

The Effect of Attitudes, Subjective Norms, and Perceptions of Behavioral Control on Pregnancy Check-ups in Bojonegoro

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ABSTRACT

Background: In Indonesia, the use of antenatal care services has not been carried out according to standards. According to WHO, 99% of maternal deaths are due to the lack of information for pregnant women about the importance of regular prenatal check-ups. **Objective:** This study aims to examine the relationship strength between attitudes, subjective norms, and perceptions of behavioral control regarding antenatal care with the intention of pregnant women in conducting early pregnancy check-ups (K1) using a quantitative approach with a cross-sectional study design. **Methods:** The population in this study were 234 pregnant women who had their first antenatal contact with K1 at the Dander Health Center in Bojonegoro Regency, which collected from March to August 2020. Probability sampling utilizing a basic random sample methodology was employed. Furthermore, 129 pregnant women were used as samples for this study. Data is collected in the form of primary data through a questionnaire, while the secondary data were analyzed using logistic regression. Dependent variable is the intention of pregnancy check-ups, while the independent variables are attitudes, subjective norms and perceptions. **Results:** The results showed that there was a relationship between the attitude of pregnant women ($p=0.001$) and subjective norms ($p=0.038$) regarding pregnancy check-ups with the intention of pregnant women to visit K1 ($\alpha=0.05$). However, there was no relationship between perceptions of behavioral control regarding antenatal care and the intention of pregnant women to visit K1 ($p=0.142$). **Conclusion:** The findings revealed an association between pregnant women's attitudes and subjective norms about prenatal care and their intention to attend K1. This study suggests that pregnant women's knowledge needs to be improved, including through classes about the importance of good subjective attitudes and norms related to antenatal care to support the intention to check pregnancy regularly, especially K1 visits. As a result, early and regular pregnancy check-ups will detect high-risk pregnancies so that they can be handled immediately, thereby reducing maternal and infant mortality.

Keyword: Attitudes, K1 visit, Perceptions of behavior, Subjective norms.

INTRODUCTION

Pregnancy check-up is a scheduled program of observation, education, and medical care for pregnant women with the goal of maintaining mothers' health during pregnancy, childbirth, and the postpartum period, as well as attempting to reduce maternal and fetal morbidity and mortality rates (Peahl & Howell, 2021). However, in Indonesia, not all pregnant women have accessed antenatal care services in accordance with established guidelines. According to the World Health Organization (WHO) up to 99% of maternal deaths occur during childbirth or birth complications. One of the leading causes of maternal mortality is pregnant women's lack of information and understanding about the critical nature of normal

prenatal care, delivery, and postpartum care (Agustine & Sukartiningsih, 2019; Aryanty et al., 2021).

K1 refers to the initial visit (K is the abbreviation of *Kunjungan* in Bahasa) that pregnant women make during their pregnancy. It is classified into two types, namely Pure K1 and Access K1. Pure K1 refers to the number of first encounters between pregnant women and health professionals who are less than 12 weeks gestation, whereas K1 Access refers to all first contacts between pregnant women and health workers. Additionally, K4 is a quarterly visit for pregnant women beginning in the first quarter, followed by a quarterly visit in the second quarter and a quarterly visit in the third quarter (Ministry of Health of the Republic of Indonesia, 2016).

Indonesia had a total of 5,283,165 pregnant women in 2018, with K1 accounting for 4,650,937 of those (88.03%). Meanwhile, in East Java Province in the same year, there were 627,901 pregnant women with K1 and 572,025 (91.10%) with K2 (Profil Kesehatan Indonesian, 2018). In 2018, there were 18,307 pregnant women in Bojonegoro Regency with a K1 level of 100.89% and a K4 level of 87.01%, compared to a target of 100 percent for K1. At Dander Health Center, 78% (476) of pregnant women achieved Pure K1 status, while 98% (597) achieved K1 Access status. According to Dander Health Center data, there were 599 pregnant women in 2019, with 450 persons (75%) having Pure K1, and 583 having K1 Access (97.83%). Thus, K1 achievement in this health center fell short of the aim, with a disparity of more than 20% between Pure K1 and Access K1. This demonstrates that a large proportion of pregnant women do not do an early pregnancy test (*Pemantauan Wilayah Setempat Kesehatan Ibu dan Anak*, Dander Health Center, 2019).

Many pregnant women do not continue with prenatal care visits following the initial appointment, as evidenced by the huge gap in K1 coverage. This condition increases the risk of death for both the mother who is giving birth and the baby she is carrying (Ministry of Health of the Republic of Indonesia, 2016). According to the Theory of Planned Behavior (TPB), there are numerous elements that influence behavior (Ajzen, 1991). Hence, Ajzen adds another determinant, namely the regulation of behavioral perceptions of the ease or difficulty of the behavior being performed. According to TPB, attitudes, subjective standards, and behavioral control, all have an effect on intentions (Asadifard et al., 2015; Kan & Fabrigar, 2017)).

Efforts should be made to identify hazards to pregnant women as early as possible through P4K stickers (Birth Planning and Complications Prevention Program) and MCH (Maternal and Child Handbook) books engaging cadres and village officials. Additionally, other efforts include expanding the scope of antenatal care by increasing knowledge and also changing mothers' and families' attitudes and behaviors through the implementation of classes for pregnant women, improving service quality through the

implementation of the integrated antenatal care concept, and implementing (Walyani, 2015; Wulandari et al., 2022). Therefore, the purpose of this study was to determine the effect between the variables investigated separately using logistic regression (see Method section for more details).

METHODS

This study employs a correlational analytic technique with a quantitative approach. A cross-sectional study was conducted on 234 pregnant women (as the population) who received their first K1 prenatal contact at the Dander Health Center in Bojonegoro Regency, which collected from March to August 2020, approved by Ethical Committee from Health Polytechnic of Health Ministry, Surabaya (No.EA/0363/KEPK-Poltekkes_Sby/V/2020).

This study enrolled 129 pregnant women, as a result of random sampling, who made their initial K1 antenatal contact at the Dander Health Center in Bojonegoro Regency. Probability sampling utilizing a basic random sample methodology was employed in this investigation. Primary data comes from questionnaires, while secondary data comes from a cohort of pregnant women's registry and the Maternal and Child Handbook (MCA).

The data in this study were analyzed using a logistic regression test with a significance threshold of 0.05. If p is less than 0.05, it is concluded that there is a relationship between pregnant women's attitudes, subjective norms, and perceptions of behavioral control over pregnancy check-ups and their desire to visit Dander Health Center Bojonegoro Regency for K1 visits.

RESULTS AND DISCUSSION

This early stage is beneficial for testing and quantifying the strength of the dependent and independent variables' influence. Additionally, this stage serves as a screening stage to determine which variables should go to the multivariate test stage.

Correlation between Attitudes and Intentions

Table 1 illustrates the effect between pregnant women's opinions

toward antenatal care and their goals during visits to the Dander Health Center.

Table 1. Cross-tabulation of the Relationship between Attitudes Regarding Antenatal Care and the Intention of Pregnant Women to Conduct K1 Visits at the Dander Health Center, Bojonegoro Regency in 2020.

Attitudes regarding antenatal care	Intentions				Total	
	Intended		Unintended		n	%
	n	%	n	%		
Support	62	98.4	1	1.6	63	100
Moderate	51	96.2	2	3.8	53	100
Less	0	0.0	13	100	13	100
Total	113	87.6	16	12.4	129	100

According to Table 1, the majority of pregnant women support and intend to have their pregnancies checked at the Dander Health Center in the Dander District of the Bojonegoro Regency. Additionally, the outcomes of the analysis were validated using logistic regression (Table 2).

Because the P-value (0.001) is less than 0.05, the null hypothesis is rejected. Thus, a correlation exists between attitude (regarding prenatal care) and intention (pregnant women conducting K1 visits) at Dander Health Center in Bojonegoro in 2020.

Table 2. Logistic Regression Analysis for the Relationship of Attitudes about Pregnancy Check-ups with Pregnant Women's Intentions in K1 Visits.

Variab le	B	S.E	W	P- valu e	Exp (B)
Attitude	4.352	1.333	10.649	0.001	77.605
Constan t	-18.882	5.197	13.118	0.000	0.000

Pregnant women who have a supportive attitude about prenatal care are 77.6 times more likely to visit K1 than those who are less supportive of antenatal care. The initial purpose of this study was to examine the association between pregnant women's opinions toward prenatal care and their desire to attend the Dander Health Center in Bojonegoro Regency for K1 visits.

The findings indicated that the majority of pregnant women had a supportive attitude toward prenatal care

and intended to schedule a K1 visit. Additionally, only a minority of them are less supportive and want to conduct K1 visits.

The logistic regression analysis revealed a correlation between pregnant women's perceptions toward prenatal care and their propensity to attend K1. According to Azwar (2016), attitudes are influenced by personal experience, influential persons, culture, mass media, educational attainment, religious organizations, and emotional reasons.

The study findings support the hypothesis that an individual's level of education has an effect on their attitude (Pardana et al., 2019). The majority of respondents have completed high school and support pregnancy screenings. The lesser their educational attainment, the more limited their knowledge and experience will be, which will have a detrimental effect on their attitudes and conduct. In the opposite direction, the more education a person has, the more knowledge and experience they has, resulting in more positive and helpful attitudes and conduct. This is also consistent with Green's theory, as discussed in Notoatmodjo (2012), that education and knowledge are attitude-altering, i.e. predisposing, factors. A healthy mindset or body of knowledge will dictate healthy behaviors and attitudes.

Pregnant women on average are between the ages of 20 and 35, and it is clear that pregnant women's age influences their attitudes and intentions regarding pregnancy checkups. If a person is mature and strong enough, he or she will consider maturely about their health needs, one of which is reporting their pregnancy to health personnel at an early age (Hurlock, 1998).

On the other hand, if a person is still too young to become pregnant (less than 20 years old), they have a limited knowledge of the need of antenatal care. If pregnant women are too old (over 35 years of age), they may believe they have had prior pregnancy experiences, resulting in a lack of knowledge of the purpose to have a pregnancy check. Mothers will think maturely and make more informed judgments about their own health when they are not too old or too young. Pregnant women aged 20-35 years will believe that pregnancy checks are necessary for their own and their fetuses' health, prompting

moms to check their pregnancy as soon as possible after learning they are pregnant/having a late period. Pregnant women over the age of 35 are frequently already parents. The more children a mother has, the less likely she is to want to terminate her pregnancy early. Apart from being preoccupied with her children, the mother also believes her pregnancy is normal.

Thus, the role of health workers, particularly midwives, is critical to ensuring that all pregnant women have a favorable attitude toward antenatal care. We intend to increase the coverage of K1 visits to ensure that Ante Natal Care (ANC) services are provided in accordance with government-mandated standards, ensuring the safety of the mother and fetus until later birth.

The Relationship between Subjective Norms and Intentions

The relationship between subjective norms regarding pregnancy check-ups with pregnant women's intentions in K1 visits at Dander Health Center can be seen in Table 3. Subjective norms were divided into three categories, i.e., good, moderate, and deficient according to the perception of each respondent towards the norms on antenatal care.

Table 3. Cross-tabulation of the relationship between subjective norms regarding antenatal care and the intention of pregnant women to conduct K1 visits at the Dander Health Center, Bojonegoro Regency in 2020.

Subjective norms on antenatal care	Intentions				Total	
	Intended		Unintended		n	%
	n	%	n	%		
Good	26	96.3	1	3.7	27	100
Moderate	84	96.8	3	3.4	87	100
Deficient	3	20.0	12	80.0	15	100
Total	113	87.6	16	12.4	129	100

As shown in Table 3., the majority of pregnant women who intend to visit K1 have relatively good subjective norms (96.8%). Additionally, there were 26 respondents (96.3%) of pregnant women who intended to attend K1 and had subjective norms regarding good pregnancy check-ups. In addition, a small proportion of pregnant women in the K1 visit had poor subjective norms regarding pregnancy check-ups and mostly did not intend to do K1 visit.

In conclusion, most pregnant women intend to visit K1 and have a fairly good subjective opinion about pregnancy check-ups at the Dander Health Center, Dander District, Bojonegoro Regency compared to those who do not intend to do so. The results of the analysis with the logistic regression test can be seen in Table 4.

Table 4. Logistic Regression Analysis for the Relationship of Subjective Norms about Pregnancy Check-ups with Pregnant Women's Intentions in K1 Visits

Variable	B	S.E	W	P-value	Exp (B)
Attitude	2.256	1.085	4.323	0.038	9.543
Constant	-18.882	5.197	13.118	0.000	.000

According to Table 4., the logistic regression test produces a significance value of 0.038 (less than 0.05), indicating that the null hypothesis is rejected. In conclusion, there is a relationship between subjective prenatal care norms and pregnant women's desire to attend the Dander Health Center in Bojonegoro Regency in 2020 for K1 visits.

Pregnant women who have a reasonable subjective standard of prenatal care are 9.5 times more likely to have a K1 visit than pregnant women who have a poor subjective standard of prenatal care. The results showed that most pregnant

women had a fairly good subjective norm of antenatal care and intended to do a K1 visit, although a small portion had no intention of going to a K1 visit. Furthermore, the logistic regression test results showed a relationship between subjective norms about antenatal care and the intention of pregnant women to visit K1.

Subjective norms are functions based on beliefs called normative beliefs. It mainly concerned about the agreement and/or disagreement from referents or people and groups that influence individuals (significant others) such as

parents, spouses, close friends, coworkers, or others to a behavior. Subjective norms are defined as individual perceptions of social pressure to perform or not to perform a behavior (Ajzen, 1991).

Subjective norms are determined by a combination of individual normative beliefs and motivation to comply. Usually, the more individuals perceive that their social referents support them in performing a behavior, the more individuals will feel social pressure to elicit that behavior. And conversely, the more individuals perceive that their social referents do not approve of behavior, the individuals tend to feel social pressure not to perform the behavior.

The study results are in accordance with the theory that subjective norm (subjective norm) is the extent to which a person has the motivation to follow people's views of the behavior he will do (normative belief). Thus, if the individual feels it is his personal right to determine what he will do, it is not determined by other people around him, and then he will ignore people's views about the behavior he will do (Ajzen, 1991).

Most of the respondents have quite good subjective norms. Supposedly, with a good subjective norm, a person should not be influenced by the views of others in his behavior about his pregnancy check-up and his intention to make a K1 visit. All pregnant women with fairly good

subjective norms should encourage themselves to have an intention to have a pregnancy checkup, but a small proportion does not intend to do a K1 visit. This happens because a small number of respondents have a negative attitude towards pregnancy check-ups. A negative attitude towards pregnancy checks makes the mother not intend to do pregnancy tests.

The results of this study show that subjective norms are individual beliefs about the expectations of those around them who are influential, both individuals and groups, to perform or not to perform a certain behavior. To understand a person's intentions, measuring the subjective norms that influence his intention to act is also necessary. Subjective norms can be measured directly by assessing consumers' feelings about how relevant other people who become their role models (such as family, classmates, or coworkers) will approve or disapprove of certain actions they take (Suprapti, 2010; Kan & Fabrigar, 2017).

The Relationship between Behavioral Control Perceptions and Intentions

The relationship between perceptions of behavioral control of pregnant women regarding pregnancy check-ups with pregnant women's intentions during visits to Dander Health Center can be seen in Table 5.

Table 5. Cross-tabulation of the relationship between behavioral control perception regarding antenatal care and the intention of pregnant women to conduct K1 visits at the Dander Health Center, Bojonegoro Regency in 2020.

Subjective norms on antenatal care	Intentions				Total	
	Intended		Unintended		n	%
	n	%	n	%		
Good	65	92.9	5	7.1	70	100
Moderate	48	85.7	8	14.3	56	100
Deficient	0	0	3	100.0	3	100
Total	113	87.6	16	12.4	129	100

Based on Table 5, the relationship between perceptions of behavioral control about pregnancy check-ups with the intention of pregnant women in K1 visits at the Dander Health Center, Bojonegoro Regency in 2020, most pregnant women have a perception of behavioral control about pregnancy checks to visit K1 is good as many as 65 respondents (92.9%).

Table 6. Logistic Regression Analysis for the Relationship of Control Behavior Perceptions about Pregnancy Check-ups with Pregnant Women's Intentions in K1 Visits.

Variable	B	S.E	W	P-value	Exp (B)
Attitude	1.687	1.150	2.154	0.142	5.405
Constant	-18.882	5.197	13.118	0.000	.000

In conclusion, most pregnant women who intend to visit K1 at the Dander Health Center, Bojonegoro Regency, have a lesser perception of controlling good behavior about pregnancy checks than those who do not. The results of the analysis with the logistic regression test can be seen in Table 6.

Based on Table 6, the results of the logistic regression test have a P-value (0.142), which is larger than 0.05, meaning that the null hypothesis is accepted. In conclusion, there is No. relationship between behavioral control perceptions about pregnancy check-ups and the intentions of pregnant women in K1 visits at Dander Health Center, Dander District, Bojonegoro Regency in 2020.

The third objective of this study was to analyze the relationship between perceptions of behavioral control of pregnant women regarding antenatal care to visit K1 at Dander Health Center, Bojonegoro Regency. Most pregnant women have a good perception of prenatal care and intend to do a K1 visit. However, the logistic regression test results showed no relationship between perceptions of behavioral control regarding pregnancy check-ups with the intention of pregnant women in K1 visits at Dander Health Center, Bojonegoro Regency in 2020.

This is not in accordance with the theory of perceived behavioral control, which describes the individual's self-efficacy in performing a behavior. According to La Barbera & Ajzen (2021), perceived behavioral control refers to the perceived ease or difficulty in carrying out the behavior and a person's amount of control over achieving the goals of the behavior. Perception of behavioral control can influence behavior directly or indirectly through intention (Achmat, 2010).

Most pregnant women have a good perception of behavioral control, hoping that it will affect the good intentions of pregnant women to carry out pregnancy checks, especially during K1 visits. Khayeri et al. (2019) stated that behavioral control has a positive and significant effect on the intention variable. Furthermore,

perceived behavioral control significantly predicts the intention to behave (Cheng et al., 2011; Otogara et al., 2018). This study is also not in accordance with the results of Qoma'iah's research (2018), which showed a significant relationship between behavioral perceptions and antenatal care visits.

CONCLUSION

The results showed that there was a statistically significant relationship between the attitude of pregnant women and subjective norms regarding pregnancy check-ups with the intention of pregnant women to visit K1. However, the relationship between perceptions of behavioral control regarding antenatal care and the intention of pregnant women to visit K1 is not statistically significant. This study suggests that the understanding of pregnant women needs to be improved, including through classes for pregnant women about the importance of good subjective attitudes and norms related to antenatal care to support the intention to check pregnancy regularly, especially K1 visits. As a result, early and regular pregnancy check-ups will detect high-risk pregnancies so that they can be handled immediately, thereby reducing maternal and infant mortality.

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