



# Parents' and caretakers' perceptions and concerns about accessibility of antenatal services by pregnant teenagers in Mbarara Municipality, Uganda

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## ABSTRACT

**Background:** Uganda has one of the highest teenage pregnancy rates in Sub-Saharan Africa and the world. About a quarter of teenagers become pregnant annually. This is much higher than the global rate of 11%. When a teenager becomes pregnant, caring responsibilities are usually shared between the teenage mother and the baby's grandmother. Previous research has largely focused on the experiences of teenagers, leaving out the parents and caregivers. This paper describes parents and caretakers' perceptions and concerns about accessibility of antenatal services by pregnant teenagers in three divisions of Mbarara Municipality in southwestern Uganda.

**Methods:** This was a qualitative cross-sectional descriptive study. Thirty in-depth interviews with parents and caregivers were conducted. The study was conducted in the Nyamitanga, Kakoba and Kamukuzi divisions in Mbarara Municipality, southwestern Uganda. Data analysis was done manually by identifying emergent themes which were then coded and organized into concepts which were later developed into explanations.

**Results:** According to parents and other caregivers, teenage pregnancy is considered a significant challenge both for themselves and for the teenagers. Often, pregnant teenagers lack information on the available antenatal care services. They struggle with stigma and also lack social and financial support from parents. In addition, the teenagers lack support from reproductive health workers. The parents and caregivers also struggle with the stigma of their children's pregnancy and are often unaware of any available teenager friendly ANC services.

**Conclusions:** Parents and caregivers find it difficult to cope with their children's pregnancy. They are not aware of any existing teenager-friendly antenatal services, yet antenatal services specifically targeting teenagers are necessary. In planning programs for antenatal services, parents and caregivers also need to be equipped with knowledge and skills required for them to guide and support the pregnant teenagers.

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**Abbreviations:** AIDS, acquired immunodeficiency syndrome; ANC, ante-natal care; HIV, human immunodeficiency virus; MUST-REC, Mbarara University of Science and Technology research and ethics committee; WHO, World Health Organisation.

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## Introduction

Teenage pregnancy remains a major global public health concern with many complications and challenges for the teenager, her child, her family and the community (Black et al., 2012). It is associated with preterm birth, low birth weight, neonatal and infant mortality, postpartum mental health problems and psychosocial challenges including stigma, ridicule and rejection when it occurs outside marriage. Unmarried pregnant teenagers are often cut off from their peer networks, community and even families, which are fundamental for their social and emotional wellbeing

(Kumi-Kyereme et al., 2007). It is also common practice for the teenagers to be isolated even in their own homes. Parents often feel ashamed of having their teenage daughters pregnant. This may result in hiding them from the public and severe harassment in the home.

Uganda is the second youngest nation in the world with 55% of the population being younger than 18 years (UDHS, 2012; Worldatlas, 2018). It is also known for one of the highest fertility rates with a woman producing 6.7 children on average with 25% being contributed by teenage pregnancy. According to WHO, healthy individuals have the capability to reproduce and the freedom to decide when, and how often to do so. However, less than 50% of Ugandan women receive the recommended antenatal care visits, and only about 40% of the urban and 20% of the births are attended by skilled health personnel (Kawungezi et al., 2015). More than a third (39%) of Ugandan women aged 20–49 years have given birth by age 18 (UDHS, 2012). Southwestern Uganda contributes 15% of the national teenage pregnancy with 4.3% of young girls aged 12–17 years in Mbarara District being married (UBOS, 2016; UDHS, 2012). There are several risk factors for teenage pregnancy. Some studies have indicated that teenage pregnancy is associated with weaknesses in parenting styles and upbringing. For example, parents who are too lenient or too harsh are less likely to have useful interaction and mentorship skills needed by their daughters (Bonell et al., 2014; Sekiwunga and Whyte, 2009).

In addition to facing a challenging early motherhood, pregnant teenagers are sometimes rejected and ostracized by parents, partners, and their communities (Weed and Nicholson, 2015). In addition, once teenagers attempt to access health care from available reproductive health facilities, health workers are often unfriendly, rude and unsympathetic to them (Atuyambe et al., 2005; Grant, 2012). The views of parents on teenage pregnancy matter. If the parents consider it as something that can happen, they are likely to put strategies in place to prevent it.

The relationship between pregnant teenagers and their partners has been reported as a major factor in the plight of a pregnant teenager. The age, employment status and education level of the baby's father can influence the continuance of the relationship between the teenager and the father of her baby (Whitehead, 2008). However, the baby's father often denies the pregnancy and leaves the care giving responsibility with the mother's parents (Bankole et al., 2007; Biddlecom et al., 2007). Although it is well known that effective antenatal care has the potential for reducing maternal morbidity and improving newborn survival and health, there are significant gaps in knowledge of teenagers and their parents. At the same time, teenager friendly antenatal services in public health facilities seem to be limited (Bonell et al., 2014; Gross et al., 2011).

Access to Antenatal care services is recognized by the World Health Organization as a crucial factor in reducing maternal deaths (Fallon, 2011). Although friendly antenatal services may be available in some areas, some teenagers may not access them due to a number of barriers including but not limited to lack of knowledge, negative cultural beliefs, rude personnel, inappropriate hours of service, socio-economic challenges and distance to the nearest health facility (Bonell et al., 2014; Kyomuhendo, 2003). Accessibility of services in terms of affordability can be a disincentive for uptake of reproductive health services. In addition, negative parental, religious, and community attitudes towards unmarried adolescents seeking reproductive health services represent barriers to access to services (Bonell et al., 2014). Furthermore, adolescents may be poor at negotiating for friendly reproductive health services. In planning for services, adolescents' needs are often caught in between pediatric and adult needs (Kawungezi et al., 2015). As such, the reproductive health needs of adolescents often no longer fit with those of the younger children in the department of pediatrics and yet they cannot be met in the adult departments. This implies a sig-

nificant gap in programming and delivery of teenage reproductive health services.

Young people face greater reproductive health risks than adults, yet they often are less willing and able to access reproductive health services (Ngum et al., 2015). Reproductive health services are seen by young clients as unwelcoming. In addition, significant barriers include lack of awareness and inadequate information about the services.

Unwanted pregnancies, sexually transmitted infections, and HIV/AIDS are the more obvious and sometimes unavoidable consequences of early sexual activity (Kipp et al., 2007). The breakdown of traditional institutions partly due to socialization and media influence has played a role in the changing patterns of sexual activity (Friedman, 1992). In addition, universal access to reproductive health and education is far from being attained (Mbonye, 2003). Teenage pregnancy exposes the young woman to multiple vulnerabilities and is linked to poor education outcomes such as poor performance and school dropout. In spite of the government's policies to implement Universal Primary Education and Universal Secondary Education, many girls are increasingly dropping out of school. For instance, only three quarters of children who started primary school make it to secondary (Mbonye, 2003). Female teenagers' sexual and reproductive health reality is worsened by their poor health care seeking behaviour (Kipp et al., 2007; Mbonye, 2003).

In Uganda teenage pregnancy is considered a problem for moral and social, as well as health reasons (Sekiwunga and Whyte, 2009). Sometimes, these issues are considered more important than the teenager's needs like education. Other previous studies have reported that keeping girls in school is one of the main strategies against teenage pregnancy and early marriage (UNICEF, 2015). Hence, education should be encouraged especially among the vulnerable groups of girls like orphans. Other strategies to reduce teenage pregnancy include improving child protection policies, allowing teenagers to use contraceptives, reducing coerced sex, reducing unsafe abortion, changing community dominant thinking and social norms related to child marriage and empowering teenage girls to say no to unwanted pregnancy (UNICEF, 2015; WHO, 2011).

Unmarried teenage mothers face several challenges including sexual abuse, missed opportunity for further education and stigmatization in their communities (Leerlooijer et al., 2013). These challenges further complicate the access to reproductive health and other services. Previous research has largely focused on pregnant teenagers, ignoring parents and other key stakeholders. Yet, the burden of teenage pregnancy is not born by teenagers alone. It is crucial that all key players be involved. This study assessed parents' and caretakers' perceptions and concerns about accessibility of antenatal services by pregnant teenagers in three divisions of Mbarara Municipality in southwestern Uganda.

## Methods

### Study design

This was a qualitative cross-sectional descriptive study conducted between March and May 2014 in three divisions of Mbarara Municipality (Nyamitanga, Kakoba and Kamukuzi) in southwestern Uganda. Thirty In-depth interviews (IDIs) were conducted for data collection, 10 IDIs in each division.

### Setting

Mbarara Municipality is served by Mbarara Regional Referral Hospital, with a capacity of 500 beds, four private hospitals (Ruharo Mission Hospital, Mayanja Memorial Hospital, Divine

Mercy hospital and Mbarara Community Hospital), one Health Centre IV and at least one Health Centre II/III per division.

Thirty parents and caregivers from three divisions participated in the study. Of the thirty, 16 were mothers to the teenagers, 8 were fathers and 6 were other caretakers. These participants were identified through the local council leaders and the village health team members (community health workers). They were then approached by the research team for consent and interview. Each of the participants was interviewed for about thirty minutes. All participants provided informed consent before participating in the study. The interviews were done in privacy and the participants were given the opportunity to share information without coercion. The interviews were done in the community at sites of participants' choice. The interviews were done in Runyankore–Rukiga, recorded with a voice recorder by two researchers and later transcribed. The transcripts were then translated to English before analysis. Data analysis was done manually by identifying emergent themes which were later coded and organized into concepts which were later developed into explanations. All the work was closely supervised and monitored by the first author of this paper to ensure quality at all stages of the research.

#### Quality control

In order to ensure quality of the data, the interview guides were first pretested before the beginning of the data collection process. The investigators participated in data collection, and the first author supervised all aspects of the study.

#### Results

We conducted 30 In-depth interviews among 16 mothers, 8 fathers and 6 caretakers of teenage girls to assess their perceptions and concerns about teenage pregnancy and teenager friendly antenatal services in three divisions of Mbarara Municipality, southwestern Uganda. All the participants were aware that teenagers needed reproductive health information including information about antenatal care. Half of the participants suggested that parents were the best persons to provide information to their children while others felt it was not a responsibility of one group but a combined effort of parents, teachers, health workers and community leaders.

#### Parents' views and concerns on availability of antenatal care services

According to the parents and other caretakers, teenager friendly services are not available in Mbarara municipality due to a number of factors. They believe that corruption and embezzlement of funds by government officials is responsible for the lack of teenager friendly antenatal care services and, the government policy about antenatal care describes the service as for women, and therefore, it may not be fully applicable and cater to teenagers. The participants believe that government has not put a lot of effort in programming and provision of Antenatal Care services targeting needs of adolescents.

*"I do not even know if there are teenager friendly Antenatal Care services; ... Antenatal Care is for pregnant women"*

*"The Antenatal Care services for adolescents are not there and therefore cannot be accessed, they cannot find them anywhere. You cannot access what is not there"*

Due to poor service planning, there is lack of trained personnel in the adolescent reproductive health.

*"maybe nobody has ever recognized teenager Antenatal Care service as a need! Maybe they think young girls don't conceive. If they knew, services would be there"*

*"They are usually all considered the same as adults; the health workers cannot separate teenagers from older women"*

Often the teenager doesn't even want to ascertain the health of their pregnancy. They may just want to hear the views of health workers concerning safety but some teenagers do not even know what they need.

*"My girl told me that she would only tell me when she is in pain. They even don't know the use of Antenatal Care and some fear the negative attitude of health workers"*

#### Poor programming and planning

According to the parents and caretakers in the study, the health worker's attitude of blaming pregnant teenagers hinders their accessibility of the available antenatal services.

*"There is lack of qualified personnel; the ones on ground neglect young mothers"*

*"There are usually big numbers of pregnant women attending Antenatal Care and the health workers cannot have time to attend to teen mothers"*

In addition, there is lack of sensitization about the Antenatal Care services to the teenagers. The teenagers are not aware of the services available at the different health units. There is poor programming and planning of the hospital and health units; there is poor infrastructure at the health centres.

#### Lack of nearby facilities

One of the major hindrances to access is that some of the health units are far away from adolescents.

*"The adolescents do not want to walk long distances and in the process meet many people to explain what happened to them. They would prefer a place they can walk in, get a service and go back without having to struggle"*

*"The teenagers lack money for transport, no specific Antenatal Care services friendly to adolescents and they lack guidance"*

#### Stigma and lack of support hinder access to the available antenatal care services

The teenagers face stigma and fear to be seen by other people. They are also verbally abused by adult mothers attending antenatal care with them. Adolescents do not often know what to do and do not want to attend. They have fear and self-stigma as well.

*"Adolescents tend to shy away from the health unit because they fear that they would be verbally abused. They are shy and have low self-esteem."*

*"They feel shy because of adult mothers attending the same health units."*

*"Being blamed why they are pregnant and being asked about their children's fathers whom they may not know"*

Teenagers often lack support from their care takers/parents and fathers to their children. Adolescents don't know where to find Antenatal Care services. Some of them fear to open up to adults until they get problems. Some of these young people cannot even tell they are pregnant because they have no experience.

*"Lack of awareness about the need to attend Antenatal Care, pressure from parents, low self-esteem, and fear to be seen, and the stigma from the community"*

*"Some parents neglect their children because of anger leading them to face more challenges"*

*"I don't think they even know that services exist otherwise I am less concerned; if they want, they can leave, they are a shame in the society, those children are shameful"*

*"Some parents stop their adolescents to go to the health facility in order to keep their reputation; they hide them until they give birth. There was a mother who was locking her child in the house because of not wanting to be known by the community"*

#### Health workers' attitudes towards teenagers and their parents

Quite often, health workers blame teenagers for becoming pregnant, take long to serve them and are rude to them. This affects service availability and its accessibility.

*"The health workers mistreat the adolescents; blaming them for getting pregnant this make them run away or shy away from the hospital"*

*"I feel teenagers need to be treated differently/in separate services from adults; some of them get pregnant under different circumstances"*

## Discussion

This study assessed parents' and care taker's perceptions and concerns about accessibility of antenatal services by pregnant teenagers in three divisions of Mbarara Municipality, southwestern Uganda. In this study, parents and caregivers expressed concern about teenage pregnancy and absence of teenager-friendly antenatal services in Mbarara municipality. Lack of awareness about teenage pregnancy and antenatal care were also reported to play a big role in hindering accessibility and utilization of Antenatal Care by teenagers. We also found that reproductive health Education is not one group's responsibility but a combined effort. Negative attitudes of health workers towards the pregnant teenagers were also highlighted by the parents and caregivers as some of the major concerns.

The findings in this study are consistent with previous studies. For example, the study by Onyeka and colleagues in Nigeria reported that students who became pregnant said ignorance was the main reason (Onyeka et al., 2012). While the teenagers interact with many people like parents, aunties, teachers and religious leaders, they equally need to hear about teenage pregnancy from different stakeholders. This helps them to appreciate the information and probably take it more serious (Atuyambe et al., 2008; Sekiwunga and Whyte, 2009; Ybarra et al., 2008). Parents find it challenging to communicate to their children about pregnancy and sexuality. This is similar to what has been reported by Ayalew and colleagues in Ethiopia and Manu and colleagues in Ghana (Ayalew et al., 2014; Manu et al., 2015). It is crucial that parents should communicate with their teenagers about sexual matters and sexual abuse and teenagers should also be provided with sex education in other different settings like schools and places of worship. Since some of the teenage pregnancies are by teenage boys, they should equally be considered for sex education (Onyeka et al., 2012).

According to the study participants, pregnant teenagers face stigma and lacked support. Lack of sufficient moral and financial support places the teenagers at the hands of men and boys who promise to or actually provide some material needs (Mulye et al., 2009; Onyeka et al., 2012). Teenagers become pregnant following

sexual abuse and thereafter face shame, marital limitations and lack of respect from community members (Onyeka et al., 2012). This could be averted by parents making adequate financial provision to teenagers (Onyeka et al., 2012; Sekiwunga and Whyte, 2009). In addition, the male partners responsible for the pregnancy should be held more accountable and asked to provide the necessary support during and after pregnancy.

The study participants asserted that parents and guardians fail to provide for their daughters' needs, and that they pressure them into early marriages. This is in line with what has been reported in previous Ugandan study by Sekiwunga and Whyte (2009).

The negative attitudes of health workers towards pregnant teenagers and their parents is a major hindrance that needs to be addressed. In addition, health care providers are not well skilled to effectively care for pregnant teenagers. They are judgmental, lack empathy and compassion and are not good listeners.

Usually, when people become unwell, they run to the health centres for comfort, care and assistance. Health workers are expected to be empathetic and nondiscriminatory and build a trusting and helping relationship that encourage pregnant teenagers to express their feelings and thus helping them to cope with the pregnancy. When individuals begin fearing to approach health workers, it is a great challenge. Similar findings have been reported previously in other studies in Ethiopia and other countries (Mannava et al., 2015; Tilahun et al., 2012). Pregnant teenagers need to be facilitated to identify positive coping strategies and build resilience during such a difficult time. The health care providers should provide such teenagers with emotional support and comfort facilitate them to deal with fears and anxieties associated with pregnancy and support them in practical problem solving.

The current healthcare system in Uganda is not adequately structured to meet the reproductive health needs of teenagers (Ralph and Brindis, 2010). All these factors contribute greatly to poor accessibility and utilization of the Antenatal Care service in the three divisions of Mbarara Municipality. Establishing teenager-friendly antenatal services could improve accessibility and service utilization. In addition, sensitization of various stakeholders about the needs of pregnant teenagers would be very helpful in addressing teenage pregnancy and associated challenges (Rukundo et al., 2015).

## Conclusions

Parents and caretakers of teenagers are concerned about and quite aware of the needs for pregnant teenagers. Lack of support, stigma and health workers' negative attitudes negatively affect the teenagers' accessibility and utilization of Antenatal Care services.

## Recommendations

There is a need to establish centres specifically to cater for Antenatal Care needs of pregnant teenagers and also provide comprehensive adolescent reproductive health services. The capacity and skills of health workers to effectively provide teenager friendly antenatal services should be built. Teenagers' parents, caretakers and partners should share some of the responsibilities linked to a pregnancy and subsequent childcare. Sex education should be taken as a collective responsibility for parents, relatives, teachers and other stakeholders in child protection.

## Declarations

Ethics approval and consent to participate

The study was reviewed and approved by the Institutional Research and Ethics Committee of Mbarara University of Science



and Technology (MUST-REC) for ethical approval on behalf of the Uganda National council for science and technology. Permission was also sought from Mbarara municipality administration, Health Centre In-charges before data collection. Written informed consent/assent from individual participants was obtained before they participated in the study. Specific consent was sought from participants whose In-Depth Interview information was recorded. The recorded information will be stored for five years. Participants' privacy and confidentiality were respected. They were informed that the study presented minimal foreseeable risks and that they were free to decline to participate or to withdraw at any time without suffering any disadvantage or prejudice. No participant identifiers were included in the data entry and analysis.

### Consent for publication

Before consenting to be part of the study, participants were informed that the provided information would only be used for research purposes and that no participant identifiers were included in the data entry and analysis.

### Availability of data and material

All data and materials in this manuscript are freely available.

### Competing interests

The authors declare that they have no competing interests.

### Limitations

This is a qualitative study and the results may not be generalisable. But, the information is useful in planning for services in the study area and similar areas. Secondly, some of the participants have not yet had an experience of one their own daughter becoming pregnant. However, they have all taken care of teenagers with the potential to get pregnant. So, documenting their views and concerns is quite helpful in planning antenatal care services.

### Conflict of Interest

None declared.

### Ethical approval

The study was reviewed and approved by the Institutional Research and Ethics Committee of Mbarara University of Science and Technology (MUST-REC) for ethical approval on behalf of the Uganda National council for science and technology. Permission was also sought from Mbarara municipality administration, Health Centre In-charges before data collection. Written informed consent/assent from individual participants was obtained before they participated in the study. Specific consent was sought from participants whose In-Depth Interview information was recorded. The recorded information will be stored for five years. Participants' privacy and confidentiality were respected. They were informed that the study presented minimal foreseeable risks and that they were free to decline to participate or to withdraw at any time without suffering any disadvantage or prejudice. No participant identifiers were included in the data entry and analysis.

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### References

- Atuyambe, L., Mirembe, F., Johansson, A., Kirumira, E.K., Faxelid, E., 2005. Experiences of pregnant adolescents—voices from Wakiso district, Uganda. *Afr. Health Sci.* 5 (4), 304–309. doi:10.5555/afhs.2005.5.4.304.
- Atuyambe, L., Mirembe, F., Tumwesigye, N.M., Annika, J., Kirumira, E.K., Faxelid, E., 2008. Adolescent and adult first time mothers' health seeking practices during pregnancy and early motherhood in Wakiso district, central Uganda. *Reprod. Health* 5, 13. doi:10.1186/1742-4755-5-13.
- Ayalew, M., Mengistie, B., Semahegn, A., 2014. Adolescent-parent communication on sexual and reproductive health issues among high school students in Dire Dawa, Eastern Ethiopia: a cross sectional study. *Reprod. Health* 11 (1), 77. doi:10.1186/1742-4755-11-77.
- Bankole, A., Biddlecom, A., Guiella, G., Singh, S., Zulu, E., 2007. Sexual behavior, knowledge and information sources of very young adolescents in four sub-Saharan African countries. *Afr. J. Reprod. Health* 11 (3), 28–43.
- Biddlecom, A.E., Munthali, A., Singh, S., Woog, V., 2007. Adolescents' views of and preferences for sexual and reproductive health services in Burkina Faso, Ghana, Malawi and Uganda. *Afr. J. Reprod. Health* 11 (3), 99–110.
- Black, K.I., Stephens, C., Haber, P.S., Lintzeris, N., 2012. Unplanned pregnancy and contraceptive use in women attending drug treatment services. *Aust. N. Z. J. Obstet. Gynaecol.* 52 (2), 146–150. doi:10.1111/j.1479-828X.2012.01413.x.
- Bonell, C., Wiggins, M., Fletcher, A., Allen, E., 2014. Do family factors protect against sexual risk behaviour and teenage pregnancy among multiply disadvantaged young people? Findings from an English longitudinal study. *Sex Health* 11 (3), 265–273. doi:10.1071/SH14005.
- Fallon, D., 2011. Reducing teenage pregnancy. *Pract. Midwife* 14 (3), 23–24.
- Friedman, H.L., 1992. Changing patterns of adolescent sexual behavior: consequences for health and development. *J. Adolesc. Health* 13 (5), 345–350.
- Grant, M.J., 2012. Girls' schooling and the perceived threat of adolescent sexual activity in rural Malawi. *Cult. Health Sex* 14 (1), 73–86. doi:10.1080/13691058.2011.624641.
- Gross, K., Armstrong Schellenberg, J., Kessy, F., Pfeiffer, C., Obrist, B., 2011. Antenatal care in practice: an exploratory study in antenatal care clinics in the Kilombero Valley, south-eastern Tanzania. *BMC Pregnancy Childb.* 11, 36. doi:10.1186/1471-2393-11-36.
- Kawunguzi, P.C., AkilBua, D., Aleni, C., Chitayi, M., Niwaha, A., Kazibwe, A., . . . , Nakubulwa, S., 2015. Attendance and utilization of antenatal care (ANC) services: multi-center study in upcountry areas of Uganda. *Open J. Prev. Med.* 5 (3), 132–142. doi:10.4236/ojpm.2015.53016.
- Kipp, W., Chacko, S., Laing, L., Kabagambe, G., 2007. Adolescent reproductive health in Uganda: issues related to access and quality of care. *Int. J. Adolesc. Med. Health* 19 (4), 383–393.
- Kumi-Kyereme, A., Awusabo-Asare, K., Biddlecom, A., Tanle, A., 2007. Influence of social connectedness, communication and monitoring on adolescent sexual activity in Ghana. *Afr. J. Reprod. Health* 11 (3), 133–149.
- Kyomuhendo, G.B., 2003. Low use of rural maternity services in Uganda: impact of women's status, traditional beliefs and limited resources. *Reprod. Health Matters* 11 (21), 16–26.
- Leerlooijer, J.N., Bos, A.E., Ruiter, R.A., van Reeuwijk, M.A., Rijdsdijk, L.E., Nshakira, N., Kok, G., 2013. Qualitative evaluation of the Teenage Mothers Project in Uganda: a community-based empowerment intervention for unmarried teenage mothers. *BMC Public Health* 13, 816. doi:10.1186/1471-2458-13-816.
- Mannava, P., Durrant, K., Fisher, J., Chersich, M., Luchters, S., 2015. Attitudes and behaviours of maternal health care providers in interactions with clients: a systematic review. *Global Health* 11, 36. doi:10.1186/s12992-015-0117-9.
- Manu, A.A., Mba, C.J., Asare, G.Q., Odoi-Agyarko, K., Asante, R.K., 2015. Parent-child communication about sexual and reproductive health: evidence from the Brong Ahafo region, Ghana. *Reprod. Health* 12, 16. doi:10.1186/s12978-015-0003-1.
- Mbonye, A.K., 2003. Disease and health seeking patterns among adolescents in Uganda. *Int. J. Adolesc. Med. Health* 15 (2), 105–112.
- Mulye, T.P., Park, M.J., Nelson, C.D., Adams, S.H., Irwin Jr., C.E., Brindis, C.D., 2009. Trends in adolescent and young adult health in the United States. *J. Adolesc. Health* 45 (1), 8–24. doi:10.1016/j.jadohealth.2009.03.013.
- Ngum Chi Watts, M.C., Liampittong, P., McMichael, C., 2015. Early motherhood: a qualitative study exploring the experiences of African Australian teenage mothers in greater Melbourne, Australia. *BMC Public Health* 15, 873. doi:10.1186/s12889-015-2215-2.
- Onyeka, I.N., Miettola, J., Ilika, A.L., Vaskilampi, T., 2012. Becoming pregnant during secondary school: findings from concurrent mixed methods research in Anambra State, Nigeria. *East Afr. J. Public Health* 9 (1), 19–25.
- Ralph, L.J., Brindis, C.D., 2010. Access to reproductive healthcare for adolescents: establishing healthy behaviors at a critical juncture in the lifecycle. *Curr. Opin. Obstet. Gynecol.* 22 (5), 369–374. doi:10.1097/GCO.0b013e32833d9661.

- Rukundo, G.Z., Abaasa, C., Natukunda, P.B., Ashabahebwa, B.H., Allain, D., 2015. Antenatal services for pregnant teenagers in Mbarara Municipality, Southwestern Uganda: health workers and community leaders' views. *BMC Pregnancy Childb.* 15, 351. doi:[10.1186/s12884-015-0772-0](https://doi.org/10.1186/s12884-015-0772-0).
- Sekiwunga, R., Whyte, S.R., 2009. Poor parenting: teenagers' views on adolescent pregnancies in eastern Uganda. *Afr. J. Reprod. Health* 13 (4), 113–127.
- Tilahun, M., Mengistie, B., Egata, G., Reda, A.A., 2012. Health workers' attitudes toward sexual and reproductive health services for unmarried adolescents in Ethiopia. *Reprod Health* 9, 19. doi:[10.1186/1742-4755-9-19](https://doi.org/10.1186/1742-4755-9-19).
- UBOS, 2016. The National Population and Housing Census 2014 – Main Report Retrieved from Kampala.
- UDHS, 2012. Uganda Demographic and Health Survey Retrieved from.
- UNICEF, 2015. The National Strategy to End Child Marriage and Teenage Pregnancy, 2014/2015 – 2019/2020. UNICEF.
- Weed, K., Nicholson, J.S., 2015. Differential social evaluation of pregnant teens, teen mothers and teen fathers by university students. *Int. J. Adolesc. Youth* 20 (1), 1–16. doi:[10.1080/02673843.2014.963630](https://doi.org/10.1080/02673843.2014.963630).
- Whitehead, E., 2008. Exploring relationships in teenage pregnancy. *Int. J. Nurs. Pract.* 14 (4), 292–295. doi:[10.1111/j.1440-172X.2008.00695.x](https://doi.org/10.1111/j.1440-172X.2008.00695.x).
- WHO, 2011. Early Marriages, Adolescent and Young Pregnancies Retrieved from [http://apps.who.int/gb/ebwha/pdf\\_files/EB130/B130\\_12-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/EB130/B130_12-en.pdf).
- Worldatlas, 2018. 30 Countries With The Youngest Populations in The World (Publication no. <https://www.worldatlas.com/articles/the-youngest-populations-in-the-world.html>).
- Ybarra, M.L., Emenyonu, N., Nansera, D., Kiwanuka, J., Bangsberg, D.R., 2008. Health information seeking among Mbararan adolescents: results from the Uganda Media and You survey. *Health Educ. Res.* 23 (2), 249–258. doi:[10.1093/her/cym026](https://doi.org/10.1093/her/cym026).