

Pregnancy Risk Perception and Associated Factors Among Pregnant Women Attending Antenatal Care at Health Centers in Jabitehnan District, Amhara, Northwest Ethiopia

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Abstract

Background: Pregnancy risk perception affects a pregnant woman's decision about health care services use such as prenatal care, place of birth, choices about medical interventions, adherence to medical procedures, and recommendations.

Methods: An institutional-based cross-sectional study was conducted among 424 mothers attending ANC at health centers in the Jabitenhan district from April 1 to 30, 2021. Data was collected through a face-to-face interview using a structured questionnaire which was developed according to the health belief model. The logistic regression model was used using adjusted odds ratio with 95% CI and p value <0.05

Result: 424 pregnant women were interviewed of which nearly half of the respondents (48%) had good pregnancy risk perception. Women who had a history of obstetric complication (AOR:95%CI = 3.44:1.73,6.83), those who know at least one pregnancy danger sign (AOR:95%CI =5.22;2.46,11.07), pregnant women who had a bad obstetric history (AOR:95%CI = 2.23:1.13,4.41) and knowing women who died due to pregnancy-related complications (AOR:95%CI =2.85:1.45,5.60) were more likely to have good perception towards pregnancy risk as compared to their counterparts.

Conclusion: Obstetric complications, awareness of pregnancy danger signs, bad obstetric history, and knowing women who died due to pregnancy-related complications were found to be significantly associated with pregnancy risk perception.

Plain English Summary

Pregnancy risk perception affects a pregnant woman's decision about health care services use such as prenatal care, place of birth, choices about medical interventions, adherence to medical procedures, and recommendations. 424 pregnant women were interviewed and nearly half of the respondents (48%) had good pregnancy risk perception. The major factors identified on pregnancy risk perception were women who had a history of obstetric complication, who know at least one pregnancy danger sign, who had a bad obstetric history and knowing women who died due to pregnancy-related complications.

In conclusion, pregnant women perceive that they were risky in developing pregnancy-related complications and their consequences were low. For health care provider's routine screening of pregnant women's pregnancy risk perception especially women's before they experience obstetric complications and bad obstetric outcomes should be conducted and design effective education and counseling about their susceptibility to pregnancy risk and the consequences of pregnancy-related complications.

1. Introduction

Risk is the probability that a person will be harmed (1). Risk perception means an individual's expectation about the probability, characteristics, and severity of an event. It is an important construct for different health behavior theories such as Health Belief Model, Protection Motivation Theory, and Prospect

Theory(2). An individual making judgment about the probability of an event is based on past experience(3)

A greater perception of health risk leads to conduct protective action. Therefore understanding people's health risk perception and the accuracy of their perception is important(4). Pregnancy risk perception affects a pregnant woman's decision about health care services use like prenatal care, place of birth, choices about medical interventions, adherence to medical procedures and recommendations, and health behaviors (5–7).

Pregnancy is a normal physiologic process but some of the common discomforts of pregnancy may make the pregnant woman feels ill. Ranging from mildly irritating to life-threatening conditions(8). Pregnancy and childbirth are often perceived as normal life events without justification in many developing countries including Ethiopia. Obstetric complications are high among normal pregnancies. These complications occurred following warning signs called obstetric danger signs (9–12).

The top commonly manifested danger signs during labour and childbirth are severe vaginal bleeding, prolonged labour, convulsion, and retained placenta. Besides, dangerous signs occur during the postnatal period which includes severe vaginal bleeding, unconsciousness, and fever (13, 14). Every pregnant woman is at risk of facing pregnancy-related complications that could end in death or injury to both herself or her newborn(15). From pregnancy-related complications, hemorrhage, obstructed labour, pregnancy-induced hypertension, puerperal sepsis, and unsafe abortion are the five leading causes of maternal death in Ethiopia from 1990 to 2016. Early detection and management of those complications are important to reduce maternal mortality(16).

Pregnancy and childbirth complications are major causes of maternal death. Complications develop during pregnancy accounted 72.5% of maternal death are called direct causes of maternal death. Globally the magnitudes of direct cause's maternal death are hemorrhage (27.1%), pregnancy-induced hypertension (14%), puerperal sepsis (10.7%), and unsafe abortion (7.9%). In Ethiopia, hemorrhage (29.9%), obstructed labor (22.34%), pregnancy-induced hypertension (16.9%), puerperal sepsis (14.68%), and unsafe abortion (8.6%) are major causes of maternal death (16, 17, 18)

Due to obstetric complications globally every day 810 women died. The developing country accounted for 94% (277,300) of these deaths. Of these eighty-six percent of deaths are occurred in both Sub-Saharan Africa and Southern. Sub-Saharan Africa has the highest MMR at 66.44% (196 000) of maternal deaths annually. In Ethiopia, the maternal mortality ratio is significantly reduced from 1030 death per 100,000 live births(2000) to 401 death per 100,000 live births(2017) but it remains high(19).

The maternal mortality ratio in developing countries in 2015 is twenty times higher than in developed countries. The difference in maternal mortality ratio is also present within countries between urban and rural residents, and between high and low-income women (20).

Pregnancy and childbirth-related mortality are unavoidable due to three delays. These are delays in deciding to seek care, delays in accessing and reaching appropriate care, and delay in the recipient of appropriate care once a health facility is reached. The first delay influences the probability of the second and third delay. Their poor perception of pregnancy-related risks and complications leads pregnant women to delay decision-making to seek obstetric care (21, 22)

Therefore, this study is intended to determine pregnancy risk perception and associated factors among pregnant women attending antenatal care at health centers in Jabitehnan district, Amhara, northwest Ethiopia, 2021

2. Material And Methods

2.1. Study Area and Period.

The study was conducted in Jabitehnan District, West Gojjam zone, Amhara region, northwest Ethiopia. Jabitehnan is bordered on the southwest by Dembech, on the west by Bure, on the northwest by Sekela, on the north by Kuarit, and on the east of Degadamot districts. It is located 387 km from Addis Ababa in the northwest part of Ethiopia. According to the report from the district in 2016, it has 39 kebeles with a total population of 218,447 and 125,323 adults. In the district, there are 11 health centers and 39 health posts. The health centers give different clinical services such as family planning, antenatal care, delivery, testing of HIV, etc. for the nearby community. All health centers provide ANC service for the nearby community. The majority of the inhabitants practiced Orthodox Christianity (97.96%) while 2.02% were Muslim (23, 24). This study was conducted from April 01, 2021, to April 30, 2021

2.2. Study Design.

The institutional-based cross-sectional study design was conducted.

2.3. Source and Study Population.

Source population of this study was all pregnant women coming to antenatal care service in Jabitehnan district health centers and the study population was all pregnant women attending to antenatal care service in Jabitehnan district health centers during the data collection period

2.4. Sample Size Determination.

The sample size was calculated using the single population proportions formula by considering 50% of the population has good pregnancy risk perception. The size of the sample was calculated as follows:

$$n = \frac{Z^2 \alpha/2 \times (p(1 - p))}{d^2}$$

n – Was the sample size.

Z²α/2 – Was the 95% confidence interval (standard value of 1.96)

P – Was the estimated proportion of patients with good pregnancy risk perception =50%

d – Was the margin of error (precision error) = ±5%

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 385$$

Then by adding a 10% non-response rate, the total sample size was 424

2.5. Sampling Technique and Procedure.

There are eleven health centers in the Jabitehnan district. All health centers were included in the study and a systematic sampling technique was used to collect data. The total number of pregnant women attending ANC per month for the previous three consecutive months in each health center was taken from the ANC tally record book. The average number of pregnant women attending ANC per month was calculated. Based on the total number of pregnant women attending antenatal care in Jabitehnan district health center the total sample was divided to each health center proportionally. $P = n/N$ then P times by total antenatal care attendant per month in each health center (Fig 1).

2.6. Inclusion and Exclusion Criteria

2.6.1. Inclusion Criteria.

Pregnant women coming to antenatal care service in Jabitehnan district health centers

2.6.2. Exclusion Criteria.

Women who were critically ill during the data collection period

2.7. Study Variables.

2.7.1. Dependent Variables

Pregnancy risk perception (poor/good)

2.7.2. Independent Variables

✓ Socio-demographic factors (age, marital status, education, occupation, religion, place of residence, income, partner education)

✓ Knowing a woman who died due to pregnancy-related complications

✓ Obstetric factors (gravidity, parity, history of obstetric complications, having pregnancy danger signs, number of ANC visit, bad obstetric history)

✓ Knowledge of pregnancy danger signs

2.8. Data Collection Tools.

The tool has four parts. These are socio-demographic characteristics, obstetric characteristics, Knowledge of pregnancy danger signs, and pregnancy risk perception using the two constructs of health belief model. These tools were first prepared in English and later translated into Amharic (local language) and back to English again to maintain its consistency. The socio-demographic variables, obstetric characteristics, and knowledge of pregnancy danger sign was assessed as a factor for pregnancy risk perception using two constructs of health belief model.

The client's knowledge of pregnancy danger signs was assessed as a factor for their perception of pregnancy risk. Knowledge about pregnancy danger signs (yes or no options for being familiar with each pregnancy danger sign). This tool consists of 11 questions, which focus on general knowledge of pregnancy danger signs.

The client's pregnancy risk perception using health belief model constructs was assessed. Clients are asked question of two constructs of health belief model that ranges from five to twenty-five score for perceived susceptibility and seven to thirty-five score for perceived severity. The total scores were calculated from the combined questions ranges from twelve to sixty. The questions has five options (1=strongly disagree,2=disagree, 3=neutral, 4=agree, 5=strongly agree)(25).

2.9. Data Collection Procedure.

Eleven trained midwives collected the data through a face-to-face interview. The data collectors and supervisors had taken training on the objective of the study, methods of data collection procedures, and tool of data collection for one day by the researcher

2.10. Data Quality Control.

To ensure the data quality training was given to data collectors and supervisors by the principal investigator on how to conduct client interviews. A pre-test was conducted in 5 % of the sample on March 2021 Finote Selam health center. Cronbach's alphas (0.89 up to 0.90) were calculated to check the internal consistency and reliability of the item. The necessary modification was made for any ambiguity, confusion, and difficult words based on pre-test data analysis. Each data collector and supervisor checked before and immediately after collection for the completeness and consistency of the questionnaire.

2.11. Data processing and Analysis.

The data was cleaned, coded and entered, and analyzed using Statistical Package for social sciences (SPSS) version 20. Descriptive statistics such as frequency, percentage, standard deviation, and mean were used to characterize the participants in terms of socio-demographic variables, obstetric variables, and knowledge of pregnancy danger signs. A logistic regression model was fitted to assess the association between dependent and independent variables with a P-value of 0.25 or less in the bivariable analysis will be included in the multivariable analysis. The adjusted odds ratio together with 95% confidence intervals was computed and, results with P-value <0.05 were considered to declare a result as significantly associated.

3. Results

3.1. Socio-demographic characteristics.

Four hundred twenty-one pregnant women have completed the questionnaire making the response rate of the study 99.3%. The mean age of respondents was 26.99 ± 6.22 and nearly one-third 33.3% of respondents were age between 25 and 29 years. All respondents were Amhara in ethnicity and 93.8% were orthodox in religion. All most all the respondents 99.8% were married and more than half 58.7% of the respondents were housewives. Of the total study participants, 57% respondents were living in rural. Concerning educational status, slightly more than one third 42.7% of respondents were no formal schooling.

Table 1
Socio-demographic characteristics of pregnant women attending antenatal care at Jabitenhan district health centers, 2021 (n=421)

Variables	Category	Frequency	Percent
Age	15-19	47	11.1
	20-24	115	27.3
	25-29	140	33.3
	30-34	57	13.5
	35-39	42	10
	>39	20	4.8
Religion	Orthodox	395	93.8
	Muslim	26	6.2
Marital status	Married	420	99.8
	Divorced	1	0.2
Occupation	Housewife	247	58.7
	Employed	66	15.7
	Merchant	74	17.6
	Student	22	5.1
	Daily labor	12	2.9
Residence	Urban	181	43
	Rural	240	57
own income	Yes	140	33.3
	No	281	66.7
Educational status	Illiterate	180	42.7
	Primary school	85	20.2
	Secondary school	93	22.1
	College/university	63	15
Partner educational level	Illiterate	233	55.3
	Primary school	36	8.6
	Secondary school	50	11.9

Variables	Category	Frequency	Percent
	College/university	102	24.2

3.2. Obstetric characteristics.

Of 421 respondents 47.5% were primigravida and 48% were nulliparous. Of multigravida women, 52% had experienced obstetric complications in the previous pregnancy or labour or postpartum period and the majority 64.3% of respondents had no history of bad obstetric history (Table 2).

Table 2
Obstetric characteristics of pregnant women attending antenatal care at Jabitenhan district health centers, 2021 (n=421)

Variable	Category	Frequency	Percent
Gravidity	Primigravida	200	47.5
	Multigravida	169	40.1
	Grand multigravida	52	12.4
Parity	Null	202	48
	One	77	18.3
	Two up to four	112	26.6
	Five and above	30	7.1
Past obstetric complications	Yes	115	52
	No	106	48
Pregnancy danger signs	Yes	154	36.6
	No	267	63.4
Bad obstetric history	Yes	79	35.7
	No	142	64.3

3.3. Knowledge of pregnancy danger signs.

Vaginal bleeding (87.9%) was the most common mentioned danger signs during pregnancy followed by loss of fetal movement 53.2%, the onset of labour before the expected date of delivery 52.2% and persistent vomiting 48.4%. The least mentioned danger signs during pregnancy were convulsion/ loss of consciousness 27.1% (Table 3)

Table 3

Knowledge of pregnancy danger signs among pregnant women attending antenatal care at Jabitehnan district health centers, 2021(n=314)

Variables	Frequency (%)	
	Yes	No
Awareness of pregnancy danger signs		
Vaginal bleeding	276(87.9%)	38(12.1%)
Severe headache	126(40.1%)	188(59.9%)
Persistent vomiting	152(48.4%)	162(51.6%)
Swollen hand /face	146(46.5%)	168(53.5%)
Severe abdominal pain	100(31.8%)	214(68.2%)
Convulsion / Loss of consciousness	85(27.1%)	229(72.9%)
Blurred vision/dizziness	148(47.1%)	166(52.9%)
Loss of fetal movement	167(53.2%)	147(46.8%)
Water break before labor	141(44.9%)	173(55.1%)
The onset of labour before the expected date of delivery	164(52.2%)	150(47.8%)
Persistent fever	138(43.9%)	176(56.1%)

3.4. Pregnancy risk perception.

In this study out of the total respondent's majority of women (51.7%) did not perceive they were extremely susceptible to pregnancy-related complications but above half of the respondents (60.1%) were perceived that they are susceptible to complications related to delivery and the postpartum period, and difficult pregnancy period. Each item means score pregnancy risk perception of pregnant women showed that they are not perceived for developing pregnancy-related complications. They are dichotomized to good perception (agree, strongly agree) and Poor perception (disagree, neutral, and strongly disagree)

Concerning the perceived severity of pregnancy-related complications, 57.9% perceived that pregnancy and delivery problems would last a long time while 55.9% of respondents perceived that Pregnancy complications would not threaten the relationship with my partner. The majority of the respondents 74.3% perceived that my baby will be born prematurely. 32.8% of respondents strongly agree that my baby would not survive the pressure that comes with labour and delivery (Table 4).

Table 4

Pregnancy risk perception of pregnant women attending antenatal care at Jabitehnan district health centers, Ethiopia, 2021 (n=421)

Variables	Frequency (%)					Mean(SD)
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
1) Perceived susceptibility						
Getting extremely pregnancy-related complications	105(24.9%)	41(9.7%)	69(16.5%)	171(40.6%)	35(8.3%)	2.98(1.36)
Fears of having difficult pregnancy period.	71(16.9%)	58(13.7%)	47(11.2%)	193(45.8%)	52(12.4%)	3.23(1.31)
Good possibility to get complications related to delivery and the postpartum period	62(14.7%)	55(13.1%)	51(12.1%)	163(38.7%)	90(21.4%)	3.39(1.35)
Getting pregnancy-related complications are great	84(19.9%)	99(23.5%)	56(13.3%)	132(31.4%)	50(11.9%)	2.92(1.35)
Get bad pregnancy outcome	119(28.3%)	78(18.5%)	99(23.5%)	100(23.8%)	25(5.9%)	2.61(1.28)

Variables	Frequency (%)					Mean(SD)
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
2) Perceived severity						
Pregnancy and delivery Problems would last a long time.	33(7.8%)	44(10.5%)	102(24.2%)	167(39.7%)	75(17.8%)	3.49(1.14)
Pregnancy complications would threaten the relationship with the partner	101(24%)	57(13.5%)	73(17.3%)	103(24.5%)	87(20.7%)	3.04(1.47)
Pregnancy-related complications can lead to permanent changes in life.	46(10.9%)	52(12.4%)	64(15.2%)	153(36.3%)	106(25.2%)	3.52(1.29)
Pregnancy would not last to term	50(11.9)	32(7.6%)	56(13.3%)	161(38.2%)	122(29%)	3.65(1.30)
The baby would not survive the pressure that comes with labour and delivery.	45(10.7%)	47(11.2%)	29(6.9%)	162(38.4%)	138(32.8%)	3.72(1.31)
If I got pregnancy-related complications, I fear I won't survive them.	88(20.9%)	61(14.5%)	40(9.5%)	128(30.4%)	104(24.7%)	3.24(1.49)
Premature birth	36(8.6%)	33(7.8%)	39(9.3%)	145(34.4%)	168(39.9%)	3.89(1.25)

3.5. Factors affecting pregnancy risk perception.

In bivariable analysis, residence, own income, knowing a woman who died due to pregnancy-related complications, past obstetric complications, current pregnancy danger signs, the number of ANC visits, bad obstetric history, and awareness of pregnancy danger signs showed P-value less than 0.25 making them eligible for multivariable analysis.

In multivariable analysis awareness of pregnancy danger signs, bad obstetric history, past obstetric complications, and knowing a woman who died due to pregnancy-related complications were associated

with pregnancy risk perception

Those who know at least one pregnancy danger sign were 5.2 times (AOR: 95%CI =5.22:2.46, 11.07) more likely to have good pregnancy risk perception than their counterparts. Respondents who had bad obstetric history were 2.2 times (AOR: 95%CI =2.23:1.13, 4.41) more likely to have good pregnancy risk perception than their counterparts.

Respondents who had past obstetric complications were 3.44 times (AOR: 95%CI =3.44: 1.73, 6.83) more likely to have good pregnancy risk perception than their counterparts. Knowing women died due to pregnancy-related complications were 2.85 times (AOR: 95%CI =2.85: 1.45, 5.60) more likely to have good pregnancy risk perception than their counterparts. (Table 5)

Table 5

Factors affecting pregnancy risk perception of pregnant women attending antenatal care at Jabitenhan district health centers 2021 (n=421)

Variables		Pregnancy risk perception		COR(95%CI)	AOR(95%CI)	P-value
		Good	Poor			
Knowing at least one pregnancy danger sign	Yes	166	148	2.21(1.39, 3.49)	5.22(2.46,11.07)	0.000
	No	36	71	1	1	
Bad obstetric history	Yes	54	25	2.49(1.40, 4.43)	2.23(1.13, 4.41)	0.022
	No	66	76	1	1	
Obstetric complication	Yes	78	37	3.21(1.85, 5.58)	3.44(1.73, 6.83)	0.000
	No	42	64	1	1	
Having pregnancy danger signs	Yes	107	47	4.12(2.69, 6.30)	1.78(0.87, 3.65)	0.116
	No	95	172	1	1	
Knowing women died due to pregnancy-related complications	Yes	129	75	3.39(2.27, 5.06)	2.85(1.45, 5.60)	0.002
	No	73	144	1	1	
Level of ANC visit	Fourth	49	43	2.52(1.33, 4.79)	2.29(0.78, 6.74)	0.131
	Third	68	59	2.55(1.39, 4.67)	0.95(0.35, 2.57)	0.918
	Second	62	66	2.08(1.14, 3.80)	0.64(0.22, 1.81)	0.39
	First	23	51	1	1	
Residence	Urban	73	108	0.58(0.39, 0.86)	0.29(0.078, 1.11)	0.071
	Rural	129	111	1	1	
Own income	Yes	60	80	0.73(0.49,1.10)	3.52(0.89, 13.80)	0.093
	No	142	139	1	1	

4. Discussion

A major finding of this study was that above half of pregnant women had significantly poor risk perception. Out of the total study subjects, 48% (43.2%, 52.7%) had a good pregnancy risk perception. The independent variables that affect pregnancy risk perception were history of obstetric complications, knowing women who died due to pregnancy-related complications, bad obstetric history, and awareness of pregnancy danger sign.

In this study, 48% of pregnant women had a good pregnancy risk perception. Studies conducted at Health and Medical centers of Hamadan city in the west of Iran, 2 tertiary-care hospitals in Winnipeg, Manitoba, two major teaching hospitals of a city in Western Canada, and urban tertiary care hospital in western Canada showed that their mean score perception of pregnancy risk was below the midpoint of scales. It means that 100% of their study participants perceived that their susceptibility to pregnancy-related complications was mild. This difference might be due to that all the research conducted using a visual analog scale tool measurement which is only administered for literate people, data collection tool difference, sociocultural difference, sample size difference, and time gap of the study (26–29).

This study showed that 48.9% (43.9%, 53.7%) of study subjects perceived that they were susceptible to pregnancy-related complications. This finding was higher than studies conducted in Mandera County, Kenya 14.5%. This difference might be due to socio-cultural differences of study participants, study population, and time gap of the study (25).

This research showed that 29.7% (25.7%, 34.4%) of pregnant women were perceived they are susceptible to bad pregnancy outcomes, 58.2% (53.7%, 62.9%) were perceived that they are susceptible to difficult pregnancy periods. This finding was consistent with the study conducted in Mandera County, Kenya 28.2% (25).

In this study, 74.3% (70.5%, 78.4%) of pregnant women perceived that their baby will be born prematurely. This result was consistent with studies conducted in Mandera County, Kenya 75%. But studies conducted at Hamadan city Iran and Winnipeg, Manitoba showed that mean score perceptions were below the midpoint of scales that indicate mild risk perception. This difference might be due to the difference of measurement scale, socio-cultural difference, and time gap of the study (25, 26, 28).

This study revealed that 45.1% (40.1%, 49.9%) of pregnant women were perceived that the occurrence of pregnancy complications would not threaten their relationship with their partners, which is lower than a study conducted in Mandera County, Kenya 51%. This difference might be due to the socio-cultural difference of study participants and the time gap of the study. Besides, it may be because Ethiopian women's were honest with their husband to keep their promise during the marriage (25).

In this study, mean score perception pregnancy risk in pregnant women showed that they didn't perceive that they are at risk for dying due to pregnancy-related complications. Studies conducted in Winnipeg, Manitoba, Western Canada, and the west of Iran had mild risk perception. This difference may be due to

difference in measurement scale, data collection tool, socio-cultural difference, and educational status of respondents (26–29)

Approximately seventy percent of women perceived that their babies will be dying during labour and delivery. This result was inconsistent with studies conducted in western Canada and Hamadan city in the west of Iran. This difference may be due to difference in measurement scale, socio-cultural difference, and educational status of respondents (26, 27)

The study also revealed that women having a history of obstetric complications were more likely to have positive pregnancy risk perception. This may be because these women had information about pregnancy-related complications from their experience of obstetric complications and understand their risk of susceptibility.

Pregnant women who had awareness of pregnancy danger signs were more likely to have positive pregnancy risk perception than their counterparts. This may be due to knowledge about pregnancy danger sign clears rumor about pregnancy-related complication and increase their awareness about pregnancy-related complications.

According to this study, pregnant women with bad obstetric history were more likely to have positive pregnancy risk perception. This may be due to pregnant women familiarized with the bad obstetric outcome and learned their susceptibility towards pregnancy-related complications.

In this research one of the factors that affecting positively, pregnancy risk perception was knowing a woman who died due to pregnancy-related complications. This may be because these women learned the probability of developing pregnancy-related complications as well as the consequences of pregnancy-related complications from women's died due to pregnancy-related complications.

Generally, pregnant women with a bad obstetric history, past obstetric complication and knew a woman who died due to pregnancy-related complications was associated with pregnancy risk perception. This result was similar to the concept of availability of the Heuristic approach which means that an individual makes a judgment about likely hood of an event based on past experience or information from others(3). In this study past experience and information from others are pregnant women with bad obstetric history and past obstetric complications, and knew a woman who died due to pregnancy-related complications respectively.

In this study age of pregnant women is not significantly associated with pregnancy risk perception. But women aged < 18 years had a statistically significantly associated to pregnancy risk perception than women aged 18 to 35 in studies conducted at Health and Medical centers of Hamadan city in the west of Iran(26). This difference might be due sample size difference (421 pregnant women versus 240 pregnant women), age category difference (15-43 years versus <35 years), study participant difference (both nulliparous and multiparous versus only nulliparous) and measurement scale differences (Likert scale versus visual analog scale) and the difference in data collection tools.

5. Conclusion

These studies showed that pregnant women perceive that they were risky in developing pregnancy-related complications and their consequences were low. Only forty-eight percent of pregnant women had good pregnancy risk perception. This is likely to have implications for medical care and pregnancy outcomes.

History of obstetric complication and bad obstetric history was associated with a higher degree of actual risk perception in pregnancy whilst women who knew the death of pregnant women due to pregnancy complication and knowing at least one pregnancy danger signs were more likely to be concerned about risk.

Declarations

Consent for publication:

Not applicable

Availability of data and materials:

The original data for this study are available from the corresponding author on reasonable request.

Competing interest:

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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Author's contribution:

DA and wrote study design, data entry, data analysis and result.

AM data analysis, result, prepare manuscript, read and approve final manuscript.

WK co-advisor, LB main-advisor and DM data collection and data entry.

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Figures

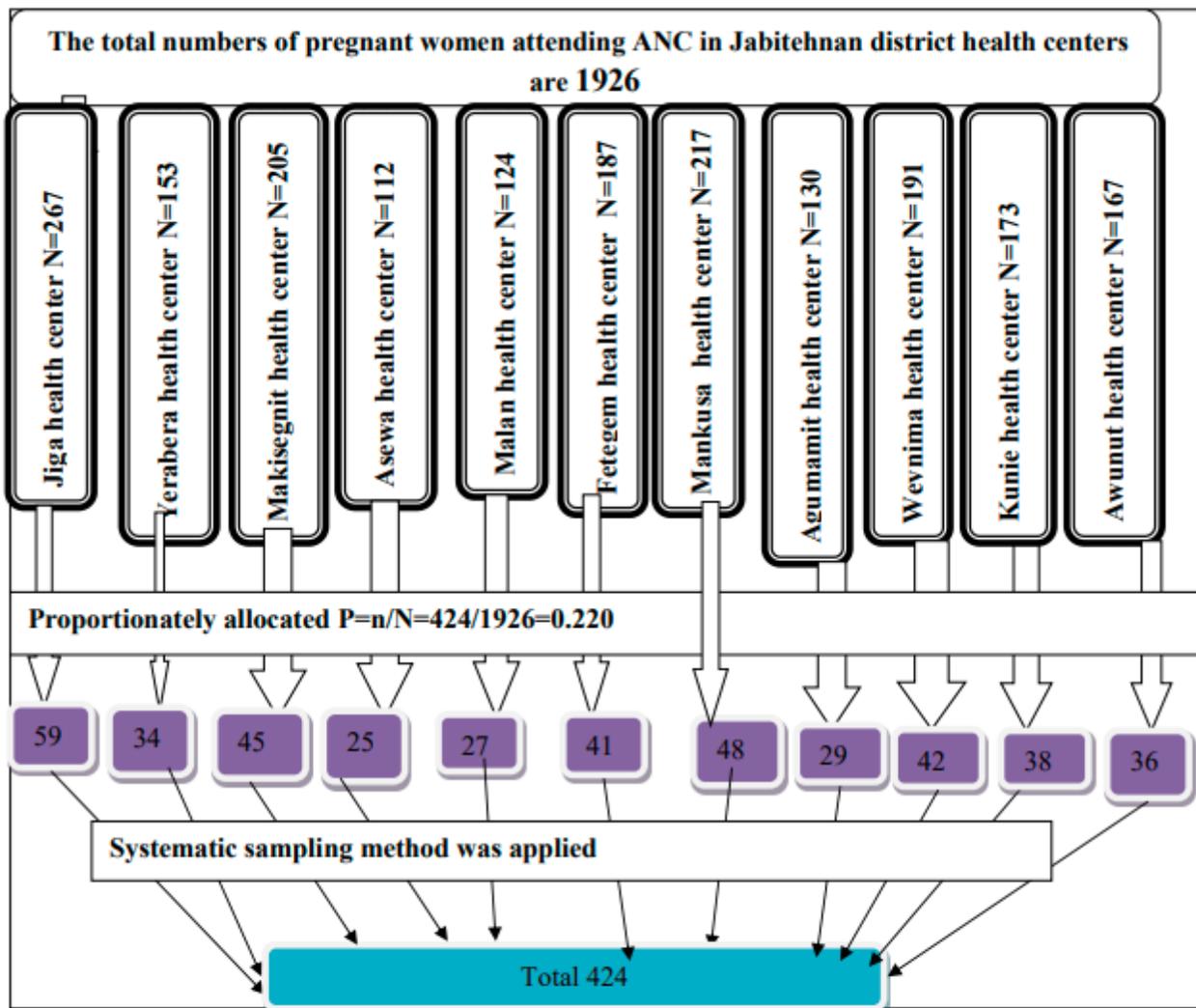


Figure 1 sampling procedure to determine pregnancy risk perception and associated factors among pregnant women attending antenatal care at health centers in Jabitehnan district, Amhara, northwest Ethiopia, 2021

Figure 1

Please See image above for figure legend.