

Health Care Seeking Behavior of Obstetric Danger Signs and its Associated Factors Among Pregnant and Delivered Mothers in Kewot District, North Shoa Zone, Amara Region, Ethiopia: A Cross-Sectional Study

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Abstract

Background: Many mothers died due to preventable causes in developing countries like Ethiopia. so, this study aims to assess the healthcare-seeking behavior of obstetric danger signs among pregnant and delivered mothers in 1 year before the study period in Kewot districts.

Method: A community-based descriptive cross-sectional study design supplemented by qualitative technique was conducted from April 20 -April 30, 2019, in the Kewot district. Pregnant and delivered mothers were selected by systematic random sampling technique and interviewed with a response rate of 98.2%, Using purposive sampling 3 key-informants and 5 mothers were selected for in-depth interview of a qualitative study. Data were entered into Epi data version 3.1.1 and analyzed using SPSS version 21 and the logistic regressions model was applied to identify the associated factors.

Results: A total of 363 participants were involved in the study. Among participants, 211(58.1 %) at (95% CI; CI: 53.7%-63.1%) were sought appropriate health care action. Women who have ANC follow up (AOR=1.735,95%CI:1.107-2.721), knowledgeable about danger sign, (AOR=2.430,95 % CI:1.360-4.342), the decision for own health care seeking (AOR=2.514,95% CI:1.130-5.501), and women who cannot able to judge graveness of condition (AOR=0.509,95% CI:0.302-0.859) were significantly associated with appropriate healthcare-seeking behavior.

Conclusion: Having antenatal care follow up, knowledge about danger signs, inability to judge the graveness of conditions and inability to decide alone for own health care were factors that prevent appropriate health care seeking action. So, there should be health information dissemination about danger signs for every pregnant mother in the catchment area and during their visit to health institutions.

Introduction

Health care seeking Behavior (HCSB) is to visit a health facility for the individual's health condition and disease prevention, and this personal decision includes all available health care options such as visiting a public or private health facility, and also modern or traditional health facility(1)

Maternal mortality has severe consequences for raising a family, especially for children who have been neglected, and for children under the age of five, the risk of death increases by up to 50%. These women died during most of their working years, and their deaths had an impact on society and the economy in their countries in general(2,3)Globally, one of the health problems is maternal related death and illness World Health Organization evidence showed that 830 women worldwide and 303,000 women die every year from pregnancy-related causes, of which approximately 99% (302,000) in developing regions and Sub-Sahara Africa Alone accounts for approximately 66% (201,000), followed by South Asia (66,000), and in East African countries maternal mortality rates very critical, South Sudan South (789), Somalia (732), Kenya (510), Uganda. (343) Eritrea (501) and Ethiopia (353) per 100,000 live births(2).Evidence from sub-Saharan Africa indicates that the mother's appropriate healthcare-seeking behavior was inferior to the WHO recommendation, which states that all pregnant mothers with danger signs should seek care. There were sociodemographic and socioeconomic factors such as age, education, residence, and income; individual and institutional access to health, distance, not having ANC follow-up, obstetric history or inability to judge the severity of the conditions, approaches of health professionals, availability of qualified personnel, knowledge of the danger sign, availability of logistics and do

not decide only on maternal health care problems and the sign of illness are positive and negative factors that contribute to lead or hinder the search for medical care(4,5,6,7,8) Research evidence indicates that low health-seeking habit is common among mothers during obstetric complications particularly when compared to world health organization and national plans to see some examples Bangladesh has only 29%and India 19% Nigeria also 55% in northern Ethiopia, Gondar 5%, Arbaminch 73.8%, and some studies reported that there is better health-seeking performance like in Tanzania 91% needed health care from health providers(4,8–11).

A study conducted in Nigeria depicts pregnant mothers have low awareness for the most common obstetric danger signs which is, high blood pressure (5.6%), swollen face/hands (2.2%), convulsions (1.4%), excessive vaginal bleeding (0.3%), and severe lower abdominal pain (0.4%) and Study in Tanzania shows, more than half of the participants (57.8%) were able to mention only one to three danger signs. Only (31%) were knowledgeable of at least four danger signs. The most commonly known danger signs reported were vaginal bleeding (81.2%), edema (46.3%), and headache (43.6%) (12)

In Ethiopia, according to the Ethiopian demographic and health survey (EDHS),2016, the coverage of ANC and skilled delivery was achieved only 62% and 26% respectively, high maternal mortality and morbidity are major problems in the nation, so this research aimed to assess the health-seeking behavior of the mothers in the northern part Ethiopia. Different factors that affect the outcome variables extracted from different kinds of literature particularly research articles (Figure 1)

Methods And Materials

Study Design, Setting, and Population

A Community based descriptive cross-sectional study was conducted in Kewot district, at Amara Region in northeast Ethiopia. Kewot district is located at 10°01'66"N; and 39°92'36"E with an altitude of between 1100 and 2700 meters above sea level. The study used both quantitative and qualitative approaches during data collection and analysis. The study was conducted from Apr, 20 -30, 2019. The source populations were all pregnant and delivered mothers in the last year before the study period who faced obstetric danger signs in Kewot districts. The study units of this study were Pregnant and delivered mothers in the last 1 year before the study period who faced obstetric danger signs in selected kebeles (small administrative units). Mothers who have miscarriages and stillbirth in the last three months before the study period and mothers who lived at least for 6 months were included in the study, whereas those women who were severely ill at the time of the study were excluded.

The sample size for this study was determined by taking 60% proportion of women who had appropriate health care seeking behavior from a previous study at north Gondar (11) and using a single population proportion formula. The final sample was 369

For qualitative data, purposely selected 3 key-informants and 5 mothers were employed for in-depth interviews. Key informants were selected based on their role in the society and health care system. It Included Health extension workers, Keble manager, religious leader, midwife, and eligible mothers. Selecting criteria was based on their experience and willingness to the participant to interview. The numbers of interviewed key-informants were decided by saturation of ideas.

Measurement of variables

The dependent variable in this study was Health seeking behavior, which refers to a decision or an action taken by an individual to maintain, attain, or regain good health and to prevent illness. The decisions made encompass all available health care options like visiting a public or private and modern or traditional health facility, self-medication, and use of home remedies(1). and the independent variables were age, religion, marital status, educational status and occupation from the socio-demographic and traditional healer/medicine, traditions, belief, decision making autonomy from socio-cultural variables there are also Individual and institutional determinants like Unable to judge graveness of conditions, maternal knowledge about obstetric danger sign, unintended pregnancy, having ANC visit, maternal obstetric history (history of stillbirth, parity, history of pregnancy complications).distance of their location, approaches of health professionals, costs/price, availability of skilled personnel, emergency drug, and equipment.

Data management

To make sure the quality of data this study tries to train all the data collectors, interviewers, besides, a pretest was conducted and close supervision and daily evaluation of the collected data were performed. Further explanations of the sampling procedure of the study participants are described in figure (Figure 2)

Results

Socio-demographic characteristics

A total of 363 women were interviewed with a respondent rate of 98.4%. Among interviewed 232(63.9%) pregnant and 131(36.1%) were delivered mothers in the past one year before the study period. The mean age of the respondent was 27.33 (S.D, ± 5.8 : CI, 26.73-27.94) years Half of the respondents were Orthodox 183 (50.4%) followed by Muslim 129 (36.1%). The majority 313 (86.2%) of the respondent were illiterate and the majority of the women were housewives 271 (74.7%) (Table 1). There were three major themes to summarize qualitative data. Theme one Knowledge, perceptions, experiences about obstetric danger signs, these two healthcare-seeking practices, and theme three factors/barriers/ that affecting appropriate health care seeking action.

Bivariate analysis was conducted and variables with significance level 0.2 and less were moved to multivariate analysis. Based on this criteria Age less than 25 years, deciding on maternal own health care alone, inability to judge the severity of graveness, having ANC follow up, knowing obstetric danger sign, maternal perception of unavailability of drug and equipment were showed significant association with healthcare-seeking behavior and entered to multivariate logistic regression to control confounding variable. According to qualitative data; among interviewed most mother, Keble leader and religious leader were stated only some commonly known obstetric danger signs these are postpartum bleeding, obstructed labor, and weakness of mother.

One mother stated that "... *Is obvious that every pregnancy has its discomfort or sickness. This is not happening today our grandparents also facing ...so this problem is relieved after delivery*". when she explained about health-seeking practice in the area.

Of respondents 62(17.1%) were knowledgeable. The most commonly mentioned danger signs severe bleeding during delivery 217(11.2%), retained placenta 174(9.0%), and obstructed labor 150(7.8%) (Table 2).

Around 61.7% of participants were primigravida and 60.1% of the participants had Antenatal care contact but 39.4 % of women delivered at home (Table 3)

Factors Associated with Health seeking Behavior

In multivariate analysis, our study showed that the following factors are determinants of the outcome variable. Deciding on maternal health outcome, having an Antenatal care visit, knowledge about obstetric danger signs, failure to estimate or judge the severity of the conditions are some of the identified factors (Table 4)

In the adjusted model, women who have ANC follow were 1.7 times (AOR=1.735, 95%CI, 1.107-2.721) more likely to have appropriate health care action than those who have no ANC follow up.

Another participant in an in-depth interview said *"I think Having Antenatal care follow up is the basis for seeking health care and visiting for the general health status of a pregnant mother"*

Women who are aware of the obstetric danger signs were 2.4 times (AOR = 2.430, 95% CI: 1.360-4.342)) more likely to health care seeking behavior than those who are unaware of the signs of obstetric hazard. This idea was supported by the qualitative study, as another woman stated that *"if she knows danger sign, why is she not willing to go to the health center? In my opinion, there is a lot of information gaps, for example, there are mothers who do not even have a radio in our area "*

Among women who can't able to judge the graveness of conditions were 49% (AOR=0.509, 95% CI: (0.302-0.859) less likely to have appropriate health care action than those who can able to judge the graveness or bad outcome of conditions. *"...Some of the women believe that pregnancy is a normal natural process and their parents were not delivered at the hospital and even mother was bleeding they were not bothered by considering as normal. These practices are harmful to mothers and newborns. But Many mothers are careless about the problem..."* (A 32-year-old mother from tere Keble).

Women who can decide alone for their health care were 2.5 times (AOR=2.514, 95% CI: (1.130-5.591) more likely to have appropriate health care seeking than those who can't decide

Belief and cultural factors were identified by an in-depth interview. Guard spirit/wuqabi/ and movement restriction of the postpartum mother out of home were commonly practiced in the study area. *"I have a spirit (wuqabi) which is confiscated from my grandmother...Nowadays my wuqabi makes me too sick and aborting repeatedly. I am recently aborted at five-month gestation. During aborting I was excessively bleeding and saved my life at a private hospital. Wuqabi dislikes treatment and physical examination in hospital.... Generally, I am under its control and can't go to the hospital for ANC follow-up and delivery"* (witness of a 36 years old mother).

Discussion

In this study, 58.1% of the women were desired adequate health care action. This finding agrees with the study carried out in Gondar (59.2%) (10,13). However, higher than the studies carried out in Bangladesh (29%) and India (19%), (1,13). This difference could be related to the country's health policy and strategy and the study contexts. Furthermore, this higher finding could be due to the implementation of the health extension program and the army health development network in the study area.

The prevalence of seeking health care in this study decreases compared to studies in Tanzania (91%) and Arbaminch (73.8%) Socio-demographic, geographic location, study-based (i.e., community and facility level) might be the reason for the difference. (4,15)

In our study, having an antenatal visit has a valuable relationship with healthcare-seeking behavior, therefore, among women who have an antenatal visit, 65.9% seek health care services. This is a consistent finding from other studies in another part of Ethiopia (65.4%) (4,15)

This study indicates that only 62 (17.1%) knew the danger signs, which is much lower than studies in Nepal (66.0%), and 31% in Tanzania, this being the difference in intervention programs such as socio-economic and health care in the study areas (15,16).

Our finding is that if the mother decides about her health issues on her own, she is more likely to see a doctor. For example, 51.2% of mothers who were able to decide for themselves were had health-seeking behavior in this study. This result is higher compared to other foreign studies in Pakistan. The prevalence of mothers' decision to choose their health care was (46.6%) in Pakistan (17)

The other finding of this study found that some of the women who reported complications did not seek appropriate health care due to the inability to judge the severity of the problems. This was also consistent with the study by Gondar and Arbaminch (4,11).

The presence of a traditional birth attendant, the use of home remedies, the distance from the health facility, the lack of equipment and drugs, did not have any significant connection with appropriate health care seeking measures among the mothers in this particular study.

Strengths and Limitations of the Study

When the quantitative study has been supported by a qualitative method, it results in a solid approach to test variables and understanding of the situation and more factor-related care-seeking behavior. The limitation of this study went to the problem of recall bias during self-report of complications and danger signs. This could affect the reliability of the reported data. Another limitation was the cause-and-effect relationship of the factors at this time, this study would not be able to determine the true cause-and-effect association due to its cross-sectional nature of the study design.

Conclusion And Recommendation

Overall, the prevalence of appropriate health care seeking action is low compared to the WHO recommendation and nationally. Having an ANC by a skilled provider, knowledge of danger signs, the ability to judge the severity of conditions, and the mother's decision about her health care, are some identified determinants that are positively related to healthcare-seeking behavior. Qualitatively, the lack of qualified people, cultural beliefs, and the wrong approach to the health care provider has been a factor that reduces the demand for appropriate health care.

The district health office should support district health institutions in improving client/patient approaches of health providers, especially at the maternal and child health unit level. There should be the dissemination of health information on danger signs for every pregnant woman in the service area and when visiting the health facility. Besides, governmental and non-governmental organizations should work together to improve the

empowerment of women in the region, so that they can be able to decide for themselves on any matter, including seeking health care.

Declarations

Ethical approval and consent to participate

Ethical approval was obtained from the Debre Berhan University College of Health Sciences Institution Review Board (IRB) protocol number:19/19/SPH, and a letter of support from the Amhara Zonal Health Office. The data collection process was initiated after obtaining informed consent from the head of the hospital where the study was conducted and from the study participants. This research work accepts the Helsinki declaration of ethics and implements accordingly since it was performed on a human being the health ethics committee in the university approves the study to be conducted and both written and verbal consent was taken from each study participant so, we would like to declare that all methods and process of this research work was undertaken based on the required ethical principles and approvals. We also declare Informed consent was obtained from participants and from parents or legal guardian of participants (who can not read and write)

Consent for publication: not applicable

Competing of interest: All authors declare that there is no conflict of interest both in financial and non-financial interests

Author's Contribution

DT initiated the idea and redacted the proposal, participated in the data collection and writing,

AE participated in the supervision of the general work, the design, the methods, and the results in the writing, **SM** participated in the results, the writing of discussions and the analysis **TM** prepared the manuscript, as well as participated in the literature, methods and writing and analysis of results

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Availability of Data and materials

All data relating to this research work are also incorporated into the research article, available, and may be provided at any time by the corresponding author.

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Tables

Table 1
socio-demographic characteristics of study participants in Kewot district,
2019 (n = 363).

Characteristics		N	%
Age	< 25	153	42.1
	25–29	74	20.4
	30–34	97	26.7
	> 34	39	10.7
marital status	Married	292	80.4
	Single/never married	43	11.8
	Divorced	20	5.5
	Widowed	8	2.2
religion	Orthodox	183	50.4
	Muslim	129	35.5
	Protestant	51	14
Ethnicity	Amara	354	97.5
	Oromo	9	2.5
education	cannot write and read	313	86.2
	grade1-8	40	11.0
	>grade9	10	2.8
occupation	Student	12	3.3
	Farmer	55	15.2
	daily labor	9	2.5
	house wives	271	74.7
	Merchant and government employee	16	4.4
Pregnancy status	Pregnant	232	63.9
	Delivered	131	36.1

Table 2
Spontaneously mentioned danger sign during pregnancy, delivery, and the postpartum period, Kewot district, 2019(n = 363)

Pregnancy period	Danger signs	Responses	
		N	Percent
During pregnancy	severe or continuous vomiting	97	5.0
	vaginal bleeding	123	6.4
	Abnormal vaginal discharge	9	0.5
	ruptured membrane before delivery	22	1.1
	decrease fetal movement	48	2.5
	severe headache	65	3.4
	blurring of vision	65	3.4
	edema of hand and face	104	5.4
	Convulsion	67	3.5
	high fever	80	4.1
During delivery	severe headache	103	5.3
	blurring of vision	63	3.3
	Convulsion	29	1.5
	abnormal fetal presentation	33	1.7
	obstructed labor	150	7.8
	severe bleeding during delivery	217	11.2
	retained placenta	174	9.0
During postpartum	postpartum bleeding	272	14.1
	high fever	46	2.4
	severe headache	44	2.3
	blurring of vision	13	0.7
	Convulsion	6	0.3
	lower abdominal pain	89	4.6
	difficulty of breathing	1	0.1
	bad smell vaginal discharge	15	0.8
Total		1935	100

Table 3
 obstetric history of respondents, in Kewot district, 2019 (n = 363)

Variable	Category	N	%
Gravidity	Primigravida	224	61.7
	Multigravida	139	38.3
Birth order	1	47	33.8
	2-4	76	54.7
	>4	16	11.5
ANC VISIT	NO	145	39.9
	YES	218	60.1
have abortion	NO	337	92.8
	YES	26	7.2
have stillbirth	No	354	97.5
	Yes	9	2.5
wanted pregnancy	No	46	12.7
	Yes	317	87.3
place of last delivery	Home	74	39.4
	health institution	114	60.6

Table 4

Multivariate logistic regression analysis of association with appropriate health-seeking action, Kewot district, 2019 (n = 363)

Variable		Action		COR	AOR P-Value	
		Appropriate N (%)	Inappropriate N (%)			
Age	< 25	80(37.9)	73(48.0)	.548(.262-1.146)	.568(.267-1.208)	.092
	25–29	49(23.2)	25(16.4)	.980(.431-2.229)	.906(.391-2.102)	.793
	30–34	56(26.5)	41(27.0)	.683(.314-1.487)	.640(.288-1.422)	.659
	> 34	26(12.3)	13(8.6)	1	1	
Deciding on maternal own health care	Alone	108(51.2)	61(40.1)	2.724(1.267–5.857)	2.514(1.130–5.591)	.024*
	Jointly	90(42.7)	71(46.7)	1.950(.908-4.189)	1.688(.758-3.756)	.200
	Husband/other	13(6.2)	20(13.2)	1	1	
Lack of transport	No	173(82.4)	100(66.2)	1	1	
	Yes	37(17.6)	51(33.8)	.419(.257-.684)	.686(.336-1.398)	.702
Lack of equipment	No	192(91.0)	127(83.6)	1	1	
	Yes	19(9.0)	25(16.4)	.457(.218-.958)	.830(.319-2.157)	
ANC VISIT	NO	72(34.1)	73(48.0)	1	1	
	YES	139(65.9)	79(52.0)	1.784(1.164–2.734)	1.735(1.107–2.721)	0.016*
Knowledge about danger sign	Not knowledgeable	185(87.7)	116(76.3)	1	1	
	Knowledgeable	26(12.3)	36(23.7)	2.208(1.267–3.848)	2.430(1.360–4.342)	.003*
Inability to judge the severity	No	168(80.0)	97(64.2)	1	1	
	Yes	42(20.0)	54(35.8)	.449(.279-.722)	.509(.302-.859)	.011*
*Is P-value < 0.05						

Figures

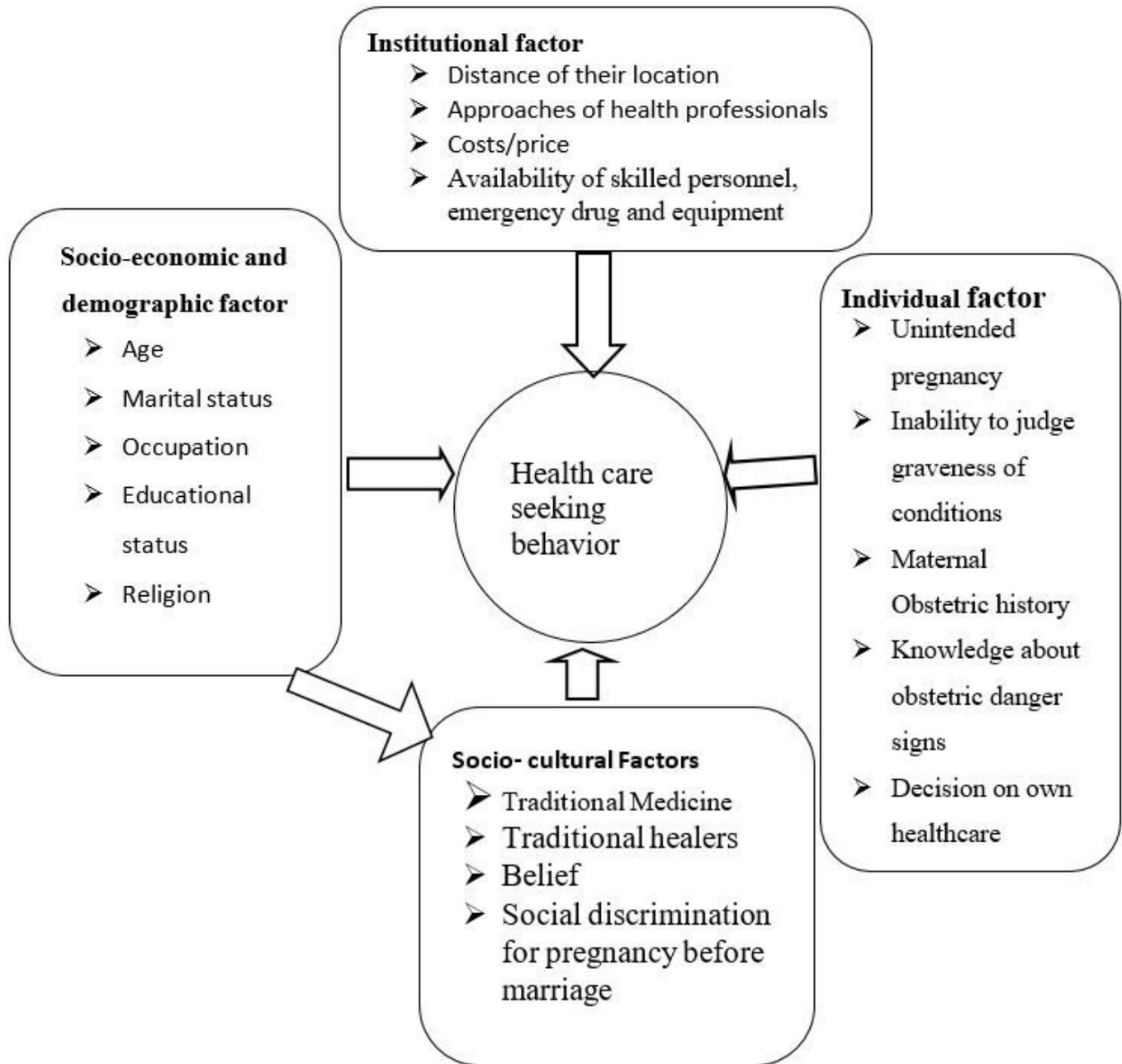


Figure 1

The conceptual framework for assessing health care seeking behavior of obstetric danger signs in Kewot districts, North shoa zone, Ethiopia, 2019.

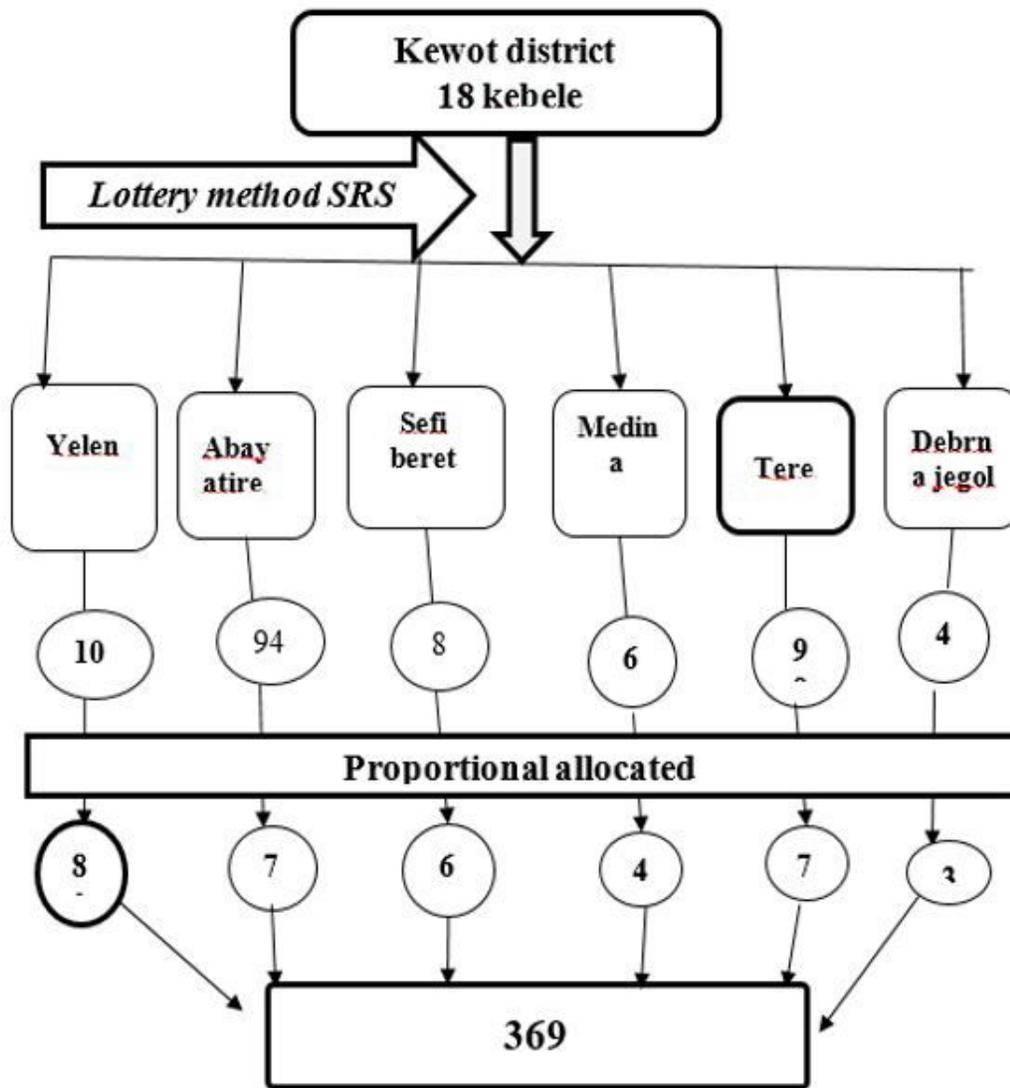


Figure 2

sampling procedure