The influence of knowledge, attitude, and perceived need on caesarean section intention among pregnant women in the National Health Insurance in Indonesia

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ABSTRACT

This study examined the relationships among factors that influence pregnant women intention to the caesarean section. We integrate Health-Seeking Behaviour into the Theory of Planned Behaviour framework. The research design used a mix-method. Quantitative research by a survey of 282 respondents and analyzed using Structural Equation Modeling. Qualitative research was conducted through Focus Group Discussion with 14 experts and examined by Content Analysis. Findings of this study highlight knowledge, attitude, subjective norms, perceived need, and perceived behavioural control were determinants of caesarean section intention. Since the first trimester of pregnancy, the intention management intervention of pregnant women should carry out as a business process of the National Health Insurance Program.

Keywords:

Intention, knowledge, perceived behavioural control, perceived needs, subjective norm, attitude, Theory of Planned Behaviour.

1. Introduction

The sustainability of the National Health Insurance (JKN) program is determined mainly by the adequacy of program funding and effective and efficient benefits financing. To ensure that the benefits financing effectively and efficiently, it is necessary to conduct an in-depth evaluation of unnecessary treatment or overutilization, including unnecessary caesarean sections. Based on previous studies, the increase in caesarean section rates over the last 30 years has exceeded the ideal rate by the international healthcare community (Betran et al. 2015; Ye et al. 2014; Betran et al. 2016; WHO, 2015). The proportion of caesarean section from total deliveries in the National Health Insurance program reached more than doubled, or about 38%. Countries with a high proportion of caesarean sections increased risks for mothers and babies (Sandall et al. 2018; Betran et al. 2018) and function as a barrier to universal coverage with necessary health services (Gibbons et al. 2010).

According to (Culyer and Newhouse, 2000), health care is different in generating market failure, essential for formulating public policy in the health sector. Its distinctiveness is rooted in four characteristics of health care: *first*, demand for health care is a derived demand (for health); *second*, externalities; *third*, informational asymmetries between providers and patients; and *fourth*, uncertainty with respect to both the need for and the effectiveness of health care. The assumption is the physician has private information and knowledge about medical assistance that results in moral hazard and adverse selection issues within their relationship (Major, 2019). Therefore, a second opinion for every decision, especially those indicated by high costs or high risks or high variations, is needed according to WHO (2018), Chen et al. (2018), Betran et al. (2018).

The interventions in reducing unnecessary caesarean sections aimed at women or families include providing childbirth training workshops for mothers and couples; relaxation training programmes led by nurses; psychosocial couple-based prevention programmes; and psychoeducation. Even the quality of evidence from the studies was low (Chen et al., 2018). Other studies highlight that the higher a person's
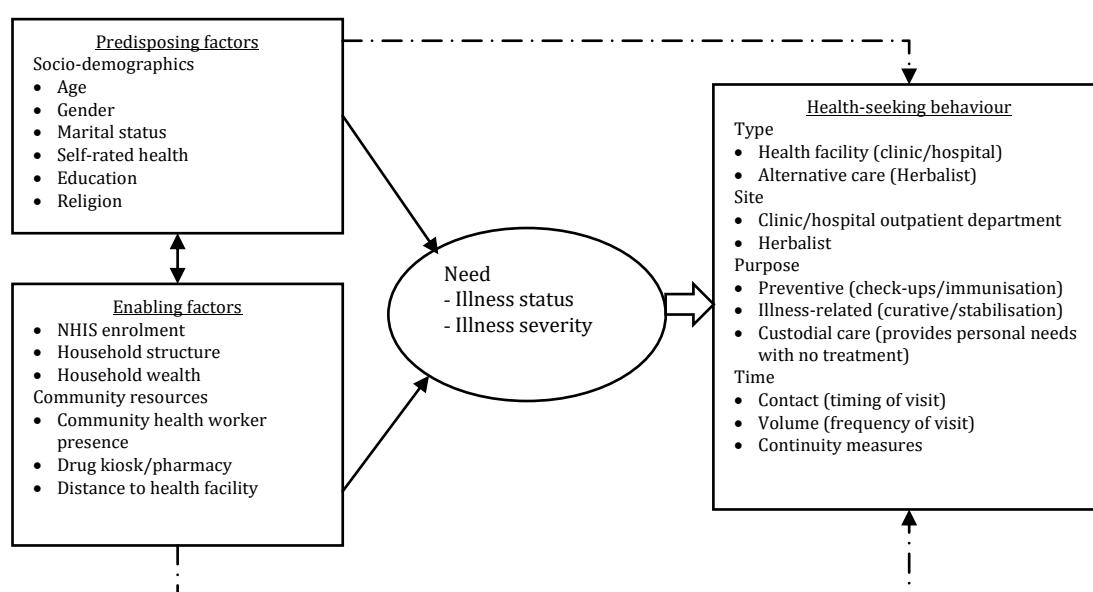
health literacy, the better their health behaviour (Anggaini *et al.,* 2021). Many studies have reported that having new knowledge can empower customers and enable customers to dialogue with health care providers. In this case, it is essential to note that content and formats do not trigger anxiety (Betran et al., 2018).

Rothschild (1999) and Basil et al. (2019) suggests that social marketing, education, and law can use as a way to change behaviour according to specific circumstances. Rothschild (1999) provides a guide to understanding when the use of each method/strategy is appropriate in certain circumstances. These guidelines are summarized by Basil et al. 2019, which suggests that education focuses on providing more general information and knowledge aimed at influencing voluntary behaviour change but may not be specific to achieving specific behaviour changes. In addition, education typically does not offer incentives, remove barriers, or facilitate change in any way as social marketing does. Laws also seek to change behaviour. Law does not motivate behaviour change but tends to be coercive and punitive, with a voluntary social marketing approach (Rothschild 1999). Betran et al. (2018) suggest that one form of non-clinical intervention is education for

pregnant women, complemented by dialogue with health professionals and adequate emotional support. According to Basil et al. (2019). An example of educational intervention in social marketing categories is massively opening online courses (Basil et al. 2019).

National Health Insurance in several countries attempts to establish communication and educate its customers. However, in general, only a few journals discuss the entire function and evaluation of social marketing carried out by a National Health Insurance organization. Research on the factors that caused caesarean section using secondary data, such as Riskesdas in Indonesia (Suryati 2012, Shombing 2017, Ashar 2019), is limited to the available variables in the secondary data. Factors related to consumer behaviour have not been described in previous studies and have become an experience gap. This gap became the background of our research.

Therefore, this study will examine the relationship among factors that influenced pregnant women intention to the caesarean section, build a model of the 'intention' of the caesarean section, and provide recommendations for the National Health Insurance program.
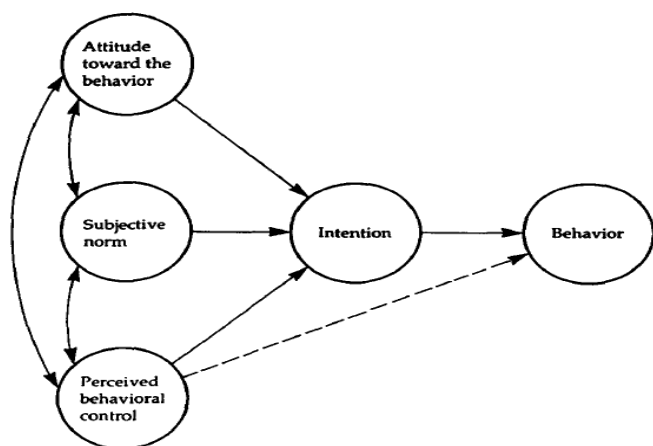

Source: Kuuire et al. (2015)
Figure 1. Health-seeking behaviour model

2. Literature Review

The Health-Seeking Behaviour model (Figure 1) consists of predisposing factors, enabling factors, need, and health-seeking behaviour. Predisposing factors consist of age, gender, marital status, education, religion, and self-rated health. Enabling factors comprised types of members, household structure, household socio-economics, availability of health facilities, availability of health workers, and distance to health facilities.

According to Kuuire et al. (2015), the need variable becomes the most influential factor on health-seeking. However, it is not entirely a single variable that influences consumer behaviour. Theory of Planned Behaviour (TPB) developed by Ajzen (1991) tries to provide a conceptual framework for generic factors that influence consumer behaviour. We integrate this model to Theory Planned Behaviour (TPB) framework (Figure 2). TPB consists of attitude toward behaviour, subjective norms, perceived behavioural control, intention, and behaviour (Ajzen 2005).

Source: Ajzen (2005)
Figure 2. Theory of Planned Behaviour

We also add a knowledge variable necessary for pregnant women who decide which childbirth method to undergo. Several studies used knowledge variables, including those that measure the knowledge of pregnant women toward childbirth method, indications, benefits, and risks of a caesarean section associated with the risk of maternal and infant mortality (Ansah 2018; Mboho 2013; Mungrue et al. 2010). In building

the conceptual framework of this research, we adjusted the need variable from the concept developed by Payne et al. (2004). Payne et al. (2004) found that perceived need was related to intention in healthy eating behaviour.

2.1. The influence of knowledge on attitude

Darjono et al. (2019) suggest that patients need to understand health information, understand the disease and its implications. Patients need to increase their knowledge. Therefore, it is necessary to conduct an education program for patients as a component of customer empowerment in health services. Ajzen et al. (2011) suggested that knowledge can sometimes predict attitudes. Consumer knowledge will influence purchasing decisions. When consumers have more, they will be better at making decisions, and they will be more efficient and more precise in processing information and able to recall information better.

Previous studies have different findings on the influence of knowledge, attitude and behaviour. One of the findings of Hartono (2014) was that the role of colleagues had the most crucial role in the knowledge variable. Other studies that use knowledge variables include those that measure the knowledge of pregnant women about the indications, benefits, and risks of a caesarean section associated with the risk of maternal and infant mortality (Ansah 2018; Mboho 2013; Mungrue et al. 2010). The indirect effect of 'knowledge' on behaviour solely does not determine the amount of knowledge a person has. Still, the strength of the convergence of the various forms of knowledge must work together to encourage certain behaviours (Kaiser and Fuhrer 2003).

Hypothesis 1: Knowledge affects attitude.

2.2. The influence of knowledge on the perceived behavioural control

Based on Kim et al. (2015), there are three categories of knowledge: system knowledge, action knowledge, and effective knowledge. Knowledgeable customers will determine consumption desires in rational and emotional determinants. The perception of behavioural

control will have a more substantial influence on the wishes of consumers who have lower knowledge of action or knowledge of effectiveness. A survey of 256 US consumers revealed that less knowledgeable consumers were driven primarily by their perceived behavioural control. In contrast, highly knowledgeable consumers exhibited a distinct influence from anticipated positive emotions on their desire. Kim et al. (2015) highlight the importance of improving consumer's system, action-related and effective knowledge and the need for targeted advertising strategies for consumers with differing knowledge levels.

Hypothesis 2: Knowledge affects perceived behavioural control.

2.3. Perceived need influenced caesarean section intention

The perceived need in this survey is the perceived need for the caesarean section method of pregnant women. This survey's perceived need variable uses the Hierarchical Model of Human Needs (Maslow 1943), which includes five human needs based on their level of importance, starting from the lowest (biological or physiological), to the highest needs, namely psychogenic needs. According to Maslow's theory, humans try to meet their lower-level needs before meeting higher-level needs (Sumarwan 2014). Kuuire et al. (2015) suggest that there is a person's encouragement to perform health-seeking behaviour as a result of illness (illness status) and disease severity (illness severity). Or in other words, illness status and illness severity can be seen as stimuli that cause the recognition of needs.

Few use the need variable in the Theory of Planned Behaviour (TPB) from the existing references. Payne et al. (2004) tested the perceived need in the TPB theory related to exercise and healthy eating patterns and investigated the determinants factors. Survey with a questionnaire via email to 331 adults, and answered by 286 respondents. The result is that perceived behavioural control is the main predictor of exercise intention, and affective attitude is the main predictor of healthy eating intention.

Perceived need significantly contributed to the prediction of healthy eating intention. Intention and perceived behavioural control predict actual behaviour but not perceived need. Payne et al. (2004) concluded that the low perceived need is because the concept of perceived need may be ambiguous, namely between involvement in both behaviours that focus on physical health and weight control. Therefore, Payne et al. (2004) suggested further research to explain the perceived need for various health behaviours.

Hypothesis 3: Perceived need affects intention.

2.4. The influence of attitude on the intention of caesarean section

According to Sumarwan (2014), consumer attitudes are essential factors that will influence consumer decisions. The concept of attitude is closely related to belief and behaviour. Attitude towards caesarean section is the behaviour of pregnant women about caesarean section due to their feelings and thoughts about it (Glanz & Rimer 2005). According to Masoumi et al. (2014), information is a prerequisite for attitude formation. A study also found that knowledge about the caesarean section influenced attitudes towards the caesarean section. However, human attitudes are formed based on people's awareness and produce intentional behaviour (Naeimi et al., 2015). A study in Portharcoijrt involving 325 pregnant women also found that knowledge largely influenced pregnant women's attitudes towards caesarean section (Robinson-Bassey & Uchegbu 2016).

Hypothesis 4: Attitude affects intention

2.5. The effect of subjective norm on the intention of caesarean section

Subjective norms are individual perceptions of the expectations of influential people in their lives (significant others) regarding whether or not certain behaviours. In line with this, Darjono et al. (2019) stated that it is essential to involve family members or relatives, friends, and the community

as part of the sharing community to empower patients. In addition, the government must also open a 24-hour online consultation program for patient empowerment.

Several previous research studies have focused on measuring preferences for caesarean sections by analyzing respondents' knowledge gaps about pregnancy and childbirth methods. The caesarean section preference can be caused, among other things, by the influencer factor (Edmonds et al. 2015; Ji et al. 2015).

In his research, Ji et al. (2015) also showed that influencers such as doctors influence the choice of caesarean section. They observed the preference of the delivery method from the second trimester to the third trimester of pregnancy and identified changes in the childbirth method they underwent. The influence of doctors is one of the risk factors for caesarean section, with indications according to doctors (not based on guidelines). The results showed that there was a change in the preference of pregnant women between the choice of vaginal delivery and caesarean section methods from the second quarter (13.2% preference for caesarean section) to the third quarter (17% preference for caesarean section) to actual delivery (58.1% caesarean). Of the 58.1% pregnant women who underwent caesarean section, only 29.1% were due to guideline-defined indications, while 20.3% were due to doctor-defined indications and 8.8% to maternal requests.

Hypothesis 5: Subjective norm affects intention.

2.6. The effect of perceived behavioural control on the intention of caesarean section

Perceived behaviour control (PBC) explains perceptions about ease or difficulty in performing behaviours that reflect past experiences (Ajzen 1991). Ramdhani (2011) describes the PBC as an individual's perception of the ease or difficulty of realizing a specific behaviour related to individual beliefs that are relatively stable in all situations. PBC can change depending on the case and the type of behaviour.

In some previous studies, the PBC significantly directly affected buying intention and purchasing behaviour. Price control is a strong indicator category in reflecting PBC. When the price disparity in organic and conventional food gets smaller, price disparity will increase buying intention and purchasing behaviour (Septiani et al., 2019). Payne et al. (2004) also found PBC as the main predictor of exercise intention, and affective attitude was the main predictor of healthy eating intention.

Hypothesis 6: Perceived behavioural control affects intention.

2.7. Conceptual framework

A hypothetical model (Figure 3) was developed by integrating the need variable from the Health-Seeking Behaviour (HSB) written by Kuuire et al. (2015) into the Theory of Planned Behaviour (TPB) framework developed by Ajzen (2005).
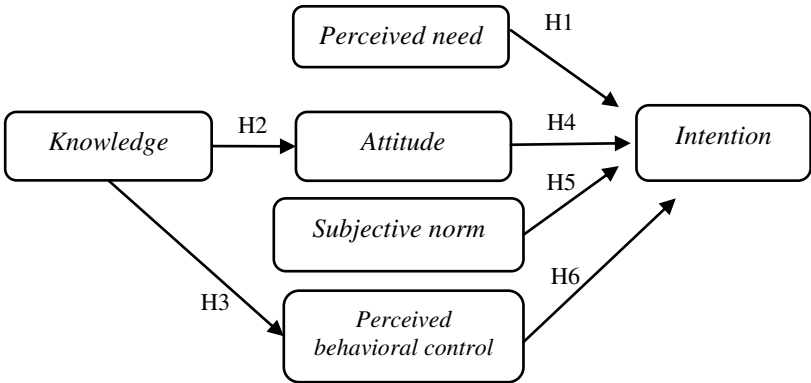

Figure 3. Conceptual framework of the study

3. Methods
3.1. Sample and data collection
The research was carried out from November 2020 to April 2021 in three provinces (DKI Jakarta, DI Yogyakarta, and Central Java). Each area represents a region with high, medium, and low caesarean section rates. The research design used a mix-method study—the quantitative research with a cross-section design conducted through surveys to 282 pregnant women and analyzed by Structural Equation Modeling (SEM) to test the research hypothesis. We studied further the SEM results in qualitative research through Focus Group Discussions (FGD) with 14 experts. We transcribed the FGD and analyzed it by Content Analysis.

Table 1. Variable operationalization

Latent variables	Code	Indicators	References
Perceived need	NE1	CS for physiological needs	Maslow theory
	NE2	CS for safety needs	Maslow theory
	NE3	CS for self-actualization needs	Maslow's theory
Knowledge	KN7	Unhealthy pregnant women because of complications.	Regulation of MoH 39/2016
	KN8	Unhealthy pregnant women because of anaemia.	Regulation of MoH 39/2016
	KN9	Unhealthy pregnant women because of diabetes.	Regulation of MoH 39/2016
	KN10	Unhealthy pregnant women because of hypertension.	Regulation of MoH 39/2016
	KN11	Unhealthy pregnant women because of malaria.	Regulation of MoH 39/2016
Attitude	AT1	CS is painless.	Aali and Motamedi (2005)
	AT2	CS is faster.	Aali and Motamedi (2005)
	AT3	CS for auspicious birth date.	Ying et al. (2019), Chu et al. (2015), Almond et al. (2015)
	AT6	An auspicious birth date is essential.	Ying et al. (2019), Chu et al. (2015), Almond et al. (2015)
Subjective norm	SN1	Doctors recommend CS.	TPB modification; Ji et al. (2015)
	SN3	The husband recommends CS.	TPB modification.
	SN4	Friends and relatives recommend CS.	TPB modification.
Perceived behavioural control	PB3	Health facilities and obstetricians are capable of CS.	Modification of Kuuire et al. (2015)
	PB4	Hospitals are reachable.	Modification of Kuuire et al. (2015)
Intention	IN1	The intention of CS in the first trimester was on maternal request.	Modification of Ji et al. (2015)
	IN3	The intention of CS in the second trimester was on maternal request.	Modification of Ji et al. (2015)
	IN5	The intention of CS in the third trimester was on maternal request.	Modification of Ji et al. (2015)
	IN7	Opt for CS for future pregnancy.	TPB modification.

Notes: CS= Caesarean Section; VD= Vaginal Delivery; MoH= Ministry of Health; TPB= Theory of Planned Behaviour.

3.2. Preliminary study to test the questionnaire

At the beginning of the study, we conducted a preliminary survey for 30 respondents from December 2020 to January 2021. This trial aimed to see whether the terms used in the questionnaire were easy to understand and well structured. The number of questions/indicators was adequate, with an estimated filling time of about 30 minutes. We use these valid and reliable indicators in the research survey. The variable operationalization for the SEM analysis, as seen in Table 1.

The inclusion criteria included women who met the following criteria: (1) registered as National Health Insurance members; (2) age 21-35 years old; 3) pregnant, and 4) Were using the provider of National Health Insurance program. Research locations in three provinces represent the high (DKI Jakarta), moderate (Central Java), and low (DI Yogyakarta) caesarean section rates. Judgmental sampling was used in surveying 94 pregnant women in each province so that the total sample was 282 pregnant women. Data collection was carried out online from March to early April 2021. Respondents stated their willingness to be respondents by filling in informed consent. All eligible pregnant women have been informed of the objectives and checked the informed consent to participate in the study. The questionnaire contained six variables measured by 21 indicators.

4. Data Analysis

The data analysis technique used to predict and confirm the relationship between these variables used SEM (Structural Equation Modeling) analysis with the Lisrel 8.80 program and the independent t-test with the SPSS 25 program to analyse the differences in all variables. The estimated path coefficient represents the strength of the path between the two variables, and we calculated the estimate using the standard regression coefficient (β). We also used quadratic multiple correlation coefficient (R^2) to explain each study variable's variance on the SEM model results. The recommended criteria for goodness-of-fit are as follows: Incremental Fit Index (IFI) > 0.90, Tucker-Lewis index (TLI) > 0.90, Comparative Fit Index (CFI) > 0.90 and Root Means Square Error of Approximation (RMSEA) < 0.06 (Hooper et al. 2008; Hu and Bentler, 1999).

5. Results

5.1. Participant characteristics

A total of 282 pregnant women were approached during their routine visits to the hospital's antenatal clinics and in the home visits. Among these women, all agreed to participate in the study by ticking inform-consent. The demographic characteristics of the respondents showed that the majority (43.3%) were 26-30 years old, followed by 31-35% at 31.6% and 21-25 years at 25.2%.

Table 1. Sociodemographic characteristics (predisposing factors)

Sociodemographic characteristics		n	%
Age	21-25 years	71	25.2
	26-30 years	122	43.3
	31-35 years	89	31.6
Education	$\leq$ junior high school (SMP)	32	11
	Senior high school (SMA)	114	40
	Diploma/college	136	48
Religion	Muslim	32	95
	Christian	114	2.8
	Catholic	136	1.4
	Buddha	32	0.7
Self-rated health	Good	221	78.4
	Fair	51	18.1
	Poor	10	3.5

In terms of the latest educational background, diploma/college dominated the respondents (48%), followed by senior high school (40%) and junior high school or below (11%). The majority (95%) are Muslims, followed by Protestant Christians at 2.8%, Catholics at 1.4%, and Buddhists at 0.7%. Meanwhile, most respondents stated that their health condition was good (78.4%). However, some had been sick in the last week but were still able to do activities/work (18.1%), and there were 3.5% of the self-assessed health status in the previous week had been sick so that they could not work/activity.

Enabling factors (Table 3) consist of membership, socioeconomic status, family structure, the most visited healthcare facility, the most visited health workers, distance to the first reference healthcare facility, and distance to the nearest healthcare facility. The memberships were dominated by formal workers by 53.2%, followed by 25.9% of subsidized members (PBI), 16.7% of informal workers (PBPU), and 4.3% of non-workers.

Table 2. Enabling factors

Enabling factors		n	%
Membership	Subsidized members (PBI)	73	25.9
	Formal workers (PPU)	150	53.2
	Informal workers (PBPU)	47	16.7
	Non workers (BP)	12	4.3
Socioeconomic status (SEC)	AB (upper)	74	26.2
	C (moderate)	189	67
	DE (lower)	19	6.7
Family structure	Matriarchate	3	1.1
	Patriarcha	6	2.1
	Parental	271	96.1
	Promiscuity	2	0.7
The first reference of healthcare facility	Primary healthcare facilities (Puskesmas)	143	50.7
	Clinic	37	13.1
	Public hospital	12	4.3
	Private hospital	90	31.9
The first reference of health workers	Midwife	137	48.6
	General practitioners	29	10.3
	Obstetricians	116	41.1
Distance to the first reference healthcare facility	< 5 km	214	75.9
	> 5 km	68	24
Distance to the nearest healthcare facility	< 5 km	250	88.7
	> 5 km	32	11.3

In terms of household structure, it is dominated by parental at 96.1%, followed by patriarchal at 2.1%, and matriarchate at 1.1%. The first reference health facilities are primary healthcare facilities (50.7%), followed by private hospitals (31.9%), clinics (13.1%), and public hospitals (4.3%), which may be less attractive.

The majority of respondents chose midwives as health workers (48.6%) as the first reference health workers during pregnancy, followed by obstetricians (41.12%) and general practitioners (10.3%). Most respondents chose the nearest first reference healthcare facilities (75%.9%), and the nearby healthcare facilities were 88.7%. It means that there was about 12.8% of respondents did not visit the nearest healthcare facilities.
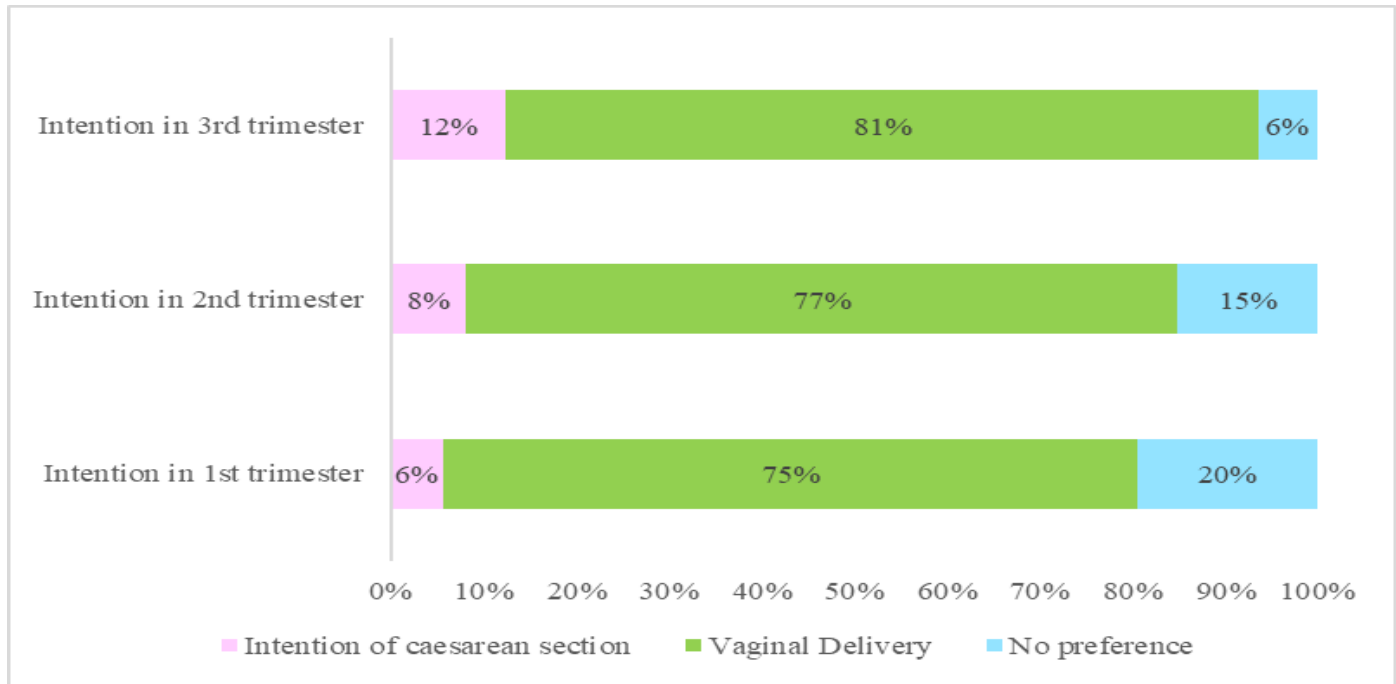
Figure 4. Shifts in pregnant women intentions during pregnancy (n= 282)

Respondents were asked retrospectively about their intentions during their 1st, 2nd, and 3rd trimesters of pregnancy. Majority of the respondent has the 'intention' of vaginal delivery method. The proportions of vaginal delivery intention during their pregnancies were 75%, 77%, and 81%. The caesarean section intention also increased, from 6% to 8% and 12%, as shown in Figure 4.

5.2. Level of knowledge

We also measured the level of knowledge of the childbirth methods possessed by pregnant women by 14 indicators. We categorized the 'knowledge' into three groups: low (0-50%), moderate (51-75%) and high (76-100%), as seen in Table 4.

Table 4 showed that 50% of respondents have high knowledge, while others moderate (29%) and low (21%). The five statements that were answered incorrectly by participants, namely:

1. KN2. Caesarean section rates higher than 10% are not associated with reductions in maternal mortality rates.

2. KN3. Caesarean sections can cause complications, disability, or death, particularly in settings lacking the facilities and capacity to conduct safe surgery and treat surgical complications properly.
3. KN12. Older age causes unhealthy pregnant women.
4. KN13. Too close childbirth distance (less than two years) caused unhealthy pregnant women.
5. KN14. Too many children (more than three children) caused unhealthy pregnant women.

Table 3. Knowledge of pregnant women

Knowledge	n	%
High	140	50
Moderate	82	29
Low	60	21

5.3. Measurement model fit of structural equation model

The validity test concerns the level of accuracy achieved by an indicator assessing something or measuring what should be measured. The reliability test measured the internal consistency of a construct. The model fits valid and reliable. The results of the validity test as seen in Table 5.

Table 4. The loading factor and t-value of each indicator

Latent variables	Code	*Loading Factor*	t-value	Note
Perceived need	NE1	0.87		Valid
	NE2	0.82	15.95	Valid
	NE3	0.79	15.27	Valid
Knowledge	KN7	0.53		Valid
	KN8	0.78	8.81	Valid
	KN9	0.86	9.16	Valid
	KN10	0.83	9.05	Valid
	KN11	0.52	6.83	Valid
Attitude	AT1	0.76		Valid
	AT2	0.85	11.23	Valid
	AT3	0.56	8.62	Valid
	AT6	0.52	8.10	Valid
Subjective norm	SN1	0.67		Valid
	SN3	0.96	13.29	Valid
	SN4	0.86	12.73	Valid
Perceived behavioural control	PB3	0.73		Valid
	PB4	0.90	14.04	Valid
Intention	IN1	0.84		Valid
	IN3	0.92	20.20	Valid
	IN5	0.90	19.60	Valid
	IN7	0.81	16.43	Valid

Notes: CS= Caesarean Section; VD= Vaginal Delivery; MoH= Ministry of Health; TPB= Theory of Planned Behaviour.

5.4. Value of Construct Reliability and Average Variance Extracted

After analyzing the validity of the latent variable construct indicators, we conducted a reliability analysis to measure the internal consistency of each item. We tested the reliability of valid indicators; and excluded invalid items in reliability testing. Average Variance Extracted (AVE) ≥ 0.5 and Construct Reliability (CR) ≥ 0.7 are values that meet the requirements. Table 6 shows an explanation of the Construct Reliability and Average Variance Extracted values. A variable having Construct Reliability (CR) > 0.7 is quite consistent. Table 6 shows all CR values > 0.7. We concluded that the indicators have good reliability or can measure their constructs. The evaluation of the measurement model showed that the overall model fits the data, so the results of this study can be declared valid and reliable.

Table 5. Value of construct reliability and average variance extracted

No.	Latent variable	Number of indicators	AVE	CR
1	Perceived need	3	0.80	0.92
2	Knowledge	5	0.64	0.89
3	Subjective norm	3	0.81	0.92
4	Perceived behaviour control	2	0.78	0.87
5	Attitude	4	0.59	0.85
6	Intention	4	0.85	0.96

5.5. Overall model fit

The results of the validity test of the overall model fit as seen in Table 7. The value showed that the overall model fit has the goodness of fit statistics, and then we tested the theoretical hypothesis.

Table 6. Overall model fit

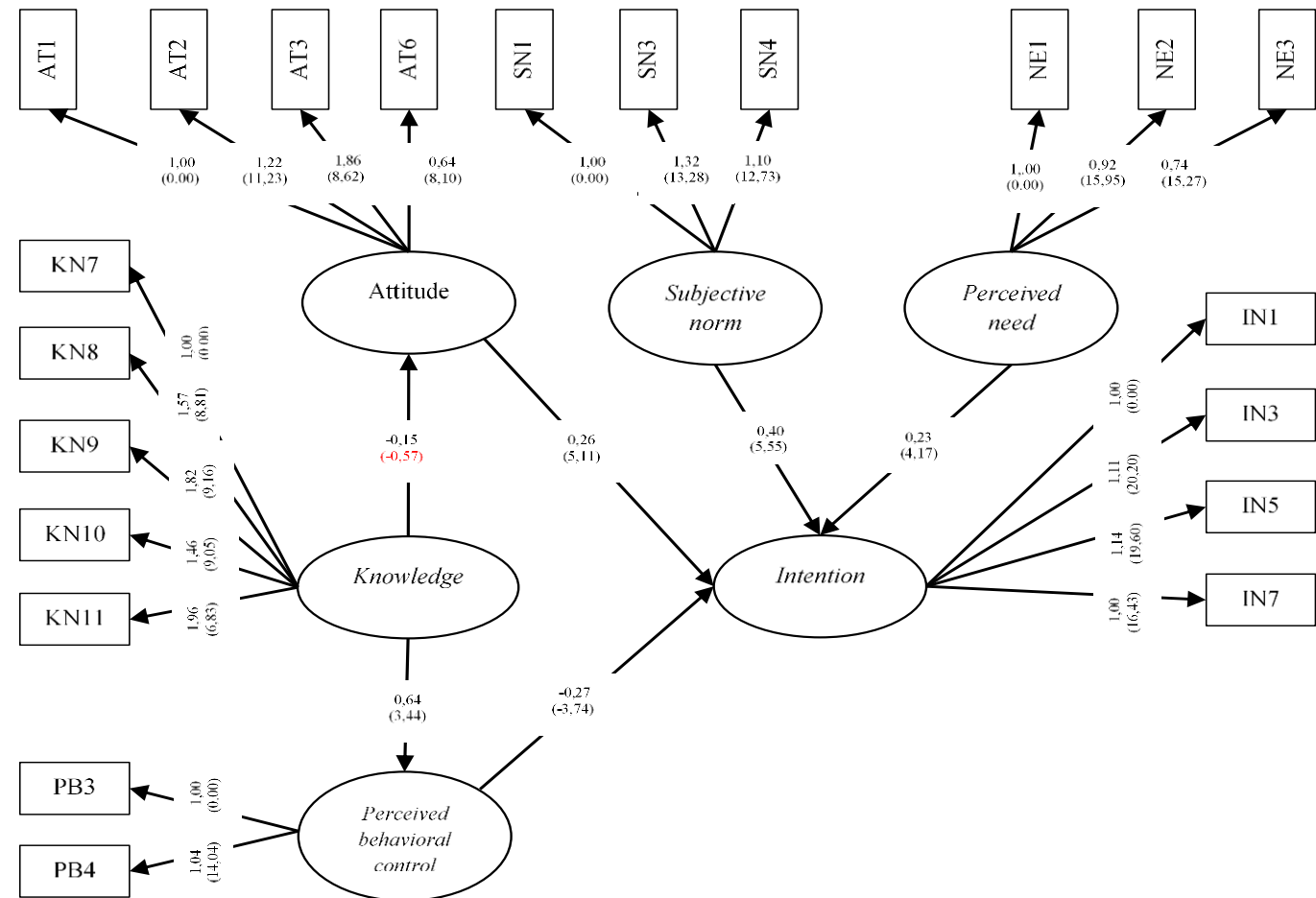| Ukuran Goodness of Fit	Cut-off-Value	Hasil Uji	Tingkat Kecocokan
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.08	Good fit
Normed Fit Index (NFI)	≥ 0.90	0.93	Good fit
Tucker-Lewis Index atau Nonnormed Fit Index (TLI atau NNFI)	≥ 0.90	0.94	Good fit
Comparative Fit Index (CFI)	≥ 0.90	0.95	Good fit
Incremental Fit Index (IFI)	≥ 0.90	0.95	Good fit
Relative Fit Index (RFI)	≥ 0.90	0.93	Good fit

Source: Hooper et al. (2008); Hu and Bentler (1999)

The value showed that the overall model fit has the goodness of fit statistics, then we do that theoretical hypothesis testing.

5.6. Structural model fit

Based on Figure 5, one path is not significant: the path of knowledge to attitude with a t-value of -0.57. This study used a significance level of 0.05 (95% confidence level), at α = 5% then t-critical = 1.96. The t-value of each structural equation coefficient must be greater than 1.96 or the t-value > t-critical. The t-value that is smaller than 1.96 indicates that there is an insignificant relationship.

KN = Knowledge, AT = Attitude, SN = Subjective Norm, IN = Intention, NE = Perceived Need, PB = Perceived Behavioural Control, BE = Behavioural.

Note: The value in brackets is a t-value

Figure 5. Results of structural equation model for pregnant women.

5.7. Hypothesis test

Testing the hypothesis was done by testing the path coefficient on the structural equation model. If the t-value value is 1.96, then the effect of certain variables is included in the significant category. Based on the model estimation results (Table 8), one path is not, namely the knowledge path to attitude (t-value -0.57 < 1.96). Apart from these insignificant paths, there are five significant paths.

Table 7. Estimated results of the structural equation model

Path			Est. (β)	t-value*	Note	Conclusion	R^2
Knowledge	→	Attitude	-0.15	-0.57	Accept H0	Not significant	0.0016
Knowledge	→	Perceived behavioural control	0.64	3.44	Reject H0	Significant	0.064
Perceived need	→	Intention	0.23	4.17	Reject H0	Significant	0.52
Attitude	→	Intention	0.26	5.11	Reject H0	Significant	
Subjective norm	→	Intention	0.40	5.55	Reject H0	Significant	
Perceived behavioural control	→	Intention	-0.27	-3.74	Reject H0	Significant	

**significant if t-value $\geq$ 1.96

The structural equation model showed that knowledge (β = 0.64, t-value = 3.44) was more likely to have higher perceived behavioural control (PBC); attitude (β = 0.26, t-value = 5.11), subjective norm (β = 0.40, t-value = 5.55) and perceived need (β = 0.23, t-value = 4.17) were more likely to have higher intention and PBC (β = -0.27, t-value = -3.74) was more likely to have lower intention to caesarean section. Besides direct influence, there are several indirect effects. The indirect impact is knowledge on intention through perceived behavioural control. The estimated indirect impact is 0.64 x -0.27 = -0.1728.

Hypothesis 1: Knowledge affects attitude

Based on the test results, the estimated path parameter of the knowledge variable on the attitude variable has no significant effect. The estimated path of influence is -0.15, with a t-value of -0.57. The results of hypothesis testing indicate that knowledge has a negative and insignificant impact on attitude, namely, t-value < t-critical, so that Ho is accepted. Knowledge does not affect the attitude of pregnant women to caesarean section methods. Even though they already have high 'knowledge' of caesarean section methods, in the end, it does not affect their attitude towards caesarean section methods.

Hypothesis 2: Knowledge affects perceived behavioural control

The estimated path parameter of the knowledge variable on the perceived behavioural control variable has a significant effect. The estimated path of influence is 0.64 with a t-value of 3.44. The results of hypothesis testing indicate that knowledge has a positive and significant impact on perceived behavioural control, namely t-value > t-critical (reject Ho). The higher 'knowledge' about the caesarean section methods, the higher the 'perceived behavioural control' about the caesarean section method.

Hypothesis 3: Perceived need affects intention

Estimating the path parameter of the perceived need variable on the intention variable has a significant effect. The influence is 0.23 with a t-value of 4.17. The results of hypothesis testing indicate that perceived need has a positive and significant impact on intention (t-value > t-critical; reject Ho). Payne et al. (2004) found that the 'perceived need' variable was correlated significantly with 'intentions' related to healthy eating patterns. In this study, 'perceived need' was correlated significantly with pregnant women intention' to the caesarean section method. The higher the 'perceived need' for a caesarean section method, the higher the 'intention' to choose a caesarean section method at maternal request.

Hypothesis 4: Attitude affects intention

The estimated path parameter of the attitude variable to the intention variable has a significant effect. The estimated path of influence is 0.26 with a t-value of 5.11. The results of hypothesis testing indicate that attitude has a positive and significant impact on intention, namely, t-value > t-critical (reject Ho). Attitude affects intention in line with several previous studies that human attitudes are formed based on people's awareness and produce intentional behaviour (Naeimi et al., 2015). Attitude towards caesarean section is the behaviour of pregnant women about caesarean section due to their feelings and thoughts about it (Glanz & Rimer 2005), and human attitudes are formed based on people's awareness and produce intentional behaviour (Naeimi, Gholami, and Qasemi 2015).

Hypothesis 5: Subjective norm affects intention

The estimated path parameter of the subjective norm variable on the intention variable has a significant effect. The estimated path of influence is 0.40 with a t-value of 5.55. The results of hypothesis testing indicate that subjective norms have a positive and significant impact on intention, namely t-value > t-critical (reject Ho). Ji et al. (2015) observed the preference of the caesarean section method from the second trimester to the third trimester of pregnancy and identified changes in the childbirth method they underwent. The influence of doctors is one of the risk factors for caesarean section, with indications according to doctors (not based on guidelines). We conducted a depth-interview by telephone with six respondents who had a caesarean section on the advice of a doctor, not medical urgency. According to the guidelines as researched by Ji et al. (2015), most indications submitted are not medical indications.

Hypothesis 6: Perceived behavioural control affects intention

The estimated path parameter of the perceived behavioural control variable on the intention variable has a significant effect. The estimated path of influence is -0.27 with a t-value of -3.74. The results of hypothesis testing indicate that perceived behavioural control has a negative and significant impact on intention, namely t-value < -1.96 (reject Ho).

The effect of perceived behavioural control on behavioural intentions will be weaker when consumers have high subjective product knowledge (Kim et al., 2015). In this study, the stronger 'perception of behavioural control' about caesarean section, the weaker 'intention' on caesarean section method at maternal request.

5.8. Interpretation of the coefficient of determination

The results of the structural model test show that the coefficient of determination (R-square) on the model of the influence of knowledge on attitude is 0.0016. The interpretation is only 0.16% of the total variability of the attitude variable can be explained by the structural equation, and the remaining 99.84% by other constructs not examined in this research model. However, the t-value value of the knowledge variable is < 1.96, so it is not significant. This result is similar to Ajzen et al. (2011). They found no relationship between environmental knowledge on energy conservation and no relationship between alcohol knowledge and the behaviour of drinking alcoholic beverages.

The results of the structural model test show that the coefficient of determination (R-square) on the model of the influence of knowledge on perceived behavioural control is 0.064. It means that the structural equation explained only 6.4% of the total variability of the PBC variable, and the remaining 93.6% by other constructs not examined in this research model. The results of the structural model test show that the coefficient of determination (R-square) on the influence model of attitude, perceived need, subjective norm, and perceived behavioural control on intention is 0.52. The structural equation interpreted that 52% of the total variability of the intention variable and the remaining 48% by other constructs not examined in this research model.

5.9. Further Analysis with Content Analysis

The SEM results obtained were then confirmed through qualitative research. Qualitative research

through Focus Group Discussions (FGD) to 14 resource persons from the Ministry of Health as a regulator and BPJS Kesehatan as an implementer of the National Health Insurance program. We explained the purpose of the research to the experts before conducting the FGD and confirmed previous survey results to enrich the results through the FGD.

We recorded the dynamics during the FGD, made them into a text transcript, and analyzed them using Content Analysis. Next, the researcher identified meaning units and summarized them into several meaning units, codes, categories and grouped them into minor themes. In the end, the central theme was obtained, namely the modelling of BPJS Kesehatan's customer intentions towards the delivery method. There are 15 (fifteen) categories of discussion in terms of educating pregnant women. Most of the discussion categories were directed to the role of the Ministry of Health (7 categories), namely related to education, tariffs, evaluation, standardization, discourse on Basic Health Needs (KDK), ratification of the National Guidelines for Medical Services (PNPK), and regulations. Categories aimed at BPJS Kesehatan in educating pregnant women include three categories: the financing system, confirming data, and conducting studies.

In this FGD, there was also a discussion of the importance of professional organizations (4 categories) in educating pregnant women, related to their role, education, clinical aspects, and reasons for caesarean section without medical indications. Last but not least, the theme of communication (1 category) emerged in educating pregnant women.

First, FGD with the expert points were the importance of a one-year restriction for participants to be registered for contributions before receiving health services for pregnancy and childbirth. Second, BPJS Kesehatan needs to confirm patient safety to professional organizations regarding a new suture model during the caesarean section for National Health Insurance members. Third, there are no guidelines or criteria for caesarean section indications

according to medical indications, and there is no PNPK. Fourth, there is still debate about the calculation of the caesarean rate in Indonesia. Fifth, the importance of the role of doctors and midwives and professional organizations in educating pregnant women.

6. Discussions

6.1. The Effect of Knowledge on Perceived Behavioural Control

This study found that high knowledge had no impact on attitude but significantly affected perceived behavioural control (PBC) variables. High knowledge will increase PBC. The results of the initial analysis indicate a knowledge gap. For that, we need the right strategy informing better customer knowledge. High knowledge will increase PBC. The high PBC will ultimately reduce the intention of the caesarean section method.

6.2. Influence of Perceived Need, Attitude, Subjective Norm and Perceived Behavioural Control on Intention

Perceived need, attitude, subjective norm, and PBC have a significant effect on intention. The impact of PBC is inversely proportional to the intention variable. Several indicators cause the perceived need by pregnant women for caesarean section, namely, because the process is fast, feels safer, and many friends choose this method. The attitude of pregnant women towards caesarean section is caused by several indicators, namely because they want to be free from pain, a fast process, the desired date of birth. Based on subjective norms, both pregnant women consider the husband's recommendations, recommendations of friends/relatives, and doctor's advice to influence choosing a caesarean section method.

PBC has a significant effect on the intention of caesarean section, but the influence is inversely proportional. Increasing the impact of PBC will reduce the 'intention.' On the contrary, if the effect of PBC decreases, it will increase the intention of caesarean section. Therefore, we can reduce unnecessary caesarean sections by improving the PBC. We use two indicators in the questionnaire.

First, PB3: The hospital has facilities and obstetricians capable of caesarean section. Second, PB4: The hospital can be reachable by various vehicles. Then, how to improve perceived behavioural control referring to these two indicators? The perception that some hospitals and obstetricians can use caesarean section and the hospital reachable by various vehicles will create a sense of security for pregnant women. The next question is how to increase perceived behavioural control? To improve 'perceived behavioural control,' our study suggests to informed pregnant women with a list of the nearest health facility, including their husbands who are on standby and given education since the first trimester of pregnancy. These efforts will fulfil the need for a sense of security in pregnant women.

By providing health literacy in the first trimester is expected as a preventive measure. This finding is in line with Maulana et al. (2018) on disease prevention. Some respondents stated that it is better not to have information about hidden diseases because if they knew, they would be worried about treatment, especially the high cost of treatment. Maulana et al. (2018).

In addition, professional organizations or senior leaders of local obstetricians (Chen et al. 2018) need to educate health workers, especially regarding the limits or criteria for medical indications requiring caesarean section. There are no guidelines or standards for the medical need for caesarean section in Indonesia, so opinions may form as pregnant women give birth by caesarean section method. Both caesarean section and vaginal delivery have risks and benefits. Pregnant women need to understand that there is nothing to do that the caesarean section rate higher than 10% will reduce the maternal mortality rate (WHO 2015).

6.3. Unnecessary caesarean section
Currently, Indonesia does not have guidelines that explain the criteria for caesarean section according to medical indications. According to medical symptoms, several international best practices detailed the standard for caesarean section. China, for example, has clearly stated that

premature rupture of membranes is not a guideline-defined indication but a doctor-defined indication (Ji et al., 2015). In Indonesia, this indication of premature rupture of membranes often appears as a cause of caesarean section methods (Suryati 2012, Shombing 2017, Ashar 2019, BKKBN et al. 2018). Indonesia has many more indications of the cause of a caesarean section method, which in international best practice is not a 'real' medical indication but a doctor's indication (Ji et al., 2015). The Ministry of Health, BPJS Kesehatan, professional organizations, and various stakeholders must jointly maintain the trust funds to sustain the National Health Insurance program.

6.4. Social marketing
In this study, pregnant women intention showed that most vaginal delivery options during pregnancy shifted to actual caesarean deliveries, and we found a gap of knowledge. These things lead to the importance of a non-clinical intervention, namely education to customers. Several interventions proposed in previous studies also suggested the importance of education for pregnant women to change preferences and reduce the proportion of caesarean deliveries without medical indications (Taheri et al. 2014; Loke et al. 2015; Edmonds et al. 2015; Stoll et al. 2017).

Referring to Rothschild (1999) and Basil et al. (2019), if individuals are motivated to change behaviour, they have the opportunity and ability to show the desired behaviour. Education to the target is a reasonably appropriate intervention. However, when an individual has the motivation and ability but lacks opportunities, social marketing can help create opportunities and be the strategy of choice.

We also use these three aspects in this study. First, we see the motivation aspect shifted in intentions during quarters 1, 2, 3 (Figure 4). Most pregnant women have vaginal delivery intentions, but there seems to be a shift towards the caesarean section. The respondents have an excellent ability aspect, as we can see from the self-rated health (Table 2). The majority of respondents have good self-rated health (78.4%). Third, the respondents have less

chance or an opportunity aspect, as we can see from the high caesarean section proportion, which reached about 38%. The rate considered ideal by the international healthcare community of 10-15% (Betran et al. 2015; Ye et al. 2014; Betran et al. 2016; WHO, 2015). In line with Ji et al. (2015), our study also found a shift from vaginal delivery intention during pregnancy to the caesarean section in actuality. It means a problem occurs in the opportunity aspect to change behaviour. According to Rothschild (1999) and Basil et al. (2019), the social marketing approach is most suitable for this situation with these three aspects.

7. Conclusion

This study highlights attitudes, subjective norms and perceived need, perceived behavioural control as factors that influence the intention of caesarean section in three provinces of Indonesia. Our study suggests intention management in reducing unnecessary caesarean sections and encourage vaginal delivery intention. We recommend that providing education to pregnant women should carry out since the first trimester.

The pregnant women intention model shows an attitude related to pain, a fast process, the desired date of birth is essential, so they think the caesarean section is the answer. Based on subjective norms, pregnant women perceive the husbands', friends', and doctors' recommendations as significant in choosing a caesarean section method. It is also necessary to increase PBC to reduce unnecessary caesarean sections.

This study proves the magnitude of the influence of pregnant women's intentions in the caesarean section method. The 'intention' of the caesarean section needs to be better managed. BPJS Kesehatan needs to coordinate with the Ministry of Health and professional organizations to manage the caesarean section method intentions of National Health Insurance members.

8. Implication

BPJS Kesehatan needs to develop social marketing programs to change customer behaviour, especially managing the caesarean section method intentions of BPJS Kesehatan

customers. BPJS Kesehatan also encourages the Ministry of Health, which focuses on the Community Health Efforts (UKM) program, to promote health services promotion of pregnancy and childbirth.

Professional organizations (perhaps HOGSI) or senior leaders of local obstetricians need to educate health workers, especially regarding the limits or criteria for medical indications requiring caesarean section. The Ministry of Health should immediately issue guidelines or standards for caesarean section according to medical urgency. BPJS also educates its customers and ensures that the health services provided by providers to their customers are value for money.

In this study, pregnant women intention also showed a shift from the majority of vaginal delivery options during pregnancy to more likely cesarean section intention. The social marketing approach is the most appropriate from motivation, ability, and opportunity to undergo vaginal delivery. Our study suggests to informed pregnant women with a list of the nearest health facility, including their husbands, who are on standby and given education since the first trimester of pregnancy to encourage vaginal delivery.

9. Limitations and Future Studies

This study has limitations in judgmental sampling, which may limit the generalizability of the research results. The research recommendations only apply in areas with similar characteristics and socio-demographics to this study. Using a non-probability sample in this study, the list of pregnant women to National Health Insurance members was unavailable because it included a list of excluded information. This study used a consumer behaviour perspective, which can be a strength of research because there has not been much research on pregnant women to the National Health Insurance program in Indonesia from consumer behaviour.

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