FACTORS RELATED TO SELF-CARE BEHAVIOR AMONG PREGNANT WOMEN IN GARUT DISTRICT, INDONESIA

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ABSTRACT:

Background: Self-care behavior can prevent health problems during pregnancy and childbirth. Many factors have been found relating to self-care behavior. The purpose of this study was to assess factors related to self-care behavior among pregnant women.

Methods: This study used cross-sectional design and multistage sampling technique. Participants included 263 pregnant women in Garut District, Indonesia. Data were collected during October 2014 by using self-administered questionnaire. Mean score, standard deviation, and Pearson's product-moment correlation were employed for data analysis.

Results: The results showed that most of participants (72.3%) were between 20 and 34 years old (mean = 27.7 year, SD = 6.37 year). The majority of the participants (89.7%) had at least junior high school education. Out of this number, 20% had diploma and university degree. The mean of gestational age of this group was 5.5 months with SD 2.2 month and the average number of antenatal care (ANC) visit was 4.1 times with SD 2.5 times. Most participants had an income less than 1.5 million rupiah (65.4%). The average income per month was IDR 1,185,897 rupiah (SD = IDR 857,529). Positive correlations were found between knowledge of self-care, perceived benefits of self-care, self-efficacy in self-care and self-care behaviors during pregnancy ($r = .130$, $p<0.05$; $r = .271$, $p<0.01$; $r = .438$, $p<0.01$, respectively).

Conclusion: This study suggested that primary healthcare professionals should focus on promoting knowledge, perceived benefits, and self-efficacy to increase pregnant women's self-care behavior during pregnancy.

Keywords: Self-care behavior, Pregnant women, Indonesia

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INTRODUCTION

Most maternal deaths are related to pregnancy and delivery [1]. These include hemorrhage, sepsis, eclampsia, obstructed labor, or abortion complications as the direct causes and also anemia and malaria as the indirect causes to contribute to the maternal death during pregnancy [2].

In Indonesia, basic health research conducted in 2013 showed chronic malnutrition, malaria, and anemia are health risk problems among pregnant women aged 15-49 years with a prevalence of 24.2%, 1.9%, and 37.1%, respectively. In addition, the proportion of pregnant women who take iron supplements (at least 90 tablets) during pregnancy is low (33.3 %) [3]. In district of Garut, out of 53,000 pregnant women, 45% suffer from anemia, 13% suffer from chronic malnutrition, and approximately 9% suffer from moderate goiters [4].

Proper self-care behaviors can prevent women from having health problems during pregnancy and childbirth. It can be performed before and during pregnancy through promotive, preventive, or curative health care intervention [5]. These behaviors involve avoiding exposure to smoking or secondhand smoke and alcohol consumption [6, 7], doing appropriate personal hygiene [8, 9], consuming iron pills during pregnancy [10], detecting and managing obstetric complications by visiting an antenatal care (ANC) facility [11], gaining weight as recommended [12], exercising as health care' suggestion [13], increasing calories and nutrient intake [14],

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sleeping adequately [15], and etc.

Self-efficacy refers to a personal belief of their capability to do an action. This action cannot happen if they do not have the belief to do so. Knowledge can enhance people's ability and change personal perception and their view of a thing [16]. Perceived benefits are the belief hold by pregnant women that self-care behaviors during pregnancy can help them avoid adversities of pregnancy and delivery. Perceived barriers are negative perception of a condition that impact personal action. Both perceived benefits and perceived barriers are interrelated in an individual to influence a recommended preventive health action [17]. Previous studies found that knowledge of self-care, and self-efficacy in self-care, related to the self-care behaviors during pregnancy [18]. Further, perceived benefits and barriers to action include essential factors that can be modified [17]. Because the setting and the sampling method from previous studies cannot be generalized to the Garut district situation, this study was conducted to find factors related to self-care behavior during pregnancy in Garut district, West Java, Indonesia.

METHODS

Design

This study is a cross-sectional survey design.

Sample

A multistage sampling technique was used. Garut district was divided into north, central, and south. The sample size was estimated using Daniel formula and additional 20% was added to accommodate for incomplete data and the total number of estimated samples was multiplied by 1.5 (design effect) to address the variation among different stages [19, 20]. This yielded the total sample of 313 pregnant women. The pregnant women were recruited using criteria: able to write and read Indonesian language (Bahasa), willing to participate, and recorded in the Public Health Center (PHC). These criteria were set since the literacy rate of people aged 15-55 in Garut district was 98.26% [21] and 96.8% of pregnant women were registered with PHCs [22]. Pregnant women who were being hospitalized were excluded. The participants were selected by purposive sampling. This study was conducted in October 2014.

Research instruments

This study used self-administered questionnaire to collect the data. The independent variables were knowledge of self-care during pregnancy, perceived benefits of self-care during pregnancy, perceived barriers to self-care during pregnancy, and perceived self-efficacy in self-care during pregnancy. The dependent variable was self-care behaviors during pregnancy. Each independent variable composed of nutrition, physical activity, stress management and health responsibility subscales. Before being used in this study, the questionnaire was reviewed by three experts and revised by the researcher according to experts' suggestions for content validity. It was translated into Indonesian language (Bahasa) and then back translated into English by Bahasa specialist. The reliability of the instruments was tested with 30 pregnant women who had similar characteristics with the target population in Leuwigoong PHC.

The knowledge of self-care part was developed by researcher based on literature review. It consisted of 17 items. Each item had 3 choices: A= true, B=false, C=do not know. The scores ranged from 0 to 17. The reliability test revealed that the Cronbach's alpha coefficient for this part was 0.71.

Perceived benefits of self-care were applied from perceived benefits to action [23]. It was measured by 13 items using 4-point Likert scale ranging from 0= "strongly disagree" to 3= "strongly agree". The reliability test revealed that the Cronbach's alpha coefficient for this part was 0.72.

Perceived barriers to self-care used perceived barriers to action [23]. It was measured by 19 items using 4-point Likert scale ranging from 0= "strongly disagree" to 3= "strongly agree". The reliability test revealed that the Cronbach's alpha coefficient for this part was 0.76.

Perceived self-efficacy of self-care was assessed by using Self Rated Abilities for Health Practices (SHRAP) [24] which consists of 26 5-point Likert scale items ranging from 0= "not at all" to 4= "highly confident". The reliability test revealed that the Cronbach's alpha coefficient for this part was 0.72.

An adolescent self-care behavior during pregnancy questionnaire was used to measure self-care behaviors during pregnancy [9]. This part consisted of 22 items, of which 8 are negative items and 14 are positive items. Negative items, the scale responses ranging from 0= "always" to 4= "never" and positive items, the scale responses ranging from 4= "never" to 0= "always". The reliability test revealed that the Cronbach's alpha coefficient for this part was 0.73.

Ethical consideration

The study was approved by ethical review board (ERB) committee of Boromarajonani Collage of Nursing Nopparat Vajira (BCNNV)-Bangkok, ERB No. 48/2014. Those who agree to join in the study signed the informed consent.

Table 1 Demographic characteristics of pregnant women (n=263)

Demographic characteristics	Number	%
Age (years)		
<20	29	11.0
20-34	190	72.3
≥35	44	16.7
Mean ± S.D = 27.7 ± 6.37; Min-Max = 16-47		
Educational level		
Elementary school	27	10.3
Junior high school	86	32.7
Senior high School	84	31.9
Vocational	24	9.1
Diploma	32	12.2
University (Bachelor/Master/Doctor)	10	3.8
Income/month (IDR)		
<1,500,000	172	65.4
1,500,000-2,499,999	75	28.5
2,500,000-3,500,000	11	4.2
>3,500,000	5	1.9
Mean ± S.D = 1,185897 ±857,529; Min-Max = 0 -6,000,000*		

Note *: 1 USD= IDR 12,644.87 [26]

Table 2 Number and percentage of participants by pregnancy related factors (n=263)

Pregnancy related factors	Number	%
Gestational age		
1st Trimester	51	19.4
2nd Trimester	117	44.5
3rd Trimester	95	36.1
Mean (month) ± S.D = 5.47 ± 2.162; Min-Max = 1 – 9		
ANC frequency		
<4	127	48.3
≥4	136	51.7
Mean ± S.D = 4.08 ± 2.529; Min-Max = 1-15		

Data collection

Permission to conduct this study was given from the authorities in Garut district. The researcher and research assistants distributed the questionnaires to participants who were chosen and met the criteria. They were then given a souvenir in appreciation for their involvement.

Data analysis

Demographic characteristics were determined using descriptive statistics to explore frequency, percentage, mean, and standard deviation (SD). Pearson's product-moment correlation was used to examine correlation between dependent and independent variables. The dependent and independent variables were categorized into three levels using cut-off values of 60% and 80% of the total score according to Bloom classification [25]. After excluded missing data, 263 participant's data was included in statistical analyses using the statistical software program version 16.0.

RESULTS

The average age of the participants was 28 years (SD=6.37). Most of them (72.3%) were between 20 and 34 years old. Approximately 17% of the participants were 35 years or older. The majority of the participants (89.7%) had at least junior high school education. Out of this number, 20% had diploma and university degree. The average income was IDR 1,185,897 and most participants has income less than IDR 1.5 million (65.4%), Table 1. Out of 263 participants, 9.5% were primigravida (data not shown).

Table 2, approximately 45% participants were in second trimester of pregnancy. Most (51.7%) of them visited ANC more than 3 times.

Table 3 shows that 48.7% and 45.2% of the participants had fair and poor levels of knowledge, respectively; more than half (58.2%) had moderate level of perceived benefits, however, almost all of them (98.9%) had low level of perceived barriers to self-care behaviors. Approximately half (50.2%) of

Table 3 Number and percentage of participants by levels of knowledge, perceived benefits of self-care, and perceived barriers to self-care during pregnancy (n=263)

Variables level		Number	%
Knowledge	Good	16	6.1
	Fair	128	48.7
	Poor	119	45.2
	Mean ± S.D = 9.93±2.368; Min-Max = 3-16		
Perceived benefits	Good	56	21.3
	Moderate	153	58.2
	Poor	54	20.5
	Mean ± S.D = 26.29±4.797; Min-Max = 15-39		
Perceived barrier	Moderate	3	1.1
	Low	260	98.9
	Mean ± S.D = 14.16±7.998; Min-Max = 0-45		
Perceived self-efficacy	Highly confident	87	33.1
	Moderately confident	132	50.2
	Lowly confident	44	16.7
	Mean ± S.D = 74.64±13.692; Min-Max = 22-103		
Self-care behavior	Good	51	19.4
	Fair	201	76.4
	Poor	11	4.2
	Mean ± S.D = 64.14±5.952; Min-Max = 48-80		

Table 4 The correlation coefficient among variables **(**n=263)

	1	**2**	**3**	**4**	**5**
Knowledge	-	0.27	-.204**	-.015	.130*
Perceived benefits		-	.046	.388**	.271**
Perceived barriers			-	.061	-.068
Self-efficacy				-	.438**
Self-care					-

Note ** Correlation is significant at the .01 level (2-tailed); * Correlation is significant at the .05 level (2-tailed); 1: knowledge; 2: perceived benefits; 3: perceived barriers; 4: self-efficacy; 5: self-care

the participant had a moderate level of perceived self-efficacy and more than two-third (76.4%) of the participants had a fair level of self-care practices.

Table 4 shows the correlations among knowledge, perceived benefits, perceived barriers, perceived self-efficacy, and self-care behaviors during pregnancy. It was found that knowledge of self-care had negative relationship with perceived barriers to self-care ($r = .204$, $p<0.01$). Perceived benefits of self-care had moderate positive relationship with perceived self-efficacy in self-care ($r=.388$, $p<0.01$). Knowledge of self-care, perceived benefits of self-care, and perceived self-efficacy had positive relationship with self-care behaviors ($r=.130$, $p<0.05$; $r=.271$, $p<0.01$; $r=.438$, $p<0.01$, respectively). Perceived barrier of self-care had no significant relationship with self-care behavior ($r=.061$, $p>0.05$).

DISCUSSION

The findings show that all pregnant women had finished a formal education. Although they have different educational level, more than half of them have a fair and good level of knowledge of self-care behaviors. The data show that only 6.1% had a good level of knowledge, but 19.4% had a good level of self-care behaviors. It can be explained that the self-care level of participants were more influenced by their perception than their knowledge. As shown in the table 3, 21.3% participants had a good level of perceived benefits, 98.9% participant had a low level of perceived barriers, and 33.1% participants had a highly confident of perceived self-efficacy in self-care behaviors. As stated by Gordon [27], the individual perception may produce certain behaviors stronger than their necessary obtained information. Besides that, in this study, perceived self-efficacy had a stronger relationship with self-care behaviors than other variables. Self-efficacy identifies people's ability to do an action, and determines people how to feel, think, motivate, and behave [16].

The results of this study revealed that various factors had significant relationships with self-care behaviors during pregnancy among pregnant women in Garut district. This included knowledge of self-care, perceived benefits of self-care, and perceived

self-efficacy in self-care. It was found that perceived barriers to self-care had no significant relationship with self-care behavior in this study.

The significant, but weak relationship between knowledge of self-care and self-care behavior (r=.130, p<0.05) was consistent with previous study in Thailand which found that knowledge of self-care behaviors of pregnant women had weak positive correlations with self-care behavior among Thai primigravida teenagers (r=.28, $p = < 0.01$) [18]. This can be explained that proper health behaviors of pregnant women are supported by their knowledge [23].

The finding indicated that perceived self-efficacy in self-care significantly and moderately related to self-care behavior (r=.438, p<0.01). This was in line with previous studies which found significant relationships between self-efficacy and self-care behaviors during pregnancy (r=.47, p<0.001) among Thai primigravida teenagers; and the relationship between self-efficacy in health promotion and health behaviors during pregnancy (health responsibility, physical activity, nutrition, psychological wellness, interpersonal relationship, stress management) among pregnant women aged 35 and more (r=.613, p<0.01) [18, 28]. A study in Taiwan found that self-efficacy in health behaviors among pregnant women predicted their health promoting behavior [29]. This can be explained that self-efficacy sets positive attitude to encourage women to search health education during childbearing [30]. Pregnant women who have higher self-efficacy in health-promoting lifestyles, are more frequent in practicing their health behavior than others [29].

Furthermore, the perceived benefits of self-care was associated with self-care behaviors during pregnancy (r=.271, p<0.01). The result was similar to a study in Thailand, which found that perceived benefits of health promoting behavior had positive relationship with health promoting behaviors (r=.375, p<0.01) [28]. It can be explained that perceived benefits can increase the commitment to engage in behavior directly or indirectly [17].

In addition, perceived barriers of self-care was not associated with self-care behaviors (r=.068, p>0.05). This could be due to the fact that there was no variation in perceived barriers to self-care behavior since almost all participants (98.9%) had low level of perceived barriers (see table 3). It can be also explained that self-efficacy and perceived barriers influence each other [17]. Higher levels of individual's self-efficacy can decrease perceived barriers to self-care behaviors. As found in this study, most of pregnant women (83.2%) in this group were highly and moderately confident in their ability in self-care.

CONCLUSION

Although the samples in this study were selected purposively according to their ability to read and write and being registered with public health centers, which could give a bias in the results. As stated earlier, the literacy rate of the people aged 15-55 in Garut district was 98.26% [21] and 96.8% of pregnant women were registered with PHCs [22]. This can reduce the sampling biases to a certain extent. At any rate, it is suggested that future studies should use a random sampling technique to ensure the representativeness of the samples.

However, the knowledge of self-care, perceived benefits of self-care and perceived self-efficacy in self-care have positive relationship with self-care behaviors in pregnant women in this study. The result of this study will be useful for primary health care professional in designing intervention programs to increase pregnant women self-care behaviors during pregnancy by improving their knowledge about self-care, perceived benefits of self-care, and perceived self-efficacy in self-care.

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