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Early marriage and adolescent pregnancy in Mozambique

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Joaquim MD Nhampoca and Jeanette Maritz*

University of South Africa, Department of Health

***For Correspondence:** Email: *jmnhampoca@gmail.com*, Phone: +258 843097603

Abstract

Early marriage and adolescent pregnancies are prevailing phenomena in Mozambique, with 48% and 40% of girls aged 20-24 marrying and getting pregnant before the age of 18. Using a cross-sectional survey in Maganja da Costa and Morrumbala districts, Zambézia Province, and descriptive and inferential statistics for data analysis, the study revealed that around 65% of adolescent became pregnant at the age of 15-17. Among these adolescent, 18.8% had their first baby before turning 15 and 99.2% before their 18th birthday. Of the respondents, 23% experienced health complications after birth. A further 71.5% said they did not, and 5.5% were 'not applicable'. Referring to their education, 55.9% of adolescents finished primary education, 39.9% completed secondary education, and 2.9% achieved some higher education qualification. When asked if they were going to school while initially pregnant, 58.7% responded "yes", 39.7% responded "no," and 1.6% answered "not applicable" as they had never gone to school. After delivery, 31.6% returned to school, and 66.8% did not. This supports the assumption that early marriage and adolescent pregnancies are potential drivers for school dropout, low education and adverse pregnancy and birth health outcomes. Girls' education can act as a protective factor in delaying early marriage and adolescent pregnancy. School retention of girls should be monitored, therefore contributing towards gender parity in education. *(Afr J Reprod Health 2022; 26[3]: 114-123).*

Keywords: Adolescent, adolescent mother, child, childbearing, sexual and reproductive health

Résumé

Le mariage précoce et les grossesses chez les adolescentes sont des phénomènes dominants au Mozambique, avec 48 % et 40 % des filles âgées de 20 à 24 ans qui se marient et tombent enceintes avant l'âge de 18 ans. À l'aide d'une enquête transversale dans les districts de Maganja da Costa et Morrumbala, et des statistiques descriptives et inférentielles pour l'analyse des données, l'étude a révélé qu'environ 65 % des adolescentes sont tombées enceintes entre 15 et 17 ans. Parmi ces adolescentes, 18,8% ont eu leur premier bébé avant leurs 15 ans et 99,2% avant leurs 18 ans. Parmi les répondants, 23% ont connu des complications de santé après la naissance. 71,5 % supplémentaires ont répondu que non et 5,5% ont répondu « sans objet ». En ce qui concerne leur éducation, 55,9% des adolescents ont terminé l'enseignement primaire, 39,9% ont terminé l'enseignement secondaire et 2,9% ont obtenu un diplôme de l'enseignement supérieur. Lorsqu'on leur a demandé si elles allaient à l'école pendant leur grossesse initiale, 58,7 % ont répondu « oui », 39,7 % ont répondu « non » et 1,6 % ont répondu « sans objet » car elles n'étaient jamais allées à l'école. Après l'accouchement, 31,6 % sont retournées à l'école et 66,8 % ne l'ont pas fait. Cela confirme l'hypothèse selon laquelle les mariages précoces et les grossesses chez les adolescentes sont des facteurs potentiels d'abandon scolaire, de faible niveau d'éducation et de résultats défavorables pour la santé pendant la grossesse et la naissance. L'éducation des filles peut agir comme un facteur de protection en retardant le mariage précoce et la grossesse chez les adolescentes. La rétention scolaire des filles doit être surveillée, contribuant ainsi à la parité entre les sexes dans l'éducation. *(Afr J Reprod Health 2022; 26[3]: 114-123).*

Mots-clés: Adolescent, mère adolescente, enfant, procréation, santé sexuelle et reproductive

Introduction

Early marriage and adolescent pregnancies are both challenging social phenomena affecting many children in Mozambique[1]. These phenomena carry with it multiple consequences for children's welfare, specifically health and education. Therefore, this article discusses the two phenomena and their impact on children's health and education.

Early marriage is an engagement or union, either formal or informal, where one or both parties are under the age of 18[1-3]. Later analysis considered similar definition from the Prevention and Combat of Early Marriage Act (No. 19, 2019 of October 22). In turn, childbearing is regarded as being or becoming a mother, or the process of having a baby[4-6]. We will use 'adolescent mother' to refer to all girls who became a mother between the age of

10 to 19. For the same ages we also use the concept of adolescent preganancy. This is inspired by the definition of adolescent from the World Health Organization, according to which an adolescent is any person aged 10 to 19 years[7]. Reviewed literature highlights the adverse outcomes of early marriage and adolescent pregnancy. School dropout is identified as preceding early marriage, while early marriage increases the risk of girls' school dropout. Therefore, these factors compromise gender parity in education[8,9].

Government and child protection officers from civil society representing the Southern Africa Development Community (SADC) met in Lusaka, Republic of Zambia, in April 2015 to discuss the prevalence and burden of early marriage in the Southern Africa region. The meeting dealt with the issue of early marriage and particularly the *18+ Programme on ending child marriage in Southern Africa*[10]. Several awareness campaigns set a goal to promote marrying after the age of eighteen. However, in the authors' view, considering the socio-cultural dynamics, early marriage goes beyond campaigns and policies.

The Cabinet of Mozambique followed a similar stride as other African countries by approving Mozambique's *National Strategy for Prevention and Combat of Child Marriage (2016-2019)* during December 2015[1]. This was part of a response to the phenomenon of early marriage with the mission "to promote a socio-economic and cultural framework to prevent and combat, continuously, early marriages"[1]. Promoting a socio-economic framework brings the understanding that social and economic factors interfere in the prevalence of early marriage. Children living in economically disadvantaged circumstances such as rural areas or families with low income are likely to have limited access to education[11]. Therefore, early marriage is a type of discrimination and violation of human rights. This becomes critical when some families prioritize boys' formal education above girls' who then marry while young[11]. Economic factors are the primary drivers behind persistent early marriage[12,13]. Despite the Mozambique government and non-governmental prevention efforts to prevent early marriage and adolescent pregnancy, 14% of Mozambican girls between the ages of 20-24 were married, and 7.8% became mothers before 15. Around 48% of the girls in the same age group married before turning 18[14]. Amongst 20 countries[15] (Table 1), Mozambique was ranked 9th regarding the highest prevalence of early marriage globally. The Province of Zambézia, where the study was carried out, had a prevalence rate of 47% of girls aged 20-24 who were married before 18, with a 40% adolescent pregnancy rate[16,17].

International research has detailed the determinants of early marriage and adolescent pregnancy. In sub-Saharan Africa, socio-cultural, economic, individual and health service-related factors[18] dominate the abovementioned. Early marriage and adolescent pregnancies continue to hinder gender equality in education[19]. This conclusion reveals that early marriage and adolescent pregnancy are barriers to gender parity in education and a violation of human rights because education is a powerful tool for women empowerment[8]. There is also a common assumption that early marriage increases the risk of girls' school dropouts. Thus, delaying marriage would bring a positive outcome to girls' education[9]. However, the attitude of some parents, which are rooted in cultural factors, can slow down the achievement of this outcome. Parents often present their young daughters to men to resolve their own economic needs through the 'bride price'[20]. This cultural practice, also known as *Lovolo* (lobolo), was deeply studied by Henry Junod[21] – the Swiss protestant missionary and anthropologist – in his study "Usos e Costumes dos Bantu" (The life of a South African Tribe) with an emphasis on the south of Mozambique. *Lovolo* is the "act of paying" or compensation given by the bridegroom's family to the bride's family. It can be cattle, money, etc. According to the study mentioned above, a father rarely forced her daughter to accept a suitor she did not like unless the father had to repay debts[21]. Junod's world view and judgement were based on the values of Christianism whereby marriage is a union of two singular people while in African perspective, it involves two families. A *lovolo* is also an "individual and collective identity" with social, symbolic and spiritual meanings[22].

In many African countries, girls face significant cultural - and social barriers. Such practices put girls at risk of early marriage and pregnancy. Social pressure, cultural marital norms,

Table 1: Countries with the highest prevalence of early marriage worldwide

Country	Prevalence of marriage before 18
Niger	76%
Central African Republic	68%
Chad	67%
Bangladesh	59%
Burkina Faso	52%
Mali	52%
South Sudan	52%
Guinea	51%
Mozambique	48%
Somalia	45%
Nigeria	44%
Malawi	42%
Madagascar	41%
Eritrea	41%
Ethiopia	40%
Uganda	40%
Nepal	40%
Sierra Leone	39%
The Democratic Republic of the Congo	37%
Mauritania	37%

Source: https://www.girlsnotbrides.org/resource-centre/

religious prescriptions, and family shame force some girls to marry earlier, resulting in unwanted pregnancy or loss of virginity before marriage[23,24]. Girls face similar circumstances in Mozambique. Here, gender dynamics, social practices and religion are also drivers for early marriage[17]. When referring to socio-cultural practices related to early marriage in Mozambique, attention is given to rites of initiation where girls and boys are taught about life in society, including sexual life and their body. The rites of initiation stimulate the construction of 'female adulthood'[25] and sexual awareness, leading to early marriage because of the attained knowledge (which is transferred to the young girl) and the meanings in the construction of 'female adulthood'. The authors also referred to the power relation whereby girls (women) are under male (men) domination, keeping them under their control with no free will to choose the man and age at which to enter into marriage[25]. The endless approach of seeing the relationship between the rites of initiation and early marriage in the perspective of cause-effect is controversial. It omits the social function of the initiation traditions such as social integration and control, socialization, and so on. Some practices that girls acquire from the rites of initiation are regarding sexuality. For instance, the labia stretching where girls, including women, are taught to lengthen the labia minora by pulling it. This none western practice is considered by the World Health Organization as harmful because it is not therapeutic[26]. However, in the view of tradition and modernity, this should be contextualized and see woman's body as a construction of female identity. Therefore, instead of victimizing, these sexual practices should be seen as a space for negotiation and social affirmation contributing to women empowerment[26].

In many communities, the denial of girls' access to education and unequal opportunities in life – if compared to boys – can force girls into early marriage. This can also mean that young girls- and girls just out of school are highly vulnerable to being married off[27]. Young girls lacking or with minimal education are more likely to get married. Marrying earlier can also force girls to drop out of school. However, school dropout is also prevalent in the absence of marriage[28]. Girls who attended secondary school and those with a university degree are more likely to only become pregnant later than girls with only primary education or those who are illiterate[17]. Similar results were found in the *Survey on Immunization, Malaria, and HIV/AIDS Indicators in Mozambique (2015)*. This report indicates that 55.2% of women with no education had their first baby between 15 and 19. About 43.5% of women completed primary education and 25.4%, secondary education[29]. A different viewpoint reveals that the level of education does not influence the decision to start procreating. In contrast, secondary education increases the probability of procreation compared to the absence of a degree[30].

Girls who become pregnant earlier are at risk of obstetric fistulas (a medical condition in which a hole develops in the birth canal as a result of childbirth; it can be between the vagina and rectum, ureter or bladder)[31] and many may not bear a child or have a husband again. They also might not be able to return to school[32,33]. Adolescent mothers aged 10-19 are at higher risk of eclampsia, puerperal endometritis, systemic infections, low birth weight, preterm delivery and severe neonatal conditions than mothers aged 20-24[7].

Research in Northern Ghana revealed that early marriage was associated with poor health, increased child mortality and low agency (the

ability to exercise choice) among women[34]. The Demographic and Health Survey (2011) results indicated that the percentage of women who died from maternity-related causes was higher among young women in Mozambique. Maternity related causes are responsible for one in every four deaths (24%) between women aged 15-19. This proportion, however, decreased to 16% in women aged 25-29 and 8% for those aged 45-49[35].

The study contributes to the limited body of cross-sectional studies based on district sample surveys instead of demographic and health or adolescent reproductive health surveys such as the demographic and health survey 2011 published by the National Institute of Statistics.

Methods

We report on a cross-sectional survey study that collected data in Maganja da Costa and Morrumbala districts. The study used a combination of purposive and snowball sampling through a door-to-door contact strategy, during July 2017 and May 2018, to survey 383 adolescent girls between 10-19 who fulfilled the condition of early married, adolecent pregnant or adolescent mother.The survey consisted of 23 scaled and open-ended questions divided into four sections. The first section was related to the personal details of the participating adolescent (name, age, and address); section two related to socio-demographic data; section three entailed socio-cultural practices, and the last section focused on sexual and reproductive health. We excluded undocumented girls who could not provide their birthdate, the age at which they became pregnant or had their first baby, and their current age, which would confirm being an adolescent.

The sample covered the two research sites whereby 43 of the surveyed girls were from Maganja da Costa, and 340 were from Morrumbala, both districts of Zambézia Province. Three age categories were used: a) 0<12; b) 12<18; c) 18-19. The sample consisted of 209 girls between the ages of 12-17 and 174 between 18-19.

Descriptive and inferential statistics regarding the socio-demographic characteristics of early married, adolelescent pregnant or adolescent mother made up the two analysis components. We represented data in tables of frequencies and graphs to describe percentages and the relations between observations in the descriptive statistics. The inferential statistics make inferences by using cross-tabulation representations to understand the relationship between variables. SPSS version 20 was used for statistical analysis after coding and categorizing the answers from the 23 survey questions.

The sample size was calculated based on the prevalence (95 525) of girls married before age 18 in Zambézia Province[15]. To do this, we used the online Epi-info, a statistical software package for epidemiology, to obtain the sample size, which was then confirmed by using the formula:

$$n = \frac{N.z^2.p.(1-p)}{(N-1).e^2+z^2.p.(1-p)}$$

$$n = \frac{95525*(1.96)^2*(0.5)*(1-0.5)}{(95525-1)*(0.05)^2+(1.96)^2*(0.5)*(1-0.5)}$$

n – The sample to be calculated $n = \frac{95525*(3.8416)*(0.25)}{(95524)*(0.0025)+(3.8416)*(0.25)}$

N – The size of the population $n = \frac{95525*0.9604}{238.81+0.9604}$

z – Confidence level $n = \frac{91742.21}{239.7704}$

p – Expected true proportion $n = 383$

e – Desired precision (half desired confidence interval width).

Results

Sample characteristics

Of the 383 early married, adolescent pregnant or adolescent mothers, 54.6% were aged 12<18 and 45.4% 18-19 years old. When asked if they were going to school while initially pregnant, 58.7% responded "yes", 39.7% responded "no," and 1.6% were not applicable to this question because they had never gone to school. After delivery, 31.6% returned to school, 66.8% did not return to school, while 1.6% of the adolescent who had never gone to school remained as such. In terms of the subsystem, most adolescents who dropped out of school were in primary school (68%), followed by secondary school (29%), high school (2%) and not applicable (1%).

Marital status

The relationship between age and marital status revealed that 32.5% of adolescent girls aged 12<18

Table 2: Age * Marital status

	Age, n (%)			
Marital status	12<18	%	18-19	%
Single	68	32.5	47	27
União de facto	-	-	104	59.8
Divorced	24	11.5	23	13.2
Widow	2	1	-	-
Not applicable	115	55	-	-
Total	209	100	174	100

Table 3: Age of first pregnancy

Age	Frequency	Percent	Valid Percent	Cumulative Percent
12	9	2.3	2.4	2.4
13	34	8.9	8.9	11.3
14	90	23.5	23.7	35.0
15	94	24.5	24.7	59.7
16	111	29	29.2	88.9
17	42	11	11.1	100
Total	380	99.2	100	
Missing	3	.8		
System				
Total	383	100		

and 47% between 18-19 years were all single (Table 2). This specific case demonstrates that not all adolescent girls are in a situation of early marriage and included single adolescent mothers who had never had or lived with a husband. The categories of *união de facto* (59.8%), divorced (11.5%) at age 12-18, divorced (23%) at age 18-19, widowed (1%), and 55% (whom we designated as not applicable) was regarding adolescents who lived with their husband but in terms of the Family Act (Act 22/2019 of December 11) could not be designated as *união de facto*. This category refers to a man and a woman, with the legal age to marry, who live together as a family but are not officially registered as a married couple[36].

The majority (29%) of adolescents became pregnant at 16 (Table 3). In general, 99.2% (380) of adolescents became pregnant while being younger than 18. The missing system (in the table) means that three of the respondent adolescents had never been pregnant. Among the pregnant adolescents, the scenario shows that the age 14-16 (respectively 23.7%, 24.7% and 29.2%) is significantly more related to adolescent pregnancy than other ages.

A total of 362 out of 383 adolescents aged 10-19 who responded to the survey were already mothers. We organized the data considering a 'child' as every person under 18 and adolescents (not over 19 years). However, participants aged 18 or 19 who should have had their first baby or have had been married before the age of 18 were included in the study. Some studies identified two categories of early marriage: a) females aged 20-24 who married before 15, and b) females aged 20-24 who married before turning 18[16].

Health complications

Of the respondents, 23% replied positive (yes) when asked if they experienced health complications after birth. A further 71.5% said they did not, and 5.5% indicated this section as 'not applicable. Among the adolescent mothers (362), 24.3% responded 'yes' to the health complications during their first baby's birth, while 75.7% claimed they did not have any health complications. The kind of health complications identified were: abortion (8%), asthma (1.1%), back pain (5.7%), bladder pain (1.1%), caesarean section (20.5%), fainting during childbirth (1.1%), stillbirth (6.8%), episiotomy (52.3%), oedema (1.1%), and some temporary disability (2.3%).

Health complications were common between the ages of 15-17 and decreased at the age of 18. Most of the adolescent mothers had an episiotomy (46), were subject to caesarean section (18), or underwent an abortion (7) (Table 4).

Sexual and reproductive health

Contraceptives were used by 48.3% of the respondents, and 51.7% had not used any. Respondents mentioned using condoms (23), contraceptive pills (92), Depo-Provera (36), birth control implants (11), intrauterine devices (1), and the contraceptive injection (22). Most of the adolescents thus used the contraceptive pill compared to other kinds of contraceptives (Table 5). Those who responded that they used condoms did not refer to a female condom but male condoms.

Discussion

Of the 383 respondents, 225 attended school during their first pregnancy while 152 were not attending school, and six never attended school. After and during their pregnancy, 121 adolescents out of 225 continued attending school, and thus, 104 dropped out of school. A total of 256 adolescent girls were no longer attending school.

Table 4: Age when had the first baby * kind of the health complication

Kind of health complication	Age when had the first baby						Total
	13	14	15	16	17	18	
Abortion	0	0	1	5	0	1	7
Asthma complication	0	0	0	0	1	0	1
Back pain	0	0	3	2	0	0	5
Bladder pain	0	1	0	0	0	0	1
Caesarean section	2	1	8	3	4	0	18
Fainted during childbirth	0	0	0	0	1	0	1
Stillborn	1	1	2	1	1	0	6
Episiotomies	3	6	11	15	10	1	46
Oedema	0	0	1	0	0	0	1
Temporary disability	1	0	0	1	0	0	2
Total	7	9	26	27	17	2	88

Table 5: Used any contraceptive * kind of contraceptive

		Kind of contraceptive							
		Condom	Contraceptive pill	Depo-Provera	Birth control implant	Intrauterine device	Not applicable	Contraceptive injection	Total
Used any contraceptive	Yes	23	92	36	11	1	0	22	185
	No	0	0	0	0	0	198	0	198
Total		23	92	36	11	1	198	22	383

Regarding their education level, 55.9% finished primary education, 39.9% secondary education, 2.9% higher education, while 1.3% of them did not attend school. These were considered in the analysis as not applicable. Although the survey did not contemplate a university degree, none of the sampled adolescents referred to tertiary education. These figures paint a picture that corroborates past studies. Adolescent girls who attended secondary school and those with a university degree are more likely to become pregnant later than adolescent girls with only a primary education or those who are illiterate[17,37]. A study in Indonesia revealed that girls' low education was associated with a higher probability of adolescent marriage and motherhood[37]. Additionally, a study in Nigeria showed that 82.4% of married girls had to suspend schooling during the course of their education[38]. Similar results were found in the *Survey on Immunization, Malaria, and HIV/AIDS Indicators in Mozambique* (2015), where 55.2% of women with no education had their first baby between 15 and 19. In terms of education, 43.5% of women had primary education, and 25.4% had secondary education[29].

In this study, 65% of adolescents became pregnant between the ages of 15 and 17. This result is consistent with findings from past studies[16,35] that referred to pregnant adolescents having their first baby while being younger than 18. More specifically, 18.8% of the respondents had their first baby before the age of 15, 99.2% before they turned 18, and 0.8% at 18.

In Mozambique, the percentage of girls who married before turning 15 was 14%, while 48% of the girls married before turning 18[16,17,35]. Data regarding the Zambézia Province revealed that 8.8% of female respondents aged 20-24 had their first baby before turning 15, 40% before the age of 18, 17% were married before their 15th birthday, and 47% before turning 18[16]. Although our study did not cover the entire province of Zambézia, the tendency seems to be that the highest percentage of adolescents become a mother before the age of 18.

Adolescent pregnancy and childbearing implications

Within the consulted literature, there is a consensus that early marriage was generally responsible for higher maternal and infant mortality[39]. On the other hand, adolescent pregnancy put girls at risk of being diagnosed with obstetric fistula[32]. While severe health consequences are derived from early marriage and adolescent pregnancy, there are also multiple other consequences of early marriage, including social, economic and emotional effects. Our analysis of the health implications of adolescent pregnancy and early marriage based on the survey results follows next.

Data reveals that 23% of adolescent mothers experienced health complications, 71.5% indicated they did not have any health complications at birth, and 5.5% were excluded because they were not yet mothers. The health complications were common between 15-17 years while decreasing at 18, where 52.3% of adolescent mothers had an episiotomy, and 20.5% were subject to a caesarean section. This result was consistent with previous studies where adverse pregnancy and birth outcomes constitute a potential health challenge that adolescent mothers face[7]. *The Demographic Health Survey (2011)* indicated that every four deaths (24%) among women aged 15-19 are caused by maternity-related causes, and this decreased to 16% among women aged 25-29 and 8% for those 45-49 of age[35]. Similar results were found in a study in Nigeria, where 75% of respondents (15-19 years) were admitted for complications related to pregnancy[24].

Although the study did not include a question about the form of delivery, it is possible to infer from the adolescent mothers. They were subject to caesarean sections (20.5%) than all other girls who had vaginal deliveries. Previous studies revealed that adolescent mothers were most likely to have a vaginal delivery (72.1%), and there was a lower risk of caesarean section (27.9%)[31]. The 15-year-old adolescents were more likely to be subject to a caesarean section compared to older women. Similarly, the adolescents aged 15-16 had the most episiotomies. This result was consistent according to studies that girls who become pregnant under the age of 15 are at increased risk for placental tears, obstruction at the time of delivery, obstetric fistulae, and death compared to other age groups[33].

With the current state of early marriage and adolescent pregnancy and the need for evidence to inform decisions and actions, health authorities must pay attention to the registration and systematization of adolescent pregnancy and childbearing data. For instance, during the fieldwork, it was possible to collect raw data from the Maternity Service at the main hospital of Morrumbala district, which was more or less systematized if compared to Maganja da Costa district, meaning that some efforts are being made. However, there is still a long way to go for data accuracy and interpretation for an informed decision. Interventions on adolescent pregnancy prevention should focus on 14-16-year-old girls and empower single adolescent mothers with knowledge about sexual and reproductive health, including sexual and reproductive rights. Mozambique should reconsider the upgrading and harmonizing of child protection policies, including the diffusion and effective implementation of such policies.

Early marriage and adolescent pregnancy are therefore perceived as the cause of school dropout. A multi-sector approach is also needed for capacity-building and enhancing girls' empowerment through initiatives aiming at girls' retention in school and poverty alleviation. Future research should focus on the apparent contradiction between knowledge of different contraceptives and the rate of early and unwanted pregnancy, including the relationship between local tradition in Maganja da Costa and Morrumbala districts and the use of contraceptives among adolescent girls because of prevailing myths.

This study dealt with adolescent girls 10-19 years old. The exclusion of girls younger than ten might have been a missed opportunity to capture other scenarios. Moreover, boys were not part of the study, limiting knowledge of what might be happening in terms of education, health and rites of initiation regarding boys involved in early marriage. Finally, being a male researcher, interviewing girls in a society where female sexual and reproductive life was still taboo, and a private affair might have limited the flow of communication with some participants, thereby

affecting the course of the survey and the given answers.

Ethical Approval

The UNISA Health Studies Ethics Committee granted ethical clearance (Nr. 483/2015) for this study, and Mozambique's National Committee for Bioethics (Nr. IRB00002657) after submitting the research proposal and the Declaration of Compromise to follow the principle of bioethics. Then we submitted a letter of permission to the Provincial Governor of Zambézia Province, who then resubmitted the letter to the Provincial Directorate of Health before a final decision was reached. After approval was received from the Provincial Government, the permission was then communicated to the Provincial Directorates of Health; Gender, Child and Social Action, and Education and Human Development, and finally to the respective directorates at the district level in Maganja da Costa and Morrumbala. The acceptance of whether or not to participate in the study was addressed between the adolescents and the researcher after being informed about the research and the content of the 'assent' or consent letter. There was the ethic imperative for adolescent mothers to sign the 'assent' and their legal representative signed the consent letter for adolescent mothers.

Conclusion

Early marriage and adolescent pregnancy are potential drivers for school dropout and contribute to the low education attained by numerous adolescent girls. Moreover, these adolescent girls are addected by adverse pregnancy and birth health outcomes. Ensuring social protection measures, delaying pregnancy and marriage by providing girls with the opportunity to complete their school careers and enhancing their education to make better decisions regarding their sexual and reproductive health would ultimately save their own and others' lives. Through this perspective, girls' education is a protective factor. Therefore, gender parity in education efforts should be directed to girls' retention at primary school and monitored through the following secondary phase and university degrees.

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Contribution of authors

JN and JM contributed to the conceptualization of the study. JN collected, analyzed and interpreted the data, and JM reviewed the article and contributed to the final version. All the authors mentioned in the article approved the manuscript.

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