Examining the roles of significant others of women in the uptake of health facility delivery in Northern Uganda: perspectives from the health belief model.

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Abstract

Background: Health facility delivery improves maternal and child health outcomes but has not been fully achieved in countries with the poorest maternal health indicators. We identified and examined the roles of key influencers (significant others) of mother's perceptions towards health facility delivery in Northern Uganda.

Methods: This was an exploratory study conducted using in-depth interviews with eleven significant others in a mother's life; who were purposively selected from four sub-counties of; Ogur, Agweng, Amach and Agali, as part of a larger study in Lira district, Northern Uganda. We also conducted seven key informant interviews with health workers involved in maternal and child health care. Data analysis using Atlas ti version.7.0 was conducted deductively following a thematic framework approach to analyse themes adapted from the health belief model.

Results: The study identified husbands, biological mothers, mothers-in-law, fathers-in-law, brothers and co-wives as influencers of mother's perceptions on uptake of health facility delivery. Other significant others included traditional birth attendants who were believed to have the ability to determine when the condition of a mother required the intervention of a medical expert. Community members such as local village leaders, village health extension workers and neighbours were also cited . Whereas husbands were regarded as ke y significant others of women, health workers emphasized that, husbands were not always available to support the mothers during pregnancy and child birth. The roles of significant others of women included: planning for birth, providing financial support, making decisions on where a mother will deliver from, continued counselling and psychosocial support.

Conclusion: Programs aimed at increasing male involvement to improve maternal and child health outcomes should also target other influencers of women's perceptions on health facility delivery including family and community members, to provide back-up support to mothers in the absence of their husbands.

Introduction

Maternal mortality remains a global public health problem with 216 deaths per 100,000 live births and 546 deaths per 100,000 live births in sub- Saharan Africa in 2015[1]. In Uganda, it is estimated that 336 deaths per 100,000 live births occur[2]. Lira District has an annual estimated maternal mortality ratio of 13 deaths per 100,000 live births arising from pregnancy, childbirth or postpartum complications[3]. One of the key strategies that can reduce the number of women dying from such complications is by delivering from a health facility[4]. Health facility delivery refers to when a woman delivers from a health facility be it public, private, clinic, maternity home or a health centre[4]. At 58.2%, health facility deliveries in Lango sub region where Lira district lies, are below the national estimates of 66.3% [2, 3]. Every pregnant woman is at risk of unexpected and unpredictable life threatening complications that could lead to death or injury to herself or her infant[5, 6].

Thus, drivers of success in reducing maternal mortality require strategies tailored towards strengthening community support to deal with structural and social barriers to uptake of health facility delivery[7][8]. Shared decision making in health care has been found to yield better health outcomes[9]. A study done in Tanzania to determine the role of social capital in facilitating health facility delivery found that the likelihood of delivering in a health facility increased significantly with increase in social capital level[10]. Previous studies in Ethiopia, Uganda, Tanzania, Kenya and Nepal have identified the roles of *significant others* in the uptake of health facility delivery as; making decisions on where a mother will deliver from, planning for birth, provision of basic needs like baby wear, mama-kit, escorting a mother to the delivery place, counselling and taking care of women of reproductive age and their children living in a given home[11]. However, these roles have not been fully explored. We therefore set out to identify the *significant others* of women and their roles at influencing women's perceptions on uptake of health facility delivery, using constructs adapted from the health belief model[12][13].

Methods

Study sites

The study was conducted in Lira District located in Northern Uganda. Lira District has three administrative health sub-districts (Lira Municipal, Erute North and Erute South), 13 sub-counties, 83 parishes and 717 villages. Lira District has a total of 31 health units with 24 being Government-aided and 7 Private Not for Profit[3]. The district has two referral hospitals, three referral health center (HC) IVs, 15 HC IIIs and 11 HC II facilities. We selected four sub-counties as study sites namely; Ogur, Amachi, Agweng town council and Agali. In 2014, Lira District had a total population of 408,043 (196,663 males and 211,380 females) and 89,015 households, 37.9% of which are within a 5 km radius from the nearest public health facility[2].

Study design

This was an exploratory qualitative component of a larger study that was conducted between April and May 2018 among mothers aged 15–49 years.

Perceived Barriers: Transport means, Financial challenges, distance to the health facilityTheoretical framework

Socio demographic factors:

Age

Education status

Employment status

Relationship with mother

Marital status

Length of service

Outcome measure

Uptake of health facility delivery

Perceived Benefits: Specialized care for the mother and new born

Perceived Susceptibility:

Perceived birth complications

Potential maternal deaths

Perceived Severity:

Maternal death, neonatal death, birth complications

Figure 1: Adapted from Health Belief Model Concepts (Hochbaum and Rosenstock, 1952).

We adapted four constructs from the health belief model which suggests that people's beliefs about health problems are influenced by their: perceived barriers to uptake of a given service, perceived benefits of a given service, perceived susceptibility-to- and severity-of the possible consequences of not utilising a given service. In perceived susceptibility, people will act to avoid ill health if they regard themselves as susceptible to a condition they believe would have serious consequences. In perceived benefits, they believe that a particular course of action available to them would reduce the susceptibility or severity and perhaps lead to other positive outcomes (perceived benefits). They may also perceive a few negative attributes related to the health action (perceived barriers).

Measurement of variables

In this study, we defined *significant others* of women as; individuals in a mother's life, who at the time of her latest pregnancy, had the ability to influence her perception on the uptake of health facility delivery in terms of perceived: 1) benefits of delivering from a health facility 2) barriers to uptake and; 3) susceptibility-to and severity-of the negative outcomes associated with delivering outside a health facility.

Questions on perceived susceptibility explored the roles of *significant others* towards influencing the mother's perception on the chances of experiencing complications at child birth based upon her socio-demographic and clinical characteristics. Questions on perceived severity captured the roles of *significant others* towards influencing the mother's perception of how serious the negative outcomes of delivering outside a health facility can be such as; death, loss of the baby and psychological stresses. Questions on perceived barriers to uptake and perceived benefits, documented their roles at influencing women's perceptions on the structural and financial barriers to uptake as well as anticipated benefits of health facility delivery for the mother and baby.

Data collection methods and tools

Qualitative data were obtained using an in-depth interview guide administered to a total of eleven (11) selected *significant others* of women and a key informant guide administered to seven (07) purposively selected health workers who were involved with providing maternal health services in Lira district. The participants for in-depth interviews (*significant others of women)* were identified during a larger study that was conducted among women who had delivered within two years. The interview guides captured data across three themes adapted from the health belief model: 1) perceived susceptibility-to and severity-of the negative outcomes associated with delivering outside a health facility; 2) perceived barriers to uptake and; 3) perceived benefits of delivering from a health facility. The theme under perceived susceptibility-to and severity-of the negative outcomes associated with delivering outside a health facility also explored the roles of *significant others* in influencing the mother's perceptions on the possible birth related complications and their consequences. The theme under perceived barriers to uptake of health facility delivery covered questions that explored their roles in influencing the mother's perception on the chances of experiencing structural barriers (distance to the health facility, transport means), financial barriers (money for birth preparedness items and transport money to the health facility), psychological barriers, for instance someone to escort the mother to the facility. The theme under perceived benefits covered questions on anticipated benefits of delivering from the health facility such as provision of specialized care for the mother and the new born as well as better management of the mother and baby in the event of birth related complications.

Quality control, data management and analysis

The tool was translated into *Lango, the local language, and* was piloted with three participants and revised to improve on the clarity of the question items. Training of the research assistants was done. We read through the initial transcripts with the primary objective of the study and the thematic areas in mind.

All interviews were digitally recorded, transcribed verbatim and translated from *Lango* to English, analysed using *Atlas ti version 7.0.* All responses were coded in respect to the thematic areas adapted from the health belief model. Data analysis was conducted deductively following a thematic framework approach[14].

Results

Seven (7) key informant interviews with health workers and eleven (11) in-depth interviews with *significant others* were conducted to identify and examine the roles of significant others in a mother's life. Out of the seven key informants; three were registered midwives, three were enrolled mid-wives and one was a doctor. Their average age was 37.4 years with about 12 years in service as shown in Table 1 below.

Table 1: Characteristics of health workers who participated in key informant interviews

Characteristic	Male (n)	Female (n)	Total (N, %)
	1	6	7 (100)
Age group			
18-24	0	0	0(0)
25-35	0	2	2(28.6)
35+	1	4	5(71.4)
Cadre of health worker			
[a]Registered midwife	0	3	3(42.6)
[b]Enrolled midwife	0	3	3(42.6)
Doctor	1	0	1 (14.3)
Length of service (years)			
0-5	0	2	2(28.6)
6-10	0	0	0(0)
11-15	1	4	5(71.4)
15+	0	0	0 (0)

[a]*A registered midwife is a nurse with advanced skills for maternity care*

[b]*An enrolled midwife is a nurse with basic nursing skills for maternity care*

Characteristics of the significant othersin a mother's life

As shown in Table 2, a total of 11 *significant others* in a mother's life were interviewed based upon their relationship with the mother. These included; one father-in-law, one mother-in-law, two biological mothers, one brother, one co-wife and five husbands. Majority were peasant farmers (9/11), one mason and one alcohol brewer. Almost all (10/11) *significant others* in a mother's life were married and only one was widowed.

Table 2: Characteristics of the *significant others*

Characteristic	Male (n)	Female (n)	Total (N, %)
Age group	7	4	11 (11,100)
18-24	0	0	0 (0,0)
25-34	3	1	4 (11, 36.4)
35+	4	3	7 (11, 63.4)
Highest level of education attained			
None	0	1	1 (11,9.1)
Primary	3	3	6 (11, 54.5)
Secondary	4	0	4 (11,36.4)
Marital Status			
Not married	0	0	0 (11, 0)
Married	7	3	10 (11, 90.9)
Widowed	0	1	1 (11, 9.1)
Divorced/separated	0	0	0 (11, 0)
Employment			
Peasant farmer	6	3	9 (11, 81.8)
*Mason	1	0	1 (11, 9.1)
Alcohol brewer	0	1	1 (11, 9.1)
Relationship with the mother			
Biological mother	0	2	2 (11, 18.1)
Husband	5	0	5 (11, 45.5)
Father-in-law	1	0	1 (11, 9.1)
Mother-in-law	0	1	1 (11, 9.1)
Brother	1	0	1 (11, 9.1)
Co-wife	0	1	1 (11, 9.)

**A mason is involved with construction work*

Traditional Birth Attendants (TBAs), local village leaders, neighbours, village health team members and health workers were identified as *significant others* of women.

Traditional Birth Attendants (TBAs) are very instrumental in delivering women and this is because they ask for only a few birth preparedness items. Communities perceived that TBAs can deliver mothers safely for a pregnancy with no complications. Communities also felt that TBAs are in the right position to tell them when it is time to go to the health facility.

"Traditional birth attendants are very significant because they tell us when it is time to go to the health facility and they know when a woman will deliver easily with no complications. TBAs also ask for very few birth preparedness items." (IDI 1)

"The members of the village health teams give us knowledge about where to deliver from. Neighbours can help get a boda-boda [motorcycle for hire] and take the woman to the health facility. The village local chairperson can give directives to the people at home to help the mother in labour and sometimes even get for her means of transport like boda-boda and someone to escort her to the facility" (IDI 7).

Roles of *significant others* in a mother's life

We identified the following sub themes to reflect the roles of *significant others* which included; providing financial support, helping in decision making, nursing mother and baby, making birth preparedness plans, taking mothers to the delivery places and proving continuous counselling and psycho-socio support.

Perceived barriers to health facility delivery

Husbands were found to be instrumental in averting barriers to health facility delivery by providing financial support in form of saving money to buy birth preparedness items and planning for transport means in case of a referral or an emergency requiring transfer to another facility as quoted below.

"As her husband, I need to prepare early. Buy all the necessary requirements, have money for transport put aside and when it is time for labour, we just leave home immediately for the health facility" (IDI 8).

Mothers-in-law, mothers and neighbours were found to be supportive in escorting the mothers in labour to the delivery places.

"If you are in the traditional home setting, your mother-in-law should take you to the health facility and the neighbours are also usually there…" "They can help in bathing you and fetching for you water…." (IDI 9).

"My neighbours who stay near home can help in getting transport means. Call for a boda-boda [refers to motorcycle for hire] or a bicycle from the trading centre and it takes her [referring to pregnant wife] to the health facility" (IDI 6).

Absence of health workers on site at the health facility was found to hinder uptake of health facility delivery.

"Women deliver from home because the health workers are often times not present at the health facility. But now that they know that mid-wives are always at the health facility, they have started coming…" (KI 2)

The study found that health workers and village health team members were playing a key role in educating and sensitizing the community on health facility delivery. However, mothers often times do not heed to the advice of the health workers as illustrated below.

"As for me I have no body to pin-point because when these mothers come for antenatal care, we provide health education and one of the key messages is the importance of delivering at a health facility. However, we think that when they [mothers] go back home and discus with their husbands, grandmothers or mothers, they seem to convince them to do otherwise….." (KI 3)

Perceived susceptibility-to and severity-of the negative outcomes associated with not delivering from a health facility

Our study further explored the kind of care received from other *significant others,* for instance; washing clothes, cooking food, cleaning the house and fetching water which were mainly done by mothers and mothers-in-law.

"I can buy for her [her referring to mother] some necessary requirements, prepare tea for her, bath the baby, encourage her and take her to the hospital" (IDI 10).

Husbands were responsible for supporting mothers to plan for delivery by buying the necessary birth preparedness items and providing money for transport to the health facility.

"I need to know the month and time when my wife is going to deliver. I need to buy and prepare the items needed by the doctor so that even if I am not around, the people assisting her only have to take her to the health facility" (IDI 3).

In the case of unmarried women and teenage mothers, their mothers and fathers were found to be responsible for planning for delivery and taking them to the health facility in the absence of their partners.

"If he [partner] refuses to support her, she has to buy the necessary requirements and ask someone to take her if she can't go on her own. Family members like her mother; father and siblings can plan with her and buy the birth requirements too" (IDI 2).

Some husbands did not support their wives to deliver from the health facility because they assumed that as long as a woman had no complications, she can deliver either from home or a traditional birth attendant's place.

"I bring the traditional birth attendant to deliver my wife because she can easily deliver with no complications……the TBA only needs a few requirements" (IDI 8).

Husbands were key in deciding where their wives delivered from because they are the heads of the family. However, some respondents said that it was the decision of the couple to choose where to deliver from.

"It is I [husband] as the head of the family. "It is me [husband] to decide that my wife will not deliver from home but a health facility" (IDI 3).

"You know in [our] culture, the man is the head of the home and he is my [bank]. If a man has refused to give me money to buy requirements for delivery, you [a woman] you have no power, so the man contributes a lot in buying for these items for women" (KI 4).

“It is you the pregnant woman and your husband to decide together and when your husband is not there, you the pregnant woman should make that decision on where to deliver from” (IDI 4).

Perceived benefits of health facility delivery

Husbands and biological mothers were supportive in ensuring that women delivered from a health facility because of the benefits attached to health facility delivery. Delivering from a health facility was regarded important and safe for both mother and baby especially in cases of complications.

“When a woman delivers from the health facility, the baby can be well cared for and protected. In case of any complications, the mother and baby can easily be helped as opposed to when you are far, it can be bad. It also enables the baby to be immunized on time (IDI 2)"

“Delivering at a health facility is good. Even if you have complications, the health worker will examine you and address it quickly. So that makes us go to the health facility because both mother and baby are safe there” (IDI 11).

Generally, the responsibility of supporting pregnant mothers was shared amongst several family and community members. However, it was majorly the role of her husband.

“The pregnant woman and her husband should make sure that they are ready and have prepared for delivery. “You [meaning the husband and pregnant woman] need to buy birth preparedness items to make it easy for you to be well attended to when at the health facility. …Clothes for the mother and baby, soap, if there is no mama-kit you need to buy and also prepare some money” (IDI 2).

Whereas most women during the larger study chose their husbands as *“significant others”,* several husbands were barely involved in supporting their wives during pregnancy and at delivery time.

“They [referring to pregnant women] are there especially those women who have drunkard husbands. They [women who have gone to deliver] come when they have nothing completely and the men are not supportive at all” (KI 4).

“…there are some men who don’t take responsibility and the mother has to look for a way out to reach the facility.” The problem is the husbands come only once and once they have their test result [HIV test result], that is all and they claim they have other things to do and thus it becomes hard for them to know their roles and cannot fully support the woman thereafter” (KI 5).

Discussion

Our study set out to identify the *significant others* of women and their roles in the uptake of health facility delivery in Northern Uganda. We identified husbands, biological mothers, fathers-in-law, mothers-in-law, brothers and co-wives as individuals who influenced a mother’s perception on the uptake of heath facility

delivery, based upon their relationship with the mother. Interestingly, traditional birth attendants and community members (neighbours and local village leaders) as well as village health extension workers were also identified as *significant others* in a mother's life. These individuals (*significant others)* were found to have several roles in influencing the uptake of health facility delivery on three fora, adapted from the health belief model (which attempts to explain and predict health behaviour) based upon their ability to influence the mother's perceptions on:1) susceptibility-to and severity-of the negative outcomes associated with delivering outside a health facility; 2) perceived barriers to uptake and; 3) anticipated benefits of delivering from a health facility.

Perceived susceptibility-to and severity-of the negative outcomes associated with not delivering from a health facility.

Majority of the significant others of women cited the need for mothers to go to a health facility to minimize the occurrence of -or-severity of maternal and child health negative outcomes. As cited from prior studies, some felt that they could rely on the knowledge and expertise of TBAs to help them detect a birth-related complication requiring the intervention of a health expert[16, 17]. This assumption was found from previous studies to be misleading as it exposes the mother to the likelihood of experiencing adverse negative outcomes (such as; death, loss of the baby, psychological stresses, among others) because of the delays between transferring the mother from the TBA's place to the health facility, as most women are referred in poor clinical state[18]. A study in Nigeria that audited childbirth emergency referrals by trained TBAs to a specialist hospital found that delays of more than 12 hours had occurred in 76.6% of the women before referral[18]. Much as some mothers cited husbands as their significant others, health workers on the contrary observed that some husbands did not necessarily support their partners during pregnancy, delivery and child birth. This is partly attributed to the fact that some men regard issues of pregnancy, delivery and child birth as a women's affair as evidenced by a study that explored perspectives of men on antenatal and delivery service utilisation in Kenya, which found that men culturally considered pregnancy support as a female role and as the male role, that of providing[19].

Perceived barriers to uptake of health facility delivery

Our study found that averting barriers to health facility delivery to improve maternal and child health outcomes is a collective responsibility of husbands, mothers-in-law, community members such as neighbours, local council village leaders and village extension health workers. In addition to the recent call to strengthen male partner involvement in the utilization of maternal health care services by their female partners[20, 21], our study further highlights the role of other key players (*significant others)* in averting barriers to utilization of health facility delivery services. Similar to findings from other studies, quite often, husbands will only go as far as providing financial support for transport and money to buy birth preparedness items[22]. Pregnant women need more than just financial support due to the effects of

pregnancy on different aspects of their health, including psychological disorders[23]. This study found that mothers-in-law often close off this gap by providing psychosocial support by escorting the mothers to the health facility. Studies have shown the importance of psychosocial support to pregnant women in averting maternal and child health negative outcomes[24, 25]. Our study also found that community members such as neighbours, local council village leaders and village extension health workers are instrumental in averting structural barriers to access to a health facility by sending for a *boda-boda* (motor cycle rider) in real time or other transport means to get the labouring mother to a health facility. This finding is consistent with findings from other studies which have shown the role of the community at enhancing access to health facility delivery services[26].

Perceived benefits of delivering from a health facility

Similar to findings from other studies, we found that delivering from a health facility was perceived to have potential health benefits for the mother and additional care for the baby in the event that child-birth related complications arose, in addition to educating and sensitizing the mothers. This is consistent with findings from studies done in India and Ethiopia where women preferred health facility deliveries because of the perception of good care from the providers for both the mother and the baby[27, 28].

Study limitations

This was a qualitative study in which participants were purposely selected to participate. The purposeful selection of participants does not allow for generalization of our findings. We did not include traditional birth attendants and village leaders in our sample yet these happen to influence uptake of health facility delivery. We hope that future studies on this subject will explore the perceptions of traditional birth attendants and local village leaders using more rigorous study designs.

Conclusion

Support for women during pregnancy and childbirth is a function of both family and community roles towards influencing the uptake of health facility delivery.

Recommendations

Efforts to improve uptake of health facility delivery should not only target husbands but also key family and community members.

Abbreviations

HCHealth Center

HBMHealth Belief Model

IDIIn-depth Interviews

KIIKey Informant Interviews

MMRMaternal Mortality Ratio

TBAsTraditional Birth Attendants

UNAIDSUnited Nations Programme on AIDS

UNFPAUnited Nations Population Fund

UNICEFUnited Nations Children's Fund

W. H.OWorld Health Organisation

Declarations

Ethical approval and consent to participate

The study received ethical clearance from the Institutional Review Board of Makerere University School of Public Health Higher Degrees Research and Ethics Committee. Permission to conduct the study was obtained from Lira District Health Office and the Sub-county Administrators. Written voluntary consent was obtained from all study participants. Written informed consent to participate was obtained from all study participants. Confidentiality of data was maintained using participant ID numbers.

Consent for publication

Not applicable

Availability of data and material

The datasets generated and/or analyzed during the current study are available from the lead author upon reasonable request.

Competing interests

The authors have no competing interests to declare.

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Authors' contributions

EBN conceptualized the research idea, drafted the proposal and supervised data collection activities. RRA provided support for data analysis. RN reviewed the results and prepared the initial manuscript for publication. JB and JK provided technical oversight for the progress of study implementation. RKW revised the draft manuscript to strengthen its intellectual content. All authors reviewed and approved the final version of the manuscript for publication.

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Figures

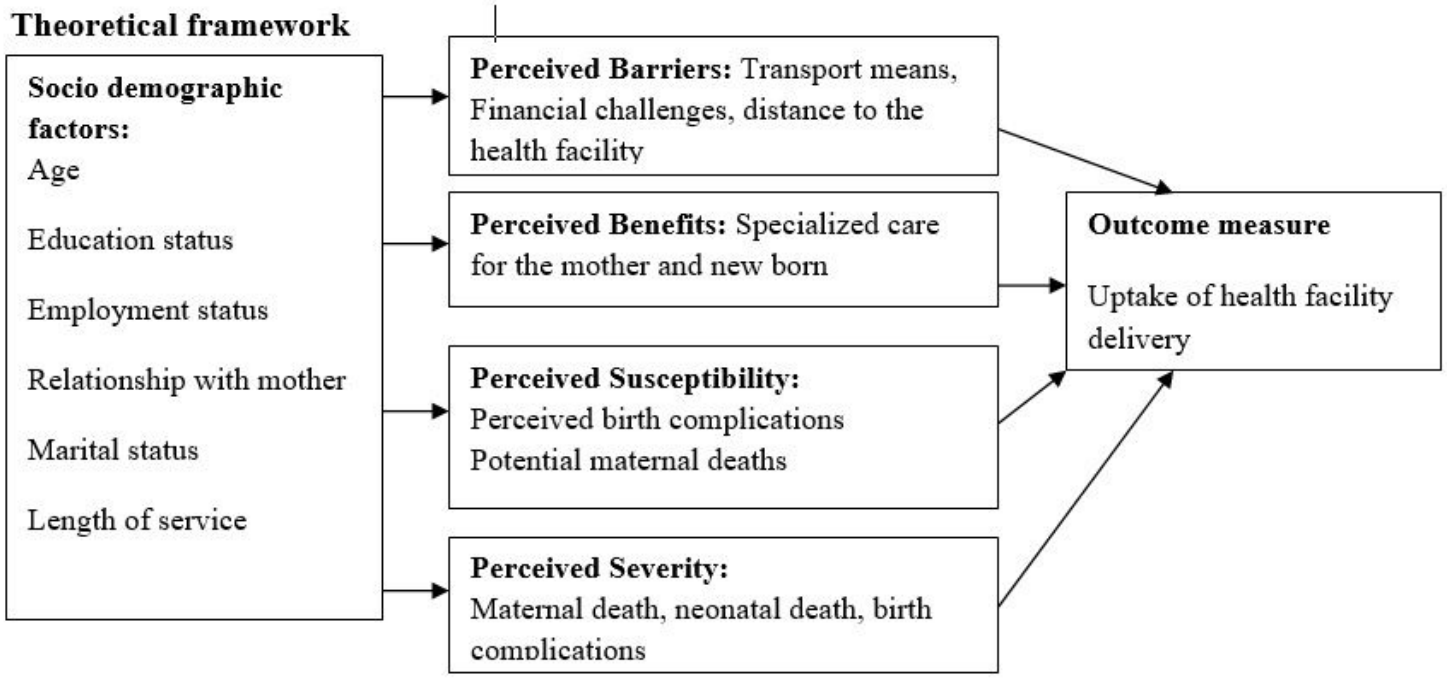

Figure 1

Adapted from Health Belief Model Concepts (Hochbaum and Rosenstock, 1952).