited to the study. Three women declined due to time constraints and one woman was not at home when data were collected. Thus, 203 women participated but four were excluded in the analyses because of responding to less than 50% of the RLP questions and 199 women were therefore included in the analysis.

Most women (76%, n = 152) were between 20–34 years old and one woman was currently pregnant. The number of living children ranged from 0–8 children, with a median of 2 children. Almost all women (98% n = 194) had attended school at some level, and a majority had attended secondary level. Most women were single, and a majority the of women were tenants (Table 1).

Table 1
Background characteristics of the study population (n = 199).

Background information	N (%)	Missing N (%)
Nationality	199	0 (0)
Swati citizen	195 (98)	
South African citizen	0 (0)	
Mozambique citizen	4 (2)	
Age	197	2 (1)
15–19	19 (10)	
20–24	55 (28)	
25–29	58 (29)	
30–34	39 (20)	
35–39	17 (9)	
40–44	9 (5)	
Number of children	194	5 (3)
0	1 (1)	
1	57 (29)	
2	47 (24)	
3	44 (22)	
4	21 (11)	
5	12 (6)	
6	3 (2)	
7	6 (3)	
8	3 (2)	
Education	196	3 (2)
Never attended school	2 (1)	
Primary	46 (23)	
Secondary	95 (48)	
High School	40 (20)	
College	13 (7)	
Living situation	199	0 (0)
Tenant	116 (58)	
Homeowner	31 (16)	
Parental housing	42 (21)	
Other	8 (4)	
Don't know	2 (1)	
Marital status	196	3 (2)
Married	60 (30)	
Single	108 (54)	
Cohabitating	24 (12)	
Separated/divorced	4 (2)	
Sexually active the latest month	193	6 (3)
Yes	132 (66)	
No	39 (20)	
Don't know	4 (2)	
Do not want to answer	18 (9)	

Impression of the RLP

Most women (74% n = 148) reported that having family planning discussions using the RLP tool had helped them 'very much' and most women (88% n = 175) thought that it was 'very good' to have these discussions with their mentor mother (Table 2).

Almost all women (92% n = 182) wanted to have more information about family planning in the future. All teenagers (n = 19) and 70% (n = 144) of all women expressed that they wanted to have more support on family planning from their mentor mother. Significantly more women with lower educational level (secondary level or lower) wanted more support in family planning from their mentor mother compared to women with higher educational level ($p < 0.001$). Younger women (age 15–24) also requested more support compared to older women ($p = 0.028$). There were no significant differences either between women who had three or more children compared to women with fewer children, or between women in a relationship compared to women who were not in a relationship, or between women who were house owners compared to those who were not ($p > 0.05$ for all of them) (Table 2).

Family planning practices

Most women (70% n = 140) reported that they did not want to have any more children in the future and only three wanted to have a child within the next year (Table 3). Almost 80% of women (n = 160) were currently using modern contraception. Injection was the most common method used by 55% of women (Table 4). The unmet need for contraception among married women or women in a union was 22%, and 14% among sexually active single women. The corresponding rate for all women irrespective of relationship status was 17%.

More than one out of four women (28% n = 55) had never discussed how many children they wanted to have with a partner (Table 3). Thirty-one women (16%) had never discussed family planning methods with a partner. It was more common that women who had discussed family planning methods with a partner were currently using it (85% compared with 65%, $p = 0.01$).

Discussion

To the best of our knowledge, this is the first study evaluating the impression of RLP among women in a community health setting in a low- or middle-income country. Women in this study had a positive impression of family planning counselling using the RLP and a majority wanted to have more support on family planning by their mentor mother. Most women expressed they had been 'very much' helped by these discussions and had 'very good' impressions of family planning discussions with their mentor mother. Interestingly, a majority of the women had also taken action to avoid or plan for a pregnancy during the last year. Although we did not have a control group, our results suggest that using the RLP is a feasible way of improving family planning discussions in this context and that mentor mothers are key persons in providing this care.

Most pregnancies in this population are unplanned [18], and we found that the perceived need for discussing family planning with mentor mothers was high in the studied population: all teenagers stated that they would like to have more support in the future. However, teenagers in this sample are not representative of all teenagers as they are teenage mothers, and most of them have former experience of at least one unplanned pregnancy, as 86% of pregnancies among this group are unplanned [18]. This is a great health concern, since adolescent pregnancies are associated with adverse health outcomes for both the mother and the child [1]. Unplanned childbearing in this setting, particularly among adolescents, has also been associated with major adverse social consequences such as school drop-outs, transactional sexual relationships and neglected children [22]. Therefore, young women and teenagers in particular would benefit from additional support from mentor mothers.

Few women reported wanting more children in the future and therefore most of the RLP counselling in this setting focused on contraceptive counselling. Common reasons for discontinuing contraceptives in this population were because of perceived or real side effects as well as poor contraceptive counselling and limited method diversity at the family planning clinics [22]. Therefore, increased focus on contraceptive counselling in this area is needed to increase knowledge. Since most women in this study expressed that they had been very much helped by the RLP discussions with their mentor mother, and as the mentor mothers in our former study thought the RLP improved contraceptive counselling as well as pregnancy planning [14], using the RLP seems like a feasible way of improving family planning in this population. Having said this, several contextual barriers exist that prevent Swati women from reflecting upon and reaching their reproductive goals. These include e.g. limited reproductive health and rights on a societal level, intimate partner violence and gender power imbalance [14,22].

In sub-Saharan Africa, men often are the decision-makers on contraception and covert contraception use among women is common for them to exercise reproductive autonomy [14,22–24]. This may explain why the unmet need for contraception was higher among married women (22%) than among all women (17%) as men may be more influential on their married counterpart. Most women in our study had discussed family planning with their partner and this was associated with current use of contraceptives, as previously shown in several Sub-Saharan countries [25,26]. This highlights the importance of including men in contraceptive counselling, although this has to be done wisely and only if the woman consents [14]. As Siphilile only have female clients and as men often are absent during daytime when the home visits are provided, it was not possible to engage men to any larger extent in the RLP intervention [14]. The use of peer supporters for men, 'mentor fathers', has been suggested as a way of improving contraceptive uptake in Eswatini [14], an approach that has been associated with an increased uptake of contraceptives in Malawi [27]. Future studies will need to investigate the use of the RLP among men.

Methodological considerations

Results from this study must be read considering some limitations. Only clients of Siphilile, pregnant women or women with children less than 6 years old, were included. Additionally, these women were inhabitants of less privileged areas in Eswatini. Thereby result on family planning practices from this study are not generalizable to Swati women in general.

All data were collected during home visits when the mentor mothers were present. Some women were not able to read questions themselves and required help from the mentor mother to read the questions out loud. Although the mentor mothers were never able to see the answers, their presence may have affected the answers and created a social desirability bias.

The questionnaire was designed for this specific study as validated questions on pregnancy planning from this context were not available, which is a limitation of the study. As mentioned in the methods section, some of the questions were designed for healthcare purposes and not for research. However, to increase the validity of the questions a pilot study was performed. Further, this study investigated family planning practices and impressions only from women who had participated in the RLP discussions. There was no control group to compare with, meaning it is unknown if the result would differ among women who participated in family planning discussions without the RLP approach. However, as contraceptive counselling in this setting was very limited before the RLP intervention, we strongly believe our positive results are truly reflective of improved contraceptive counselling when using the RLP. This belief is supported by our evaluation of the RLP among the mentor mothers [14].

Table 2
Impressions from the RLP discussions among women (n = 199) of different demographic and socioeconomic groups in Eswatini. Chi square or Fisher's exact test used.

	Total N (%)	Age groups			*P*	Education			*P*	Marital status			*P*	Living situation		*P*
		15–19 N (%)	20–34 N (%)	35–44 N (%)		Primary or lower N (%)	Secondary N (%)	Higher than secondary N (%)		Married N (%)	Cohabitating N (%)	Single, divorced or separated N (%)		Homeowner	Not homeowner	
Have been helped by discussions with mentor mother	180 (90)				0.794				0.934				0.736			0.029
Very much	148 (74)	15 (83)	109 (81)	23 (92)		40 (85)	66 (80)	39 (81)		48 (83)	18 (82)	81 (82)		29 (94)	118 (80)	
A little	6 (3)	0 (0)	5 (4)	1 (4)		1 (2)	3 (4)	2 (4)		2 (3)	1 (5)	3 (3)		1 (3)	5 (3)	
Not at all	1 (1)	0 (0)	1 (1)	0 (0)		0 (0)	1 (1)	0 (0)		1 (2)	0 (0)	0 (0)		1 (3)	0 (0)	
No difference	3 (2)	0 (0)	3 (2)	0 (0)		0 (0)	1 (1)	2 (4)		2 (3)	0 (0)	1 (1)		0 (0)	3 (2)	
Don't know	22 (11)	3 (17)	17 (13)	1 (4)		6 (13)	11 (13)	5 (10)		5 (9)	3 (14)	14 (14)		0 (0)	21 (14)	
Impression of family planning discussion with mentor mother	189 (95)				0.653				0.834				0.552			0.547
Very good	175 (88)	17 (89)	130 (92)	26 (100)		43 (91)	82 (93)	47 (92)		55 (93)	23 (100)	94 (90)		31 (100)	143 (92)	
A little good	2 (1)	0 (0)	2 (1)	0 (0)		0 (0)	1 (1)	1 (2)		0 (0)	0 (0)	2 (2)		0 (0)	2 (1)	
Bad	1 (1)	0 (0)	1 (1)	0 (0)		1 (2)	0 (0)	0 (0)		1 (2)	0 (0)	0 (0)		0 (0)	1 (1)	
Don't know	11 (6)	2 (11)	9 (6)	0 (0)		3 (6)	5 (6)	3 (6)		3 (5)	0 (0)	8 (8)		0 (0)	10 (6)	
Want more support from mentor mother	184 (92)				0.012				<0.001				0.006			0.254
No	44 (22)	0 (0)	39 (28)	5 (21)		3 (7)	19 (22)	22 (42)		21 (37)	1 (5)	22 (21)		10 (32)	34 (22)	
Yes	140 (70)	19 (100)	101 (72)	19 (79)		39 (93)	68 (78)	30 (58)		36 (63)	21 (95)	81 (79)		21 (68)	118 (78)	
Do not want to answer	5 (3)															
Want more information about family planning in the future	190 (95)				0.553				0.813				0.769			0.232
No	8 (4)	0 (0)	8 (6)	0 (0)		1 (2)	5 (6)	2 (4)		3 (5)	0 (0)	5 (5)		0 (0)	8 (5)	
Yes	182 (91)	18 (100)	136 (94)	26 (100)		45 (98)	84 (94)	50 (96)		56 (95)	23 (100)	101 (95)		31 (100)	150 (95)	

Table 3
Family planning practices among the study population of women, aged 15–44 years, in Eswatini (n = 199).

	N (%)	Valid answers N (%)	Missing answers N (%)
Want to have more children		198 (99)	1 (1)
No	140 (70)		
Yes	51 (26)		
Do not want to answer	7 (4)		
If yes, how long would you like to wait until you become pregnant?		107 (96)	2 (4)
Less than 1 year	3 (3)		
More than 1 year	70 (65)		
Don't know	34 (32)		
Currently using a FP-method		198 (99)	1 (1)
No	39 (20)		
Yes	157 (79)		
Do not want to answer	2 (1)		
Have discussed wanted number of children with a partner		195 (98)	4 (2)
No	55 (28)		
Yes	139 (70)		
Do not want to answer	1 (1)		
Have discussed family planning methods with a partner		197 (99)	2 (1)
No	31 (16)		
Yes	166 (83)		
Do not want to answer	0 (0)		
Thought about wanted number of children before discussion with mentor mother		196 (98)	3 (2)
No	80 (40)		
Yes	113 (57)		
Do not want to answer	3 (2)		
Have taken action to avoid/plan for pregnancy during the last year		193 (97)	6 (3)
No	56 (28)		
Yes	130 (65)		
Do not want to answer	7 (4)		

Table 4
Different modern contraceptive methods used by the study population of women, aged 15–44 years, in Eswatini.

Contraceptive method currently used	N (%)
Total	160
Unspecified	31 (19)
Injectable	71 (44)
Pills	18 (11)
Implant	19 (12)
Condom	18 (11)
Intra-uterine device	2 (1)
Sterilization	1 (1)

Conclusion

The introduction of an adapted RLP into family planning counselling in this context has been well received among the participating women as most expressed that they have been helped by it. There was a perceived need among the women for having these discussions and a majority requested more help from their mentor mother. Using the RLP in order to encourage women to reflect on their reproductive goals could be a first step towards reducing the unmet need for contraception and towards reducing unplanned pregnancies in this context. Further research to investigate possible health benefits from the implementation of the RLP is needed.

Ethics approval and consent to participate

The study was approved by the ethical committee in Eswatini (SRH010/2018) and by the regional ethical review board in Uppsala (2017/514-1). All participating women gave their verbal consent.

Availability of data and materials

The dataset is available from the corresponding author on reasonable request.

Formatting of funding sources

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Authors' contributions

EE, MM and JNH conceptualized the study. EE collected data, performed analysis and wrote the manuscript under supervision of JNH and MM. All authors have read and approved the final manuscript.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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