

ORIGINAL RESEARCH ARTICLE

Opportunities and Limitations for Using New Media and Mobile Phones to Expand Access to Sexual and Reproductive Health Information and Services for Adolescent Girls and Young Women in Six Nigerian States

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Abstract

Reproductive health problems are a challenge affecting young people in Nigeria. Education as a Vaccine (EVA) implements the My Question and Answer Service¹, using mobile phones to provide sexual and reproductive health (SRH) information and services. Use of the service by adolescent girls and young women is low. Focus group discussions were held with 726 females to assess their access to mobile phones, as well as the barriers and limitations to the use of their phones to seek SRH information and services. Results demonstrate high mobile phone access but limited use of phones to access SRH information and services. Barriers to use of these services include cost of service for young female clients, request for socio-demographic information that could break anonymity, poor marketing and publicity, socio-cultural beliefs and expectations of young girls, individual personality and beliefs, as well as infrastructural/network quality. It is therefore recommended that these barriers be adequately addressed to increase the potential use of mobile phone for providing adolescent and young girls with SRH information and services. In addition, further initiatives and research are needed to explore the potentials of social media in meeting this need. (*Afr J Reprod Health 2012 (Special Edition); 16[2]: 219-230*).

Résumé

Les problèmes de la santé de reproduction constituent un défi qui touche les jeunes au Nigéria. L'Education en tant que vaccin (ETQV) met en pratique le service de « Ma Question et ma Réponse », en se servant des téléphones portables pour assurer l'information et les services de la santé sexuelle et de reproduction (SSR). L'utilisation des services par les filles adolescentes et les jeunes femmes n'est pas encourageante. Nous avons mené des discussions à groupe cible avec 726 femmes pour évaluer leur accès aux téléphones portables ainsi que les obstacles et les limitations à leur utilisation de leurs téléphones portables pour rechercher l'information et les services de la SSR. Les résultats ont montré un accès d'un haut niveau aux téléphones portables, mais une utilisation limitée dans l'accès à l'information et aux services de la SSR. Les obstacles à l'utilisation comprennent le coût de service aux jeunes clientes, la demande de l'information sociodémographique qui puisse briser l'anonymat, une mauvaise commercialisation et la publicité, la croyance socioculturelle et les espérances des jeunes filles, la personnalité et les croyances individuelles ainsi que la qualité de l'infrastructure /du réseau. Nous recommandons donc qu'on s'occupe de manière adéquate de ces obstacles pour augmenter l'utilisation éventuelle du téléphone portable pour assurer l'information et les services de la SSR aux adolescents et aux jeunes filles. De plus, il faut davantage des tentatives et des recherches pour explorer les potentiels des médias sociaux par rapport à la satisfaction de ce besoin (*Afr J Reprod Health 2012 (Special Edition); 16[2]: 219-230*).

Keywords: Mobile phones, My Question and Answer Service, sexual and reproductive health, Nigeria, adolescent girls and young women

Introduction

Improving the reproductive health of young people is a key difficulty facing developing countries. Young people are the major sufferers of reproductive health problems and in Nigeria, with 33.6% (47 million) of the total population being aged between 10 – 24 years², this is a major challenge affecting the country. Young people in Nigeria, especially young women, have poor knowledge of sexual and reproductive health (SRH) issues. Most young women receive little or no sexual or reproductive health education, and any education that is provided often acts to reinforce common mis-perceptions regarding the use of modern contra-ceptives³. Findings from the 2008 Nigeria Demographic and Health Survey (NDHS)⁴ demonstrated that only 53% of women aged 15-49 knew that using condoms reduces the risk of contracting HIV. Young women in Nigeria are therefore at risk of early sexual debut, low contraceptive use, STI infection (including HIV), unintended pregnancies, high birth rates and a high rate of unsafe abortions^{5,6}.

Teenage pregnancy is very high in Nigeria. The 2008 NDHS demonstrated that 23% of young women aged between 15-19 had begun childbearing. Out of over 1.3 million unintended pregnancies that occur annually in Nigeria, half of these pregnancies result in abortion⁷. Use of family planning methods is also very low, with figures from 2008 demonstrating that only 15% of married women aged 15-49 used family planning methods and only 10% used a modern method of family planning⁸. In terms of HIV/AIDS prevalence, young people account for over 30% of all HIV/AIDS cases and 60% of new HIV infections in Nigeria⁹. The 2008 NDHS showed that the prevalence rate of STIs among youths was 40%; however, 62% of young women indicated that they had no knowledge of STIs, compared to 43% of young men.

These issues are further exacerbated by cultural norms that promote female subordination, limiting women's ability to gain economic independence and empowerment and to improve their health status. Young girls are discouraged from influencing decisions about contraceptives and being equal partners in their relationships. A

qualitative review of research on contraceptive use in five developing countries (including Nigeria) found that young women's use of modern contraceptive methods was limited by a lack of knowledge, obstacles to access, and lack of control¹⁰. Some of these issues can be mitigated if young people, and particularly young women, are adequately informed and educated about their sexual and reproductive health (SRH) in an effective, easily accessible, yet culturally appropriate way.

Given the increase in mobile phone use in developing countries in recent years, efforts have turned to assessing how information and communication technology (ICT) can address SRH needs. Recent statistics show that there are more mobile phone users in the developing world than in the developed world¹¹. In Nigeria in 2000, there were 30,000 mobile subscriptions. By 2010 this had increased to 87,297,789¹². To harness the power and opportunities presented by various ICT mediums in addressing the gaps in providing accurate SRH information and referrals for services, Education as a Vaccine (EVA), with support from One World UK, implements the My Question and Answer (My Q and A) service. My Question provides a mechanism for young people to submit questions surrounding sexual health and HIV and AIDS by Short Message Service (SMS), online or through a telephone hotline. My Answer gives young people the opportunity to win prizes by correctly answering a monthly question regarding SRH. This service provides the opportunity for young people to access accurate, non-judgmental and confidential information anonymously, irrespective of their location and at their convenience through mobile phones and the internet. For this service to be effective, it is vital that it is used by young women. However, analysis of the users of the service since inception shows that while the number of young people who have been accessing the service has increased, there have been significantly more males accessing the service each year than females.

Few studies have examined what can be done to encourage young women to use ICT services and to investigate any potential barriers to the use of these services. EVA, with funding from UNICEF, therefore sought to undertake research to

examine adolescent girls and young women's access to and use of mobile phones, as well as the perceived and actual barriers and limitations to using their mobile phones to seek SRH information and services.

Methods

Design

As the focus of this research was on gaining insight into the context surrounding the use of mobile phones to access SRH information and services, a qualitative design was necessary for the exploratory nature of this investigation. The data was analyzed by constant comparison framework analysis. The respondents also completed an attendance sheet, which asked for information about their socio-demographic characteristics and their access to a mobile phone and the internet, with this data then being analyzed quantitatively.

Geographic focus

The research sites were selected based on the geographic distribution of clients using the My Question and Answer Service. States showing low usage and high usage of the service by adolescent girls and young women were selected. The states with high usage were Cross River, Akwa Ibom, Gombe and Kaduna, and the low usage states were Taraba and Adamawa. For each state, a rural and an urban/semi-urban LGA was selected as follows: Adamawa: rural – Ganye (Sangassumi), urban – Yola town; Akwa Ibom: rural – Ikono (Iton Odoro), urban – Oron town; Cross River: rural - Akamkpa town and Old Netim, urban – Ikom town and Okuni; Gombe: rural - Biliri town, urban – Gombe town; Kaduna: rural - Kafanchan town and Bayan Loco, urban - Kaduna (Rigasa); Taraba: rural – Zing town, urban - Jalingo town and Nukkai.

Respondents

The target group for the study consisted of adolescent girls and young women aged between 12 - 30 years. Respondents were selected through purposeful sampling techniques. Local non-

governmental organisations (NGOs) helped researchers identify girls to attend the focus group discussions in each of the areas where data collection took place. To sample a diverse range of respondents, it was ensured that married, single, in-school and out-of-school adolescent girls and young women were selected to reflect the diversity of the population in each of the target communities. Sixty respondents were targeted in each LGA (120 per state), but the response rate for all states, with the exception of Taraba, exceeded this target. In Jalingo LGA, Taraba State there were difficulties mobilising married girls with the overall response rate for this state being 80.8%. The final sample comprised 726 young females aged between 12 – 30 years ($M = 19.92$ years). The mean age from each of the states is outlined in Table 1.

Data collection

All respondents completed an attendance sheet, which also captured the following personal information: age, marital status, educational status, access to and ownership of a mobile phone, and access to the internet. Focus Group Discussions (FGD) were then used as the data collection method in this investigation. The FGD guide had a total of 19 questions. The content of the FGD guide included discussion points such as the respondents access to and use of mobile phones, their use of mobile phones to access SRH information and services, and what barriers might prevent girls from using mobile phones to access SRH information and services. A team comprising one moderator and two note-takers was assigned to each state and was responsible for conducting at least four FGD sessions per LGA, with 51 focus groups being held in total. Each team included at least one representative from the local community. The team members were of the same age and sex demographics as the target respondents. All sessions were recorded and transcribed and translators were used in Gombe, Kaduna, Taraba, Adamawa and Akwa Ibom States to ensure the discussions could take place in the local dialect if necessary, to enable full participation of the respondents. Translators were predominantly the

case for married out-of-school respondents and those in rural sites.

Data analysis

Analysis of the data by constant comparison framework analysis involved producing an overall coding spreadsheet to include the responses from all FGDs, whereby each unit of meaning ('event') was taken from the transcript, given a title, and entered into the spreadsheet to indicate that the transcript contained that unit. This process was followed for every transcript, producing an overall coding table, including the coded units from all FGDs. This spreadsheet afforded an overview of all of the events that had been observed in each of the FGDs. These events were then collapsed into broader themes, which produced the final coding spreadsheet for all FGDs. The results section discusses these themes and uses quotes from the transcripts to illustrate the presence of the themes identified. The socio-demographic data and data on access to mobile phones and the internet was analysed quantitatively, and the frequencies and percentages from these analyses are presented.

Ethical considerations

The State Action Committee on AIDS (SACA) in each state provided administrative approval for the research to be conducted. With the assistance of the local NGOs, adolescent girls and young women in each of the communities were mobilised. The mobilised young girls were asked if they wanted to participate in a study about mobile phones and SRH information and services. A description of the focus and the aim and objectives of the research was then read to the respondents that had indicated an interest in taking part in the study. It was explained that participation was entirely voluntary and that they could withdraw at any time, as well as explaining that the FGDs would be recorded to aid data analysis. Following this explanation, verbal informed consent was sought from the respondents who agreed to participate in the study. The majority of respondents that had been mobilised expressed an interest in taking part in the study, with the exception of some married girls in

Jalingo, Taraba State, who were more reluctant to participate and were therefore not included in the final sample. Light refreshments were provided to all respondents.

Results

Socio-demographic characteristics of respondents:

The 726 respondents were aged between 12 – 30 years. Eighty-seven percent of the respondents were single, with the highest frequency of women in Gombe State being single compared to the other states (97.6%). Forty-eight percent of the respondents were in-school, with the highest percentage of respondents in Taraba State being in-school (73.2%). This socio-demographic data is shown in Table 1.

Access to mobile phones

Almost all respondents had access to a mobile phone, either by owning one, or by borrowing one from someone else. The respondents in Gombe State were the most likely to own a mobile phone, with 89.5% of all respondents having their own phone and respondents in Adamawa being the least likely to own their own phone. For those respondents who did not own a phone, there was variation in who they could borrow a phone from, including parents, siblings, friends, aunts, or their partner or husband. The greatest number of respondents said that they borrowed a phone from a sibling, followed by a parent or their husband or partner, with married women being more likely to have access to their husband's phone. Respondents in urban areas were more likely to have phones than those in rural areas, with the exception of Kaduna State, where 41.4% of respondents in Kafanchan had personal phones compared to 17.3% in Kaduna. In Taraba State, the majority of the respondents in Jalingo were young girls in secondary schools, and a large number of them had personal mobile phones. Table 2 outlines the percentage of phone ownership and phone access by state.

Table 1: Percentage distribution of respondents by socio-demographic characteristics and state

Characteristic	State					
	Adamawa (n = 125)	Akwa Ibom (n = 128)	Cross River (n = 129)	Gombe (n = 124)	Kaduna (n = 133)	Taraba (n = 97)
Age (years)						
Mean	21.2	19.8	20.2	20.0	19.6	18.9
12-18 (%)	41.6	44.5	28.7	37.9	44.4	61.9
19 – 30 (%)	58.4	55.5	71.3	62.1	55.6	38.1
Marital Status						
Single (%)	77.6	94.5	95.4	97.6	72.9	85.6
Married (%)	22.4	5.5	4.7	2.4	27.1	14.4
Educational Status						
In-school (%)	54.4	46.9	33.3	39.5	43.6	73.2
Out-of-school (%)	45.6	53.1	66.7	60.5	56.4	26.8

Table 2: Respondents access to a mobile phone, summarized by state

State	Own a mobile phone (%)	Don't own but have access (%)	No access (%)
Adamawa	45.6	54.4	0.0
Akwa Ibom	59.4	40.6	0.0
Cross River	76.7	23.3	0.0
Gombe	89.5	2.4	8.1
Kaduna	58.6	41.4	0.0
Taraba	70.1	29.9	0.0

Phone use

The respondents were asked what they used their phone for, other than texting and calling. The responses were similar across all communities, with the main uses being browsing, games, and playing music, which were mentioned by respondents from all states. Using their phones to take pictures and to take or watch videos was mentioned by respondents from all states with the exception of Kaduna (pictures) and Adamawa (videos). Respondents from all states except Kaduna used their phones for the calculator function, and all states with the exception of Taraba mentioned using their phones to chat on social networks (2go¹³, Nimbuzz). Other uses that were mentioned less frequently were night calls (free with certain network providers from 12 am), recording, saving information, other social networking sites (Facebook and Twitter), radio,

date/calendar and time, news, writing assignments, jokes, email, reminders and using the torch.

Using mobile phones to access health information

Very few respondents had used their phones to access health information in the past, with respondents in Gombe State being the most likely to have used their phones for this purpose. Of the respondents that had used their phones to access health information, the uses mentioned were accessing the Nokia Life Tools information service¹⁴, using health information services offered by various phone networks, calling their doctor, contacting a doctor using the 2go social networking application, and using the internet to look up the side effects of drugs. Despite the low use of phones to access health information and services, there was overwhelming support from respondents when asked if they would like to use their phones for this purpose.

Respondents were asked whether they would prefer to use an SMS or voice call service to access SRH information and services, and the responses were mixed. Table 3 summarises the reasons given for preferring SMS and voice call services. The most frequently cited reason given for preferring was that it is cheaper: "Text message is cheap." (ISY and OSY, 18-27 years, Akampka, Cross River State). However, when respondents were asked if they would still prefer SMS if both services were free, several of the focus groups agreed that voice calls were preferable. In terms of other reasons why SMS

Table 3: Summary of reasons for preferring to access health services by SMS and voice call

Benefits of SMS	Benefits of voice call
<ul style="list-style-type: none"> • Can go back to message for future reference • Can share the message with others • When poor network can still receive SMS • Easier to read message in case of language barrier or difficulty understanding accents • Feel more able to ask questions or give information of a sensitive or personal nature in a message • More confidential 	<ul style="list-style-type: none"> • Conversation would be easier to understand • Can ask more questions and get more details • Easier if someone has literacy issues • Personal contact with another person • Immediate response

services would be preferable, references were made to the fact that an SMS could be kept for reference, re-read, and shared with others: “*You can read through it over and over again unlike the voice call.*” (OSY, 18-22 years, Ikom and Okuni, Cross River State). An SMS service was believed to be preferable in areas with poor network coverage, as is the case in some rural communities in Nigeria: “*Maybe sometimes the network is bad you can still text.*” (ISY, 18-25 years, Gombe LGA, Gombe State). In some cases it was also believed that SMS would be easier for understanding, predominantly as a result of language difficulties, for example: “*Sometime if you call them you will not understand their English but if they text, you will get it.*” (OSY, 16-30 years, Biliri, Gombe State). Several respondents explained that an SMS service would enable them to be more open and to ask about issues that they would be too shy to bring up during a phone conversation: “*I prefer the text because in calling there are some things that I will be shy to tell the person*” (ISY and OSY, 16-25 years, Kafanchan, Kaduna State). The main reason given for preferring voice calls was that it would be clearer and would aid understanding: “*You talk to the person in detail and he also answer you in details.*” (OSY, 16-27 years, Zing LGA, Taraba State). Literacy issues were frequently given as reasons why voice calls would be preferable. With data from 2008 indicating that 35% of females aged 15-24 years in Nigeria cannot read and write (compared to 22% of males)¹⁵ literacy is an issue that needs to be considered. One respondent explained: “*Not everyone can read a text message.*” (ISY and OSY, 14-28 years, Oron, Akwa Ibom State). Some respondents also felt that a voice call was preferable as they wanted to be

able to speak to someone directly. For some this was to ensure the service could be trusted: “*You have direct contact with the person on the phone so it won’t be a fairytale, it will be real*” (ISY and OSY, 15-20 years, Biliri LGA, Gombe). Other reasons given for preferring this method were that it was faster than SMS, and a response would be received immediately. Internet access:

Overall, the respondents’ internet access was very low. In total, only 75 respondents had internet access, and 26 had access to Facebook. The respondents from Cross River and Gombe States were most likely to have no access to the internet or to Facebook. While some respondents expressed a willingness to use the internet to access health information, in practical terms, with internet and Facebook access being so low this would not be an effective way to reach a large number of people from these communities.

Perceived barriers to the use of mobile phones to access SRH information and services

The respondents were asked what stops girls from using mobile phones to access SRH information and services. The most common response given from respondents in all States was shyness, with it being explained that girls are naturally more reserved and secretive than boys: “*You know boys at times they are always being snappy or sharp, we at times we may be feeling shy to tell someone about our problem.*” (ISY and OSY, 15-29 years, Ikono LGA, Akwa Ibom State). This issue is linked to the issue of culture in Nigeria, which was mentioned as a barrier to the use of SRH mobile phone services. Throughout Nigeria, it is frowned upon for girls or women to discuss SRH issues. The specific issue of culture was only mentioned

as a barrier by respondents in Kaduna State, specifically by each of the focus group discussions that took place in Rigasa LGA. Some of the respondents described this as “*kunya*,” meaning shyness. Linked to the issue of culture is that of some respondents are afraid of segregation and feeling too ashamed to use the services. It was stated: “*Because maybe they feel that when they tell anybody their problem they will segregate them and they’re afraid of that and they’re ashamed*” (ISY and OSY, 15-29 years, Ikono LGA, Akwa Ibom State).

Numerous respondents also mentioned issues to do with privacy and confidentiality: “*Maybe because they will ask of their location, age and address, she’ll think that she can be traced.*” (ISY, 15-23 years, Ikono LGA, Akwa Ibom State) and “*Some of them may think when they say out their problem, it will spread out to other people.*” (ISY, 16-19 years, Jalingo LGA, Taraba State).

The respondents also mentioned fear as a barrier to using SRH mobile phone services. Numerous respondents referred to being scared of receiving or making calls to a ‘deadly’ number - respondents described a myth that there are phone numbers in circulation in Nigeria that if called, or if calls are received from one of these numbers, results in the death of the person making or receiving the call: “*People are scared of that deadly number. If the number calls you and you answer you will disappear or you will die*” (OSY, 21 – 30 years, Ganye LGA, Adamawa). Other respondents explained that adolescent girls and young women may doubt the legitimacy of a service: “*I saw it but I was thinking this thing won’t be real, that’s why I didn’t use it. But now that I have seen it is real, I will use it.*” (ISY and OSY, 15 – 20 years, Biliri LGA, Gombe, State). Others felt that people may be scared to call because of the “*fear of discovery*”. It was believed that some people would be scared to use mobile phone services in case they received information that would indicate they were at risk of HIV or an STI: “*Maybe they will be afraid of what they may find out because they know that they have been engaging in risky sexual behaviour.*” (ISY, 16-19 years, Jalingo LGA, Taraba State).

It was felt that the anonymous nature of some mobile phone services might act as a disincentive,

as some people do not like calling someone they do not know. This issue was linked to the belief that they might not be taken seriously if they were to use a mobile phone service: “*They will feel that they are exposing their secrets to unknown people and they will make fun of them.*” (ISY and OSY, 15-20 years, Biliri LGA, Gombe, State).

The respondents explained that not having permission to use a phone would stop some people from calling. For married women, this would be permission from their husband, whereas for single women it was explained that their parents do not provide them with unlimited access to mobile phones and as a result they would have to explain who they wanted to call and why. This issue was mentioned by respondents from communities in the north and the south of Nigeria, as well as in-school and out-of-school, and married and single women: “*I have to take permission before using my father’s phone.*” (ISY, 13-16 years, Ikono LGA, Akwa Ibom State) and “*We married women, anytime they [husbands] see new number in our phone they question us...you have to explain*”. (OSY, 16-27 years, Zing LGA, Taraba State).

Adolescent girls and young women not having enough time to use a mobile phone service was also mentioned as a barrier. Girls in Nigeria have greater domestic obligations than their male counterparts, and it was believed that this, in addition to academic demands (for those in-school), could prevent people from using services: “*The guys are not busy like the girl, girl don’t have time like the boys.*” (ISY and OSY, 18-27 years, Akampka LGA, Cross River State).

Low awareness of services was also raised as a barrier. One participant explained: “*Because they are not hearing about it... Maybe the publicity is not enough*”. (ISY and OSY, 14-26 years, Oron LGA, Akwa Ibom State). Another barrier mentioned was ignorance, with it being believed that even if some people were aware of a service they would prefer to ignore it: “*I can say ignorance, because some people are ignorant about everything. Even if they learn about something and all these things is helpful to them, they will just ignore it*”. (OSY, 21 – 30 years, Gombe LGA, Gombe, State). It was also believed that some people may not be interested in using a service or have poor health-seeking behaviours.

However, some respondents felt that some people simply wouldn't have any reason to use the services: *"Some of the people they don't have any problem related to this issue so they won't call."* (OSY, 13-27, Biliri LGA, Gombe State).

A final barrier mentioned by several respondents was logistical or practical issues, such as poor mobile phone network, not having a phone, or their phone battery not being charged: *"Where there is no network we cannot do anything"* (ISY and OSY, 16-28 years, Akampka LGA, Cross River State). The barriers to adolescent girls and young women using mobile phones to access reproductive health information and services can be seen in Figure 1.

Marketing SRH mobile phone services using SMS, Video and Radio

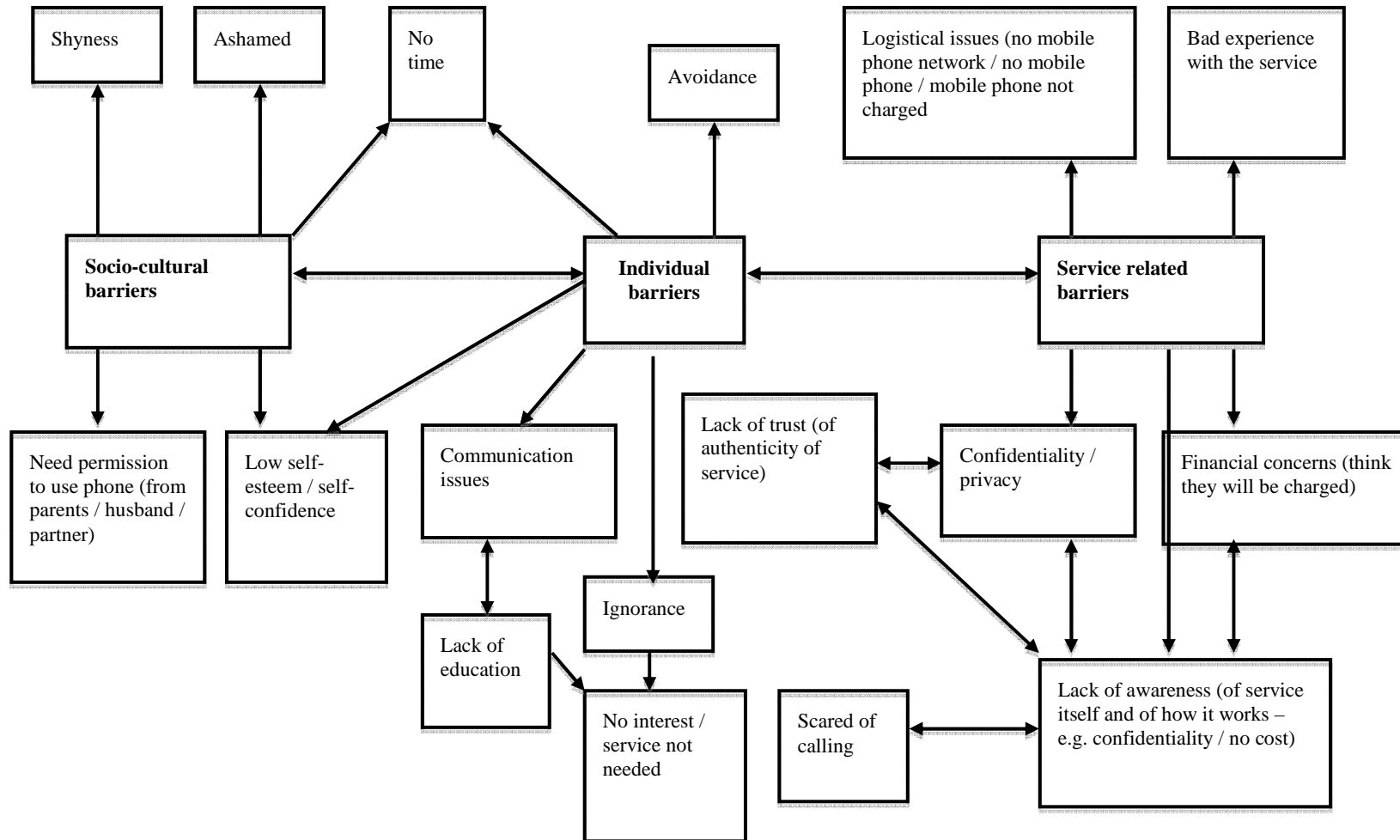
The respondents were asked whether SMS, video or radio would be preferable to raise awareness of mobile phone services that provide SRH information and services. The responses were mixed, with all methods having some benefits and some shortfalls. Overall, SMS was a popular choice in most states. Respondents thought this would be a good way to reach a lot of people as most people at least have access to a phone. It was also explained that when someone receives an SMS it immediately captures their attention and they are curious to read the content: *"I prefer text message because if they send text to me I am desperate to know what is in it and I will text because I will want to know what it is all about"* (ISY, 15 – 20 years, Gombe LGA, Gombe State). One concern that was raised regarding the use of SMS was who the sender would be. Respondents explained that spam texts or texts from a network provider would be deleted without being read: *"Once we open our phone and see MTN I will just delete it. I will not even bother to because they just want to tell lies"*. (ISY and OSY, 15-27 years, Ikom LGA, Cross River State).

The use of radio was also well received by a lot of respondents. The main reason given in support of radio was that it would be heard by a large audience, and it is an easily accessible method: *"Because most of them [girls] like listening to radio; also because most simple*

phones have radio." (ISY and OSY, 13-30 years, Rigasa LGA, Kaduna State). Another benefit with the use of radio was that it would advertise the service in different languages, making it accessible to a wider number of people: *"Some of us are not hearing English so they will understand if they speak it in Hausa"* (ISY, 12-19 years, Ganye LGA, Adamawa State). Respondents explained that if radio was going to be used then specific programmes should be targeted, with there being certain programmes and stations that are more popular with adolescent girls and young women than others. Consideration needs to be given to whether radio use is likely to be higher among certain parts of the population than others, as one participant explained: *"Not all of us listen to radio, like me I can't imagine buying a radio or even though I have one I may not have time to listen"* (ISY, 15-23 years, Ikono LGA, Akwa Ibom State) and *"Only village people listen to radio"* (ISY and OSY, 18-30 years, Gombe LGA, Gombe State). Overall in some states radio was more popular in rural areas than urban areas.

Out of the three methods, the use of video was the least popular. The main reason given against the use of video was that not many people have access to videos on their phones: *"Most people do not have camera phones especially those in the villages and some their parents don't want to see them with expensive phones"* (OSY, 13-27 years, Biliri LGA, Gombe State). However, for those that did have video phones, it was believed to be a good method, as the respondents explained that anything with pictures was likely to capture peoples' attention: *"Video may grab people attention after watching it you will sit down and think of it"* (ISY and OSY, 18-27 years, Akampka LGA, Cross River State). It was also thought that this would be a good method for overcoming communication issues, such as low literacy levels or language difficulties: *"Pictures speak a lot, even if they don't understand the picture will explain what is happening and they will get the message"* (ISY and OSY, 15-20 years, Biliri LGA, Gombe State). There were some areas where access to phones with video function was very high: *"Many girls in Gombe have this Chinese phone that can play video"* (ISY and OSY, 20-29 years, Gombe LGA, Gombe State). Overall, the sending of bulk text messages appeared to be the most popular marketing strategy.

Figure 1: Barriers to adolescent girls and young women using mobile phones to access reproductive health information and services



Discussion

Given the high access that adolescent girls and young women in Nigeria have to mobile phones, there is a vast opportunity to use this medium to provide SRH information and services. The major factors affecting preferences for different services were cost, confidentiality and secrecy, with voice call and SMS services offering different benefits. As internet penetration continues to increase throughout Nigeria, this may provide further opportunities to use this method to provide SRH information and services. This is especially the case as mobile phones with internet and social media functionalities become cheaper to purchase and more widely available. Nigeria ranks third in the African continent in terms of the number of Facebook users, which is driven by the increased access to phones with internet and social media capabilities¹⁶. When exploring the option of social media channels, it is important to give serious consideration to confidentiality. With Facebook and Twitter, clients will lose anonymity because “posts” made on a group page would reveal their identity. Additionally, the moderator will lose control over the content posted to that page, meaning that inaccurate information could be shared publicly. Social media mediums with instant chat functions offer the greatest opportunities, as the challenges mentioned above are minimized and there is the possibility for one-to-one dialogue. Given the low levels of internet access reported, at this stage it would phones.

To be able to maximise the impact of mobile phones for accessing information and services on SRH issues for adolescent and young girls, there are several barriers that would need to be overcome. In terms of socio-cultural issues, the girls mention of “shyness” as a barrier may not be a true reflection of their personalities but instead a portrayal of how Nigerian society expects them to behave. In comparison to boys, girls are unable to be inquisitive or seek out information about sexual matters. As Nigerian culture promotes chastity, girls might be reluctant to access these services for fear it is seen as an admission that they are sexually active. The issue of power, and the protective nature of parents, guardians, husbands and even community “gatekeepers” when it comes

to adolescent girls and young women, is a big barrier. Ownership of a mobile phone represents freedom and being accessible to persons that parents or husbands cannot control. Therefore, restricting access is a means of exercising power and control over their freedom. However, it is important to note that other research publications have documented some dangers associated with ICT that parents might be rightly concerned about¹⁷. As girls and women are not as economically independent as boys and men, they might not be able to purchase or maintain a phone on their own. If young girls are reliant upon phones belonging to someone else, then they would be understandably reluctant to use the phones to access a service that focuses on SRH related issues.

In terms of individual barriers, health seeking behaviours need to be considered. When a young person has a problem or a health concern, their first port of call is likely to be someone they know who has had a similar issue. A mobile phone service might therefore be less appealing as it involves contacting someone they don't have a personal connection with, as well as seeking advice on an issue before seeking a solution. It puts an extra step in the process, which is likely to be unpopular in a society with poor health-seeking behaviour. This is why pharmacies and traditional healers are popular sources for health services for young people¹⁸. Exacerbating these issues is the fact that girls tend to have lower knowledge about SRH issues¹⁹.

Issues relating to awareness and trust of mobile phone services are only likely to be resolved when adolescent girls and young women use a service themselves or get personal recommendations from other people they trust. Infrastructure issues such as poor network quality and inadequate power supply, while mostly out of the control of the direct service provider, negatively impact upon the level of trust clients have for a service. This will be more pronounced if challenges faced with accessing a service arise and the client cannot ascertain if it is as a result of the telecommunications company or the provider of the service. In order to increase the number of adolescent girls and young women accessing SRH mobile phone services, the focus should be on

raising awareness. The use of radio for this purpose requires further investigation, as it is crucial that the right radio stations and programmes are targeted. Recognizing the literacy limitations, mass SMS is likely to be a successful method. While viral video was the least popular method, for the young girls with mobile phone models that support video, this would be a strong awareness raising strategy, especially when considering low literacy levels. The viral nature of these videos offers an opportunity to reach a large number of young people with reduced cost implications for the service provider. Different awareness raising approaches need to be used to ensure the greatest proportion of people are reached, as no single method is likely to reach everyone in the target population.

There are several recommendations that can be made as a result of the findings from this investigation.

- *As mobile phone use is expanding, it needs to be used far more by those working in the field of SRH. The possibilities for reaching more young people and for improving services in this field are exponential.*
- *Future initiatives that would like to explore the use of mobile phones in providing SRH services for young people, and especially adolescent and young girls, should give significant consideration to the cost of services. When possible, mobile phone services using both voice calls and SMS options should be provided at no charge to the young clients, as this will facilitate increased utilization. In the event that the cost is to be charged to the clients, then SMS functionality should be used as the primary medium for providing SRH information and services because of its lower cost.*
- *With the growth in accessibility to mobile phone models with internet and social media functionality, mobile phone services should explore the opportunities for providing SRH information, counseling and referrals through these mediums. In addition, further research is needed to document the access to and the context for which social media can be used for providing SRH information and services.*
- *When considering the use of mobile phones or social media in providing SRH information and services, anonymity of young people should be addressed and protected. The findings illustrate that requesting basic demographic information for young clients can serve as a deterrent to use of the service. Therefore, project implementers would need to weigh the advantages and disadvantages of collecting socio-demographic information relative to increasing the uptake of services by clients.*
- *SRH mobile phone services cannot work in isolation. Synergy is needed with projects that improve young peoples' SRH knowledge and attitudes, including sexuality education programs, so that young people can proactively seek out further information and services that may be provided through mobile phone options.*
- *In terms of addressing the barriers to the use of mobile phone SRH services that have been identified, it is vital that barriers at all three levels – socio-cultural, individual and service level – are targeted. Addressing just one area will not achieve the desired results. The issue of socio-cultural barriers will be the most challenging to overcome and is especially the case for adolescent and young girls who would require permission from gatekeepers to use mobile phones and consequentially the service.*

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