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Maternal health services for pregnant adolescent girls in Uganda: Barriers and Opportunities

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// Abstract

Background: Globally, adolescent pregnancy is one of the major areas of concern. Over 16 million girls aged between 15-19 years give birth, while over 1 million become pregnant before 15 years, most of who are in Sub-Saharan Africa. Yet, very few adolescents access maternal health services. This study explored the available maternal health services, barriers in accessing them and possible strategies for improving accessibility to these services among pregnant adolescents, specifically in Uganda.

Methods: The study was carried out at Naguru teenage information and health Centre (NTIHC), Nakawa division, Kampala district using a qualitative research approach. Data was obtained using in-depth face to face interviews from 31 independent pregnant adolescents and four health care providers. These participants were selected using convenient sampling technique. Data was manually analyzed and themes were extracted and used in the interpretation of results.

Results: The study found out that adolescents use only antenatal health care services while the uptake of postpartum health services was side-lined much as they were found available in the health facilities. The dominant antenatal care services among adolescents include; testing and managing of STIs, measuring pressure, tetanus vaccine, measuring weight, counselling and guidance, peer education, and providing drugs. Adolescents also encountered challenges such as long distances, financial constraints, stigmatization, negative attitude of health workers and community expressed bias when accessing these services. It further revealed that through government intervention, community and health workers, accessibility to maternal health services would be improved. Specifically, increasing remuneration for health workers; sensitizing communities about adolescent pregnancy and rights; construction of labour suites; and health workers’ competence were highly emphasized.

Conclusion: Advertising and promotion of maternal health services; sensitization of community members; and government involvement will be the key parameters for enhancing maternal health care among adolescent mothers.

Background

Like in other African countries, adolescent fertility in Uganda has been greatly influenced by public policies and poverty. These policies have gone a long way to influence the use of contraceptives among adolescents in Africa. They have influenced a decline in the use of contraceptives, despite the rise in the number of adolescent pregnancies in the continent. Such policies promote abstinence programs and limits access to abortion services, and emergency contraception use for adolescents (1). Adolescents in Uganda believe that they are mature enough and ready to have sex, yet they have less or no prior knowledge about the consequences of engaging in unprotected sex. They are less likely to seek advice from the elderly since it is considered an abomination to engage in sexual activities at their age (2). Therefore, adolescents, who are less informed, may not access the appropriate reproductive health

services and therefore stand at greater risk of becoming pregnant due to lack of knowledge on appropriate contraceptives and their use.

Moreover, adolescent pregnancy is associated with numerous effects ranging from health, cultural, social, to economic effects. One of the major causes of death among adolescents are complications experienced during pregnancy and child birth (3). Additionally, risk exposure to eclampsia, puerperal endometritis, and systemic infections is common among adolescents compared to older girls aged at least 20 (4). As noted by Maly et al. (5), adolescent pregnancy in Uganda is associated with lower educational attainment and low socioeconomic status which creates a vicious cycle of over dependence and poverty.

Likewise, babies born to adolescents are more likely to be premature and of low birth weight, which affects child growth and development. Moreover, babies born by adolescents are likely to suffer from malnutrition, low development and social segregation. This is in addition to increased exposure to poor education (4). To change this trend, policymakers, donors and Non-Governmental Organizations (NGOs) among others, have consistently pushed for accessible and equitable maternal health care, although the progress remains low (6). In the same light, Sustainable Development Goals (SDGs) Number 3 (7) which aims to, "Ensure healthy lives and promote well-being for all at all ages," indicates that one of the channels through which global maternal mortality can be reduced to less than 70 per every 100 000 live births, neonatal mortality, unintended pregnancies and childbearing among adolescents requires intensifying maternal health care (8). Maternal health care is primarily concerned with enhancing reproductive health, prenatal care, and breastfeeding, recognizing, and managing all forms of pregnancy-related complications (9).

Whilst it's relevant, maternal health care accessibility remains low especially in developing countries and Sub Saharan Africa (10–12). The number of adolescents with unmet need of modern contraception is equally high approximated at 23 million. In addition, 777,000 girls aged below 15 give birth annually (13). Statistics specific to Uganda indicate that over 30.4percent of girls aged 15–19 are in unmet need of contraception but they cannot access such services, meanwhile 17.2percent of girls die as a result of childbirth related complications. In addition, almost half (41.1percent) of adolescents do not attend the acceptable number of antenatal care (14). With this trend, it is likely that Uganda and perhaps the rest of the world will again fail to meet the SDGs in 2030 as it was the case for the Millennium Development Goals (MDGs). This study sought to explore available maternal health care services for pregnant adolescent girls in Uganda, identify the barriers to accessing these services and explore ways of improving access to maternal health services.

Methods

Study setting: The study was carried out at Naguru Teenage Information and Health Centre (NTIHC). NTIHC is a non-governmental organization located in Bugolobi, Nakawa division, Kampala district of Uganda. The facility was established in 1994 by a Swedish gynecologist Kerstin Sylvan and several

volunteer counselors as a voluntary centre. NTIHC is an adolescent health care delivery Centre implementing a youth friendly model of sexual and reproductive health and rights services targeting young people of 10–24 years in Uganda. Therefore, many of the adolescents seek for health care at this place. Furthermore, NTIHC is in the city center and attracts clients from mostly slum areas who are financially unstable given the fact that all services at NTIHC are free of change, hence attracting many pregnant adolescents since they are financially vulnerable.

Study design and population: This study employed a qualitative research approach of 31 independent pregnant adolescents aged 15–19 years. Independent adolescents refer to adolescent girls aged between 15–19 years who either stay alone or with their adolescent spouse or adolescent friends, rather than with their parents. In addition, four maternal health care providers to the respondents were also interviewed to gain deep insights into the issue. This data was collected in 45 days.

Sample size estimation: While the number of interviews to be conducted was not clear, the researcher had to make sure that enough data was collected until the saturation point. This is when already acquired answers had started to appear and there is nothing new emerging from the interview (15) however, by the time the researcher reached saturation 31 respondents had been interviewed.

Data collection: Participants in this study were selected through a convenient sampling technique. This technique helped in selecting respondents if they fulfilled specific criteria, mainly; accessibility, geographical location, availability and proximity among others. Independent adolescent pregnant girls aged 15–19 years seeking maternal health services in other health facilities other than Naguru were excluded from the study and those staying with their parents or guardians and those pregnant adolescent girls below or above 15–19 years were also excluded.

All conducted interviews were carried out face to face between the first author and the respondents. Depending on the respondent, the interviews were conducted in one of the 2 languages; English and a native language (Luganda). The choice of a native language was to address the possibility that some respondents might have dropped out of school at an early age and class, therefore not conversant with conversing in English. Notes were taken to supplement the audios. Each interview lasted for 40 to 50 minutes.

Data collection tools: This study used a semi-structured open-ended interview guide to facilitate interviews which were handled face to-face with the participants. Semi-structured interviews also allowed the researcher to seek clearance whenever some themes were not answered. Probing questions were also done without interrupting the flow of the interviews and it helped to get more clarification and answers on different areas like high cost of services, lack of information and interaction with community health workers (15, 16). This tool was first piloted on 3 respondents.

Data analysis: Following data collection, data was organized and prepared before it was read through and winnowed such that specific data of interest was concentrated on for analysis (16). The researchers first became familiar with the data, which included transcribing and reading the transcripts numerous

times. The audio-recorded interviews were transcribed into a textual format. All the textual interviews were transcribed in English. Thematic coding approach was used to analyse the primary data.

Themes were developed from the codes by grouping together similar emergent codes from the data. From the initial codes, themes were created. After creating themes, accuracy was ensured by reading through the themes multiple times to ensure the true reflection of the data set. Common themes were then grouped together to create thematic networks. Finally the data was interpreted to describe the emerging findings.

Results

Demographic Characteristics

The results indicated that most of the respondents were aged 18 years old. In addition, the results indicate that five of the respondents were aged 19 years while nine were 17 years. Two participants were aged 15 years and four were aged 16 years old. Additionally, the results revealed that a big number of respondents were unemployed. In relation to education level, all participants had at least acquired primary education and the highest was lower secondary education. This implies that most of adolescents in this study who got pregnant did not pursue further education. Moreover, many of the respondents had visited the health centre for MHSs once yet their gestational age was very old, and they all embraced antenatal care only.

Available maternal health services in Uganda:

In overall, adolescents embraced antenatal health care services. None of the respondents interviewed highlighted services related to postpartum services which are offered after giving birth. In relation to the aforementioned questions almost all respondents stated;

"*The maternal health services include measuring pressure, measuring weight, testing HIV, counseling as well as the provision of drugs such as ARVs and folic tablets, counseling and guidance, tetanus vaccine peer education, Testing and managing of STIs.*

"Tetanus checkup, measuring pressure, checking of HIV, measuring weight which is mainly provided during pregnancy. Even after pregnancy, we are advised for health checkups and that of the baby" (participants 6, 19, 30 and 31).

The various themes highlighted above signify that adolescents are only conversant with antenatal maternal health services. To further understand the status of maternal health services among health facilities where adolescents sought services, this study directed the same question to service providers. Unlike adolescents, the views and opinions of service providers indicate services beyond antenatal services.

For instance, some of the views expressed by the health workers include:

"Maternal health services including immunization and antenatal services, family planning, post-abortion care as well as STI screening and management, peer education and immunization"(Juliet 36, midwife and Joan 34, counselor).

"Antenatal necessary investigation treatment, Family planning, P. P care, Delivery (maternal) consultancy, Immunization, Pre-B4 counseling, HIV testing, peer education, Ant during care of pregnant mothers, ensuring well-being of mothers and babies, nutrition as well as preparing for family planning, immunization of the newborn"(Jane and Jalia both are midwives).

A comparative analysis between responses obtained from adolescents and service providers shows a discrepancy in opinions. From the adolescents' perspective, it appears as if the only maternal health services known to them are strictly those related to antenatal health care. Yet service providers in which midwifes, and health workers were part of denotes that all forms of maternal health services, including those rendered before and after pregnancy are available.

Barriers to Accessing Maternal health Services:

Results obtained from participants revealed that the major barriers faced by adolescent pregnant mothers aged between 15-19 years were distance, financial, stigma, service provider bias, and lack of privacy when rendering health services.

Long distances: Many of the participants acknowledged that the distance to the health facility is long and unfavorable. This is evidenced by the poor infrastructure system in the country where good roads and health centers are only found in urban centers thus neglecting the factor that the burden of pregnancy among adolescents occurs both in urban and remote areas. Besides that, even in urban centers where infrastructures are moderately good, it is still very hard for adolescents to travel to the health centers due to the long hours they spend in traffic jam and in the taxi or bus park before the vehicles are filled with passengers to start the journey. This is compromised by the fact that even the health care services rendered to the adolescents are rated as being unsatisfactory. Many of them therefore find it convenient to stay at home rather than trek long distances to the health center. This, therefore, prompts pregnant adolescents to miss some scheduled antenatal visits.

For instance, participant 11 aged 17 years stated that:

"…In addition, the distance from the respective locations to this health facility is another challenge. I come from very far and it takes me 2 hours to reach here and with my health status travelling for 2 hours to and from the health centers makes it hard for me to respond to my antenatal appointments".

In addition, participant 29 aged 15 years mentioned that the long distances that they usually trek to the health center is a hindrance to accessing health care:

"*Now you see this health facility is very far from where I live and it really needs someone determined and perhaps very sick to travel from Mukono (this is the name of a village) to come for antenatal, personally*

unless I don't feel good but if I have no health problem, I can't just come to see the doctor because it's my appointment date,"

While respondent 2 aged 19 years noted that:

"*The main challenge is distance to the health facility. You have to spend much time in traffic which makes it frustrating to come for checkup as recommended by the health worker.*"

In the same light, long distance was mentioned by all the 4 health providers as a barrier to pregnant adolescents in regard to accessing MHSs. As Jalia a midwife aged 39 years stated:

"*Actually, many of these young girls do not come back on the dates we recommend them to revisit for antenatal and when we ask them why they say, "musawo sasobola kugya olugendo*

lwali luwanvu nga ate nkoye." This statement means, *"Doctor I was unable to come for antenatal visit as per my appointment date because my home is very far from the hospital and*

I had to travel for long to get here yet I was already feeling tired from doing house chores."

Financial barrier: Apart from distance, participants emphasized financial barriers that they mainly attributed to the failure to cater for transport, acquiring prescribed drugs as well as maintaining a balanced diet as recommended by the health workers. When adolescents get pregnant, their chances for education reduce and many of them drop out of school at an early age. This makes it hard for them to seek employment since they have no qualifications to get employed. Even those who are lucky to find jobs, earn very little that cannot even cater for their essential needs. This results in the failure to afford the cost that comes with accessing MHSs. In addition, many of them struggle to earn a living on their own since the men responsible for the pregnancy either denied or they are still young and perhaps financially vulnerable to take up responsibilities. On the other hand, parents who could have helped them also abandon them in order to protect their image in the society due to the stigma attached to adolescent pregnancy by modern Ugandan families.

To exemplify how financial barriers are responsible for the worsening access to maternal health care, participant 20 submitted that:

"*I am financially handicapped and I cannot afford some services such as scan fees or drugs.*

They are surely expensive for me."

On her part, Participant 19 stated:

"…the costs are high and unaffordable while the distance to the health facilities is also terrible because for every antenatal visit I need to have over 20,000shs for transport which I can't afford. Lastly, many adolescents are having limited knowledge about maternal health services" (15 year old).

While, participants 29, 5, 11 observed that:

"Most adolescents are either dependents or they have businesses which generate very little income which is unable to sustain and implement what health workers recommend especially when it comes to diet. So most times they can't afford transport to the health center or even buy the recommended drugs and it is very annoying in some health centers the service providers tell us to pay money yet community leaders tell us that the services are free of charge because the government pays for them".

Similarly, participant 7 aged 17 years said:

"I am not working and I don't have any source of income. At first my sister used to cater for my living and all the health related expenses but as of now, she gave up on me and I have so far missed 3 antenatal appointments because I failed to raise transport to go to the hospital."

On the same issue, Joan a health care provider (counselor) aged 34 years stressed that;

"It is true that most of them are financially constrained because sometimes they call and inform us that they will not come to the health center because they have failed to get money for transport. Not only that, sometimes we attend to them here at the facility and after we expect them to go home but they remain at the health facility seated till it is late. When you ask them why they haven't gone home, they will say 'we don't have transport to take us back home".

Lack of privacy: Furthermore, pregnant adolescents also revealed the privacy impediment as posing a significant threat to accessing health care. Almost half of the participants were unsatisfied by the way health facilities are rendering services. Their concern is that health services are rendered in an open space where other third parties can easily hear the discussion between the health service provider and the client.

This limits pregnant adolescent's ability to fully express their health concerns to the health care providers as reported by the participants;

"*The services at this facility are poor, I don't know how it is at other health centers. There is no privacy at all. During my first antenatal visit, when I went to the registration desk, I was asked sensitive questions and the answers I gave made every one look at me and I felt ashamed"(participant 4 aged 19 years).*

Also Participant 30 aged 19 years mentioned that:

"Privacy of services is not adhered to in health facilities. In addition, the services are not rendered as private as possible and this discourages many of us from seeking MHSs here…"

Health workers' attitude: The attitude of health workers was also a hindrance to accessing health care. Many participants blamed health care providers for failing to grant them access to MHSs. They stated that some health care providers are very rude when rendering health services to pregnant adolescents. They abuse them and even sometimes beat them. They believe that all adolescents who get pregnant are stubborn, and that they disobeyed the guidance from their elders on how to make better health choices.

Therefore, the rudeness is a means of punishing adolescents whom they accuse of being stubborn. The study found out that, there are very few maternal health workers who attend to adolescents and this leads to a delay in rendering services hence making adolescents wait for long hours. In addition, the current study revealed that some pregnant adolescents are attended to by unskilled people when they seek health services at the health centers. This can be attributed to the big numbers of health care seekers compared to the available skilled health care providers.

For instance, many participants stated:

"Most health workers do not give us enough time to explore our concerns because they are already biased about us. They are rude and always speak to us in loud tones something that attracts other people's attention, and all draw their eyes on you, it's really embarrassing.

33*Infact, health workers are also to blame because they show a bad attitude when serving us.*

They are really not fair when rendering out services they attend first to those who come with their husband even if you came before those with husbands so us without husbands we really feel discriminated and disrespected".

To stress this further, participant 4 and 19 both aged 18-year-old observed that;

"…in other facilities, the health workers are very rude to pregnant adolescents and they don't even show care and concern to them. They always keep blaming us for being stubborn that's why we get pregnant; I hate them."

In the same line of reasoning, Participant 21 aged 16 years, postulated that:

In fact, the health workers are very few at this health center. Sometimes you come but fail to receive medical attention and the health provider claim that you are late, and they tell you to come back next time. I feel better staying at home than coming to the facility after all am not sick than wasting my transport and I don't get attended too"

In the service provider's view, she opined that:

"Adolescents are so funny as they only want to be told what they want to hear. When you tell them something different, they say that you are rude but for us, we are here to tell them the right things not to please them with wrong information that will affect them in the end (Jane, mid wife aged 50 years)".

Community related factors: In the modern Ugandan settings, adolescent pregnancy is considered something very bad in that victims of the circumstance are highly condemned, discriminated and looked at as outcasts. In addition, girls who get pregnant in most cases are mis-communicated and abandoned by their families. This makes pregnant girls feel worthless and loose self-esteem. This partly deters them from accessing MHSs since they feel everyone is against them.

To stress the issue, participant 10 aged 16 years stated that;

“*The stigma is too high especially due to community bias they do not want to socialize with us, they think we are spoilt something which isn’t right”.*

Additionally, participant 15 submitted;

“Community members at the same time look at some of us as failures having conceived when we are still young. This makes us feel we are not supposed to live, for sure these people can turn you to nothing. It is a terrible scenario altogether”

Strategies for Improving Access to Maternal Health Service:

This study explored participants’ views regarding the strategies for enhancing access to MHSs. Most of the suggestions were mainly ones requiring government intervention because most adolescents believed that the government formulates all the policies that govern the country and controls the country’s economy therefore addressing their concerns to the government gave them a feeling that their message has been delivered to the right people.

For instance, 21 participants stated that:

“*Government needs to improve remuneration for health workers so that they get motivated to work and also maintain competent personnel in the various health facilities to avoid wrong prescriptions. Further, the number of health workers is very low and surely government needs to employ more healthcare providers to reduce on their work load”.*

Furthermore, participants 13, 24 and 31 insisted that*:*

“Government needs to develop policies which make it mandatory for men to seek health services along with their wives. In addition, there is need to devise mechanisms where maternal health services can be brought near to villages to minimize tendencies of transport and long distances travels. The number of health workers should also be increased such that the waiting time is minimized as this will encourage more to seek maternal health services.”

From the above mentioned suggestions, it is clear that participants strongly believe that government has a significant role to play in enhancing adolescent maternal health care. Apart from government, some participants are of the view that the attitude of health workers must change to boost adolescent access to MHSs. They should always follow the health ethics so as to create a good doctor to patient relationship.

For instance, participants 2, 3, 9, 10, 31 and 26 postulated that:

“……..health workers need to improve their attitude towards adolescents who conceive, guide and make us confident because we are still young, we do not know what we are supposed to do, our parents are so

disappointed in us so we only have health care providers to guide us but we fear them because they are not friendly".

Similarly, participants 7, 8 and 23 express the need to increase the number of health care providers and also improve on the health facilities in regards to infrastructure. The study found out that the health center renders its services in a very small place compared to the number of clients it receives on a daily basis. This becomes a problem to the pregnant adolescents when they have to queue in a congested room while waiting to see the health worker. Therefore, the study found out that if health facilities construct more buildings, equip them with comfortable waiting chairs and also stock them with medicines and install the needed medical machines such as ultrasound machines and many others will motivate adolescents to seek MHSs.

For instance, participants 18 and 29 unleashed as follows:

"*Construct a labor suite for the pregnant women, increase of the employees in order to increase in their speed of work, building of more health facilities, installation of scan machine for the pregnant women, Serving of refreshments to the pregnant adolescents in the long lines while waiting to receive treatment and also the government needs to equip health facilities with drugs in addition to increasing the number of health facilities"*

Furthermore, the study is of the view that community sensitization is important in changing people's minds in regards to the image of adolescent pregnancy. It is necessary to inform community members that a pregnant adolescent is not at the end of her world. They can still go back and attain education after delivery and even become more successful in the future and more useful to the community at large. Their support will highly motivate pregnant adolescents to seek MHSs.

For instance participants 3, 12 and 27 emphasized that:

"*There is need to sensitize the community on how to socialize with pregnant adolescents so that they exercise empathy and learn to leave with some of us because we need their support too".*

In a similar manner, Juliet a health care provider submitted that:

"Construction of labor suites for the pregnant mothers to avoid transferring them to other health centers for delivery. To increase or employ more workers at the health center in order to avoid the long waiting lines and the much work load. To improve on the medical facilities like installing of the scan machine and stocking of drugs in health facilities, and formation of more peer mothers clubs where the pregnant adolescents meet with others and share their experiences and advise each other at least this will uplift their hope."

Discussion

Available maternal health services in Uganda:

Maternal health services have widely been revealed in terms of prenatal or antenatal care, during childbirth and afterbirth (9). However, the current study indicates that the main MHSs that are well-known to most pregnant adolescents are antenatal health care services that are rendered to pregnant adolescents during the pregnancy stage, and this is also supported by the health care service providers (midwives and other cadres) who asserted that MHSs are given during and after pregnancy. Based on this study, most adolescents value antenatal care as opposed to any other form of MHSs. This could be explained by the numerous physical and mental complications that are associated with early pregnancy such as high blood pressure, infections, preterm labor among other complications. It is possible that when adolescents encounter such challenges, they perceive it relevant to seek medical attention.

This supplements the health seeking framework by Anderson and Newman (17), especially the illness factors which suggest that one's judgment of a specific illness drives the willingness to seek health services. Perhaps, this explains why family members get much involved during early pregnancy for fear of the complications that could arise if one does not seek medical attention. While this is the case, the researcher cautions that many adolescents are more likely to improve health care during pregnancy, only to consistently encounter afterbirth complications such as neonatal death. This is attributed to a low turn up for postpartum health care services.

Interestingly, the study revealed that adolescents are aware about a range of antenatal services including STIs testing and management, tetanus testing, issuance of drugs, counseling and guidance, measuring pressure, pulse and weight, nutrition as well as monitoring growth and development of the fetus. Based on these findings, the researcher argues that adolescents in Uganda have to be availed with the right information regarding MHS in order to boost their comprehension and decision making ability. Availability of such information is equally necessary in minimizing surprises among adolescents in addition to protecting others from getting pregnant which could reduce overall adolescent pregnancy.

In the same context, Pell *et al*. (18), emphasized that access to pregnancy information is critical in guiding pregnant adolescents to undergo a confirmatory pregnancy test service, detection of complications and response to all complications, immunization for tetanus, information and counseling in addition to birth planning. This is in line with Agus and Horiuchi (19), who conducted a study about factors influencing the use of antenatal care in rural West Sumatra, Indonesia and found out that ANC is inevitable for not only preparing the expectant adolescent to give birth but also enabling health workers to identify complications associated with the pregnancy. This study contributes to Anderson and Newman's theory, specifically to the predisposing factors that identifies education as one of the socio-cultural characteristics that drive health care.

Moreover, their study highlights the need for a strong mother-health service provider relationship that significantly reduces childbirth complications. It is expected that adolescents can easily share information for proper diagnosis that minimizes complications during and after pregnancy. Moreover, such relationship boosts the ability of health workers to obtain primary information that is fundamental in providing proper health care. On the contrary, adolescents are bound to make a wrong evaluation of a

health system where they cannot easily associate with health workers to explain how they feel about the identified illness. This finding has implications in relation to policy. The study underscores that the maternal health service framework should draw towards building a strong relationship between the health providers and adolescents because this would increase value to the health system. Furthermore, the study emphasizes that it is the time to share necessary MHSs in its complexity.

Importantly, the current study found out that most adolescents have positive attitude towards services that are well known to them. Therefore, it is stated that the positive attitude towards MHS is bound to encourage adolescents to seek more health care. This is based on the fact that attitude is a precondition for intention and behavior. Indeed, the findings denoted that the more adolescents develop a positive attitude that they can easily access antenatal Health care, the more they improve the possibility of improving their own health as well as the health of the baby undergoing growth and development. For instance, it was consistently revealed that whenever one is provided with folic acid tablets, they are able to improve on the blood count, whenever adolescents have a balanced meal, they boost their immunity and that of the baby and strongly believe that the surest way of enhancing health is through maternal health service accessibility. In the same light, these findings are consistent with Hajizadeh et al. (20), who noted that ANC are necessary in confirmatory pregnancy test services, detection of complications and immunization for tetanus. Likewise, Nyathi et al. (21), commend antenatal care for ensuring information and counseling as well as birth planning.

The current study found out that the main source of information pertaining to MHSs is through media houses including radio, television and newspapers. However, as a concern, community members, friends and relatives, medical workers and others are not spreading health information to pregnant adolescents. This could signify negative attitude or inadequate knowledge about such services which need to be revamped to the current state. These findings teach us that as we seek to target adolescents with maternal health information, it is necessary to disseminate information through media platforms that are most adhered to adolescents.

Moreover, the study communicates that it is equally relevant for other platforms to become fully engaged in the same way if MHSs are to be widely disseminated to adolescents. Indeed, accessibility to MHSs is important in increasing awareness, persuading and reminding pregnant mothers from seeking and getting devoted to seeking health services (6). Overall, the findings indicate that maternal health care services are still low in Uganda. This hinders the country’s potential to meet the United Nations’ Agenda 2030 postulated by the Sustainable Development Goals (SDGs) Number 3 (7) which states, “Ensure healthy lives and promote well-being for all at all ages.” It is necessary for Uganda to embark on a program that can minimize adolescent pregnancy and the negative effects associated with it such that the prevalence of pregnancy in adolescents is significantly reduced. This study therefore highlights the need for policymakers to ensure that information pertaining to MHSs is made known among adolescents to boost utilization.

Challenges accessing Maternal Health Services

This study established that pregnant adolescents face numerous challenges in accessing MHSs. Notably, the findings showed that such difficulties range from personal, financial, accessibility, health, community, religious and culturally related challenges. For example, the study found out that health workers exhibit bad attitude towards adolescent pregnant girls.

They abuse adolescents for conceiving when they are still young rather than guiding them. It is sad to note that sometimes, health workers are not interested in attending to pregnant adolescents. The current study strongly believes that attitude affects behavior and actions of medical workers, well-being of the patient and overall satisfaction of the health services which are fundamental in determining future health seeking behavior. In fact, the attitude is one of the top agenda of health seeking framework (17). A review of predisposing factors under the social-cultural characteristics denotes that health beliefs and attitude explain health-seeking behavior.

Specifically, this component was explained directing attention to health seekers than providers. This study provides clarity that the attitude of health workers can indirectly affect the attitude of health seekers which affects their future health seeking behavior.

In the same context, numerous empirical studies are available to explain how attitude poses a serious threat in health seeking. For instance, Cheptum *et al*. (22) explored the barriers to access and utilization of maternal and infant health services conducted in Migori, Kenya, and identified that most adolescents are avoiding MHSs because of health care provider's bias towards young people. Within the same line, Kambala et al. (23), in his study about barriers to MHSs use in Chikhwawa, Southern Malawi emphasized that most health workers are rude, and this discourages many adolescents from effectively seeking MHSs.

Additionally, the current study found that health workers are generally scarce and difficult to access. This has a strong implication on health service delivery within the country. This study emphasizes that health workers constitute the major resource from the health care supply side. Adequate health workers are needed to ensure accessibility and sustainability of health care for adolescents. As such, this study indicates that adolescents are not in a position to acquire timely and effective services. As such, it informs policy makers to ensure adequate availability of health workers in various adolescent health care centers for a positive outcome in relation to health seeking. Indeed, Anderson and Newman (17) theory emphasized enabling or accessibility factors as fundamental in determining health seeking behavior. The theory stresses that access and availability of health care influence action. This study eludes that health workers determine the dimensions of accessibility and availability of health services as explained in theory.

Additionally, the current study unearthed that most of the adolescents who endeavor to seek MHSs in government health facilities are attended to by other people, not necessarily health workers. Some of the health workers that attend to adolescents are unprofessional. They do not possess the necessary skills, knowledge and abilities to provide substantial health care which increases exposure to acquiring wrong prescriptions which could result in miscarriage. In explaining health seeking framework, Mheta and

Mashamba-Thompson (17) pointed out that appropriateness of health care drives health seeking tendencies. The current state where adolescents cannot access health care from competent people compromises provision of proper health care. Much as, both theory and results herein reveal consistent findings, some of the empirical studies indicate a lot of controversy. First, Mustafa *et al*. (24) reveal that health services are always appropriate in many health facilities. By the time a health worker is assigned responsibility to render health services, they are competent and therefore unlikely to make mistakes while on duty. This contradicts with Ashiabi *et al*. (25), who ascertained that due to the busy schedule and burnout of health workers, they sometimes provide wrong prescriptions and are responsible for a reasonable number of miscarriages encountered by adolescents. In this regard, a lack of consistency suggests that further research should be conducted about the same subject.

Furthermore, this study established that as one of the health-related factors, many health centers where MHSs are supposed to be for free, medical workers solicit money from adolescents before they can attend to them. This tendency however affects overall cost of health care, hence affecting accessibility. Therefore, it could be argued that accessibility to MHS among adolescent pregnant girls is on the decline because they cannot afford the service. Accordingly, it is very likely for adolescents to resort to self-medication or ignoring seeking health care from formal health facilities in anticipation that they cannot raise money required. Surprisingly, the issue of soliciting money is neither denoted in theory and from existing literature review. Accordingly, this study contributes to the available literature by expressing that health workers habit of asking money from adolescents before they can attend to them is preventing many from effectively seeking maternal health care. Indeed, this could be the reason why WHO (26), proposed that maternal health care is meant to be non-discriminative especially among groups considered as vulnerable and marginalized.

As a concern, this study reveals that the general setup of health facilities in Uganda do not ensure privacy. The findings obtained that services are rendered in open space that affects adolescents' openness and ability to express all their concerns to the health workers rendering MHSs. This study highlights that when privacy in health care is appreciated, adolescents are bound to increase willingness to seek health care including MHSs. Indeed, the authors report that it becomes difficult for a gynecologist to provide thorough examination of adolescents with severe complications during pregnancy. Further, the study anticipates that adolescents can easily develop anxiety to explain matters they consider highly sensitive that results in partial treatment. Essentially, the study emphasizes the need for policy makers to put into consideration privacy issues when setting up health facilities. In a similar manner, Sarker et al. (27), in his study about determinants of adolescent maternal health care utilization in Bangladesh revealed that most of the health care services rendered are in an open setup which limit many health care seekers from sharing their health concerns which they consider as private.

As indicated by Latunji and Akinyemi (28) health seeking framework indicates that appropriateness is among the issues that health seekers base their evaluation and overall attitude of health care. More so, appropriateness considers both issues of how the service is rendered as well as the overall setting in

which health care is provided. Accordingly, this can be concluded that this finding contributes to both theory and practice.

The study found out that most adolescents cannot afford the cost associated with accessing MHSs. Such costs include transport, meals, refreshments and buying the recommended medicine that is not available in the health facility. These costs are exacerbated by the long distance from the health facilities, financial over-dependence on parents, friends and relatives and the low-income activities that adolescents are engaged in. In the same context, the current study confirms that the cost of health care determines the pregnant adolescent's ability to seek health care. It is also important to bear in mind that most pregnant adolescents still encounter economic vulnerability since they depend on other people to sustain themselves. Therefore, the ability to seek health care is dependent upon whether they are provided with enough resources to facilitate the exercise. In line with health care utilization theory, Anderson and Newman (17) observed that there are specific enabling factors which influence people to seek health care, and so does this study confirm the same. Among the enabling factors suggested in this theory is the availability of resources such as transport to reach the health facility. To further affirm cost as a significant barrier to seeking health care, further exploration can be derived from (28), who in explaining health seeking framework confirmed that when services are affordable in terms of direct and indirect costs, it becomes easy to seek health services.

Furthermore, the study found out that accessibility is a concern. The study reveals that government health facilities are few, yet most adolescents stay in distant areas. Indeed, given their health status, many of them come from faraway places where they have to seat in a taxi for over an hour. Some could need to use the toilet during the journey, dust, too much sunshine and pollution from the vehicles making it hard for them to travel to the health center for appointments unless their health condition really calls for the need to consult a physician.

These findings are in line with Andersen and Newman's health seeking behavior framework (17), specifically the personal enabling factors which reveal that specific resources to facilitate health service accessibility such as income, regularity of care, ability to meet the cost and waiting times have a bearing on accessibility to maternal health accessibility. In the same vein, an empirical study by Teplitskaya et al. (29), observed that most adolescents fail to seek MHSs because they are financially constrained.

Moreover, this study found out that, adolescents in Uganda do not have access to medical services such as scanners, drugs and counselors cannot be accessed while medical information is equally scarce. Henceforth, the study indicates that adolescents can only obtain prescriptions and subsequently buy drugs from clinics. This has a two-fold effect on health seeking behavior. On one side of the coin, the findings denote that adolescents who do not have enough money will not be able to acquire drugs, which increases complications during pregnancy. Secondly, adolescents are likely to develop negative perception towards the health system because their expectations are not fulfilled. These findings complement the theory which informs this study. This is because when explaining enabling or accessibility factors, availability and affordability of services are among the critical issues that are highly

emphasized. Moreover, the affordability of health services puts into consideration the resources a health seeker invests to access health care. In addition, a thorough understanding of the availability of health services can equally be explained from the side of adolescents being able to obtain what they need when they seek health care. Therefore, enabling factors are inevitable in explaining the variability in health services.

Further, in relation to Anderson and Newman's health utilization theory (17), this study observed that personal-related challenges also pose impediment towards access to MHSs among pregnant girls. For example, most adolescent girls are suffering from lack of confidence and anxiety, low level of income while some have negative perceptions towards modern MHSs. Likewise, some adolescents are less knowledgeable about MHSs while most of them still feel shy to seek such services considering their young age. Indeed, the current study obtained that because of the above factors, MHSs utilization is highly minimal.

Additionally, the findings are in line with Mheta and Mashamba-Thompson (30), who revealed that availability, appropriateness, affordability and acceptability are critical in stimulating the uptake of MHSs.

Community related factors such as; stigmatization, negative attitude towards adolescents who conceive and limited support from relatives and friends were found to pose moderate threat towards MHSs accessibility. This study established that most community members consider pregnant girls as a curse, reject them from any community activities, abuse them and label them with all sorts of disrespecting names whenever they come across them. As a result, pregnant girls shy away from seeking maternal health facilities. This is in line with

Rutaremwa *et al*. (12), who emphasized that many adolescents who get pregnant are highly stigmatized which affects and forces them from going to school and in addition to stopping them from seeking health services.

In the same light, lack of community support serves as a demotivation for adolescents which affects their willingness to access MHSs. Religious and cultural challenges on the other hand, were found to pose the least hindrance towards maternal health accessibility. This is however contrary to the findings of previous studies such as Mustafa *et al*. (24), who pointed out that religion and other cultural beliefs and norms affect adolescents from seeking MHSs. The implications of this study are that times have changed. Religious leaders are strongly in support of maternal health care. In the same way, the rate of culture influence is consistently fading. Perhaps, the findings denote the issues of social-cultural aspects explained in the health-seeking framework, under predisposing factors. In this regard, the study suggests that culture's influence in health seeking continues to consistently decline, and this signalizes that the new generations do not consider the cultural virtues as important to influence action.

Strategies for Enhancing Accessibility to Maternal Health Services

This study demonstrated that the role of the government is core/key in improving access to MHSs. This conclusion is based on the fact that government was identified as the key player in all suggestions proposed by pregnant adolescents. Foremost, the study established that health facilities must be equipped with drugs and other medical equipment.

When government provides drugs and other equipment such as scanners, mama kits and cotton among others, adolescents will be able to access such services without any financial limitation. Otherwise, inadequate equipment limits adolescents, especially those who cannot afford the prescribed drugs and scanning expenses. Indeed, this could be the reason why Uneke *et al*. (31), suggested that making MHSs affordable is one of the preconditions for stimulating accessibility to maternal health care. Likewise, the finding observed that government needs to improve remuneration to health workers such that they deliver services with commitment and devotion. Remunerating health workers would also enhance job satisfaction.

This is similar with Miteniece et al. (32), who noted that it is necessary to improve health workers' satisfaction in order to improve their efficiency within the medical sector. Through remuneration, government can be able to maintain as well as stimulate the efficiency of workers when rendering health care services. On that note, the current study acknowledges that government involvement and commitment in providing health services will increase a conducive environment which facilitates accessibility to maternal health care. Indeed, we recall from the health seeking framework that issues of availability, appropriateness, affordability and acceptability of health care are necessary.

Additionally, the current study revealed that increasing the number of health workers and awareness of the existing health services is vital in enhancing accessibility to MHSs. The study demonstrates that when the number of health workers is increased, it would boost efficiency within the facility. Accordingly, adolescents would have easy access to health workers which would reduce on the waiting time. While this is the case, the health worker-client ratio seems to be a salient one. Yet, health workers constitute an important component of ensuring that health services are rendered. When health workers are enough, they provide efficient services to health care seekers to entice other adolescents to seek similar services. As such, the study informs that ensuring that health workers are enough within health facilities should be a top priority for implementers and managers. Whilst, the results contradict with Tokhi *et al*. (33) who observed that the best way to stimulate accessibility to health services is more inclined to the community and the individuals who seek health facilities. They therefore suggest that what matters especially is men's involvement in supporting their wives when seeking health care services. The current authors instead found out that among the suggestions, involvement of men was moderately emphasized. This could be argued from the context that most adolescents who get pregnant are usually side-lined and are mainly dependent on their parents rather than their partners.

The current study revealed that community sensitization is necessary in enhancing access and encouraging adolescents to seek MHSs. This finding suggests that when community members are sensitized, they would learn how to deal with pregnant girls, reduce stigmatization and instead participate

in promoting the use of MHSs for adolescents. In the same light, findings of the study established that boosting knowledge regarding MHSs would promote the use of postpartum services to improve on the health of the mothers and their babies. From this perspective, the researchers borrow a leaf from the health seeking model, specifically socio-cultural characteristics under the predisposing factors. One of the key issues highlighted under this aspect are beliefs. This study argues that sensitizing the community would change the attitude and perception towards adolescent pregnant mothers which would result in collective efforts in mitigating the increasing adolescent pregnancy within the country. These findings have widely been supported by the finding of other studies such as Uneke *et al*. (31), who observed that community involvement through sensitization enables maternal centers to come up with more resilient health systems that are accessible. Likewise, Lassi et al. (34), further add that the involvement of communities in reproductive health services is an identical strategy in bridging a knowledge gap between community and health services which later results into improved access in the improved uptake of maternal health care services. From the above suggestions, what remains to be clearly established is the extent to which each of the stated aspects affects the utilization of maternal health services.

Conclusion

This study explored the level of accessibility to maternal health services among adolescent girls aged 15–19 years. It affirms that adolescent pregnancy is still a concern in Uganda, and is responsible for the low education attainment of many girls within the country.

As such, many girls are increasingly becoming vulnerable as characterized by low income, education, poor lifestyle, high level of dependence among others. The study revealed that access to maternal health services is still low among girls aged 15–19 years. It further indicated that only antenatal health services are prevalent. This suggests that girls are only concerned about pregnancy. However, the post-pregnancy period is not a concern. This exposes them to the risk of maternal and neonatal deaths because of the lack of further medical attention. This has strong policy and managerial level implications. It points to the fact that a clear model that can promote all services is necessary to minimize the missing link within access to maternal health care services. Policymakers are therefore urged to design a framework that can minimize this trend for the country to meet the SDGs by 2030.

In support to Andersen and Newman's health seeking behavior framework (17), this study reveals that the main challenges encountered by adolescent girls in accessing health services rotate around predisposing, enabling and illness factors. Affordability, perception, waiting time, distance, the attitude of health workers, and inadequate health services have proven dominant. From the theoretical perspective, this study affirms the relevance of the health seeking behavior framework. Moreover, the study revealed that government, community and health workers must play significant roles if MHSs utilization is to be enhanced among adolescents aged 15–19 years.

Recommendation

Just like other developing countries, the levels of access to maternal health services in Uganda have been very low. One way of meeting the SDGs target 3 (7), is to improve access and the utilization of such services. This could be done through; the intensification of advertising and the promotion of MHSs in Uganda. Specifically, these should target media houses including radios, televisions and social media platforms where adolescents can easily access information about MHSs. This communication strategy should achieve clarity, constancy and consistency to stimulate awareness, reminders and understandability of all forms of MHSs and their functions.

Community members should be sensitized to minimize the negative perceptions with adolescent pregnancy. This should be done through Community Based Organizations (CBOs), local leaders and other community organized groups.

Government involvement within the health system of Uganda should be enhanced. Through the Ministry of Health, government should be able to increase the number of health facilities, improve on the remuneration of health workers and ensure that drugs are readily available.

These initiatives will enable adolescents' easy access to health facilities, reduce the cost of Health care and enhance the satisfaction of health workers to offer good services. Related to this, the quality of health care facilities should be improved. This could be done through the provision of medical machines, fully furnished maternity wards, electricity/ stand by generators, solar system and clean toilets.

Abbreviations

ANC Antenatal Care, **GoU** Government of Uganda, **MDG** Millennium Development Goals, **MHSs** Maternal Health Services, **NGO** Non-Governmental Organisation, **NTICH** Naguru Teenage Information and Health Centre, **SDGs** Sustainable Development Goals, **STIs** Sexually Transmitted Infections, **WHO** World Health Organization

Declarations

Ethical approval and consent to participate

Ethical approval was obtained from the NTIHC Ethics Board following a fully approved recommendation letter from Gothenburg University, Sweden. Permission to carry out the study was sought from the program director of NTIHC, head of department for advocacy and research NTIHC. The study further adhered to the following key ethical principles; informed consent, confidentiality and anonymity, voluntary participation, protection of participants from harm, trust worthiness and transparency. Written informed consent was obtained from participants aged 18 years and above. Emancipated minors from 15 to 18 years of age also independently provided written informed consent following approval from the health

care providers of these minors at NTIHC. These pregnant minors either stay alone or with their adolescent spouse or adolescent friends, rather than with their parents hence no adult supervision or control.

Consent for publication

Not applicable

Availability of data and material

De-identified data that support the findings of this study are available from the first author, Vivian Namuli but restrictions apply under license for the current study. The data may be made publicly available upon reasonable request and with permission of NTIHC clinic located in Naguru, Kampala, Uganda.

Competing interests

The authors declare no competing interest.

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Authors' contributions

VN, NVP, CA, and SNC conceived and designed the study. VN, GSC, NVP, CA and SNC implemented the study and conducted data analysis. SNC supervised the study, CA, NVP, BNC and VN interpreted study results: CA, BNC and SNC wrote the first draft of the manuscript. VN, GSC, CA, BNC, NVP and SNC reviewed and corrected the draft manuscript. All authors read and approved the final manuscript.

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