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Factors Predicting the Healthcare Behavior of Adolescence Pregnancy

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Abstract

This descriptive research aimed to examine the predictor variables of the healthcare behavior of pregnant adolescents. The samples were 200 pregnant adolescents attending the prenatal care unit at Sawanpracharak Hospital. The research tool was a questionnaire including personal data, developmental assets, families' strengths, attitudes toward pregnancy, health literacy, and healthcare behavior in pregnant adolescents. The Content Validity Index was 0.89, 0.80, 0.86, 0.91, and 0.90 respectively. The reliability by Cronbach's Alpha Coefficient was 0.86, 0.84, 0.82, 0.81, and 0.80 respectively. Pearson's correlation and Chi-square were used to test the correlation between variables. Stepwise multiple regression analysis was employed to test the predictors. The results indicated statistically significant positive relationships among economic status, developmental assets, families' strengths, attitudes toward pregnancy, health literacy, and healthcare behavior of pregnant adolescents at $p<0.01$ ($r=0.13$, 0.61, 0.47, 0.44, and 0.54 respectively). The developmental assets, health literacy, and attitude toward pregnancy all together predict the healthcare behavior of pregnant adolescents for 54.30 percent. The predictive equation was written as The healthcare behavior of pregnant adolescents = 0.52+ 0.43 developmental assets + 0.02 health literacy + 0.12 attitudes toward pregnancy. Based on the findings, it is recommended that healthcare professionals create guidelines aimed at promoting healthy behaviors among pregnant adolescents. These guidelines should take into account the adolescents' developmental assets, health literacy, and attitudes towards pregnancy in order to be effective. By tailoring interventions to these specific factors, healthcare professionals can better support adolescent mothers and promote positive health outcomes for both mother and child.

Keywords: Healthcare behavior, Adolescence pregnancy, Predictor variables

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Introduction

According to the teenage pregnancy survey by WHO in 2010, the global average was 65 pregnancies per 1,000 females while it was 56 in Asia and 70 in Thailand.[1] An increased rate of teenage pregnancy leads to an increased risk of adverse perinatal outcome. The babies of pregnant teenagers are more likely to be born prematurely or the pregnancy results in stillbirth. Infants born from teenage pregnancy had higher rates of extreme prematurity and higher rates of the newborn intensive care unit (NICU) admission than those born to pregnant adults. Perinatal, neonatal mortality, low birth weight and congenital anomalies are also common.[2]

Most Brazilian pregnant teenagers usually have their first ANC at more than 12 weeks of gestation and less than six visits in total. With higher mental health problems such as anxiety or depressive symptoms, prior use of tobacco, dropping out of school, suicide of a social acquaintance, preventive mental health care is needed to help pregnant teenagers. Furthermore, the studies in rural areas found that pregnant teenagers had stress and needs which in turn affected their health-related behaviors from a public health nursing perspective.[3] A study in Turkish mothers[4] found that teenage pregnancy had higher risky health behaviors with lower perception of social support, lower self-esteem, and more depressive symptoms than adult mothers. Seemingly, in New Zealand, pregnant teenagers had been associated with negative health outcomes, health professionals also employed a motherhood discourse that attributes certain behaviors to good mothers.[5] Studies in developing countries also showed that the first-born children of pregnant teenagers were the most vulnerable to infant mortality and poor child health outcomes. At an institutional level, it was attributed to the lack of public policies and consequently, of services addressed to and adequate to health specificities within rural settlements. Although public health initiatives had been successful in decreasing rates of pregnant teenagers, these remain high risk pregnancies that might benefit from centers capable of ensuring adequate prenatal care.

In Thailand, pregnant adolescents lived in the area of Bangkok metropolitan had more instances of anemia (42.50%) and less body weight gain (40%). Moreover, data from a province in the North-Eastern region of Thailand found that the teenage pregnancy rate was 19.75% and common health problems were anemia (9.45%), antenatal care later than 12 weeks (46.63%), less than four antenatal visits (16.68%), perinatal mortality (3.58%) and low birth weight babies (8.92%). Evidence suggested that the optimum self-care behaviors or lifestyle during pregnancy would help the pregnant teenagers and the fetus to maintain good health. The most pregnant teenagers were unplanned pregnancy and unsuitable behaviors during pregnancy. They had higher risky complications during pregnancy than pregnant adults. The self-care behaviors were important and necessary for pregnancy among teenagers. If teenagers were proper behaviors during pregnancy both they and their babies would get healthy as well.[6]

The self-care behaviors of primigravida teenager means activities and daily life habits that will prevent complication of pregnancy as well as maintain good health conditions all through the pregnancy. Previous studies [7-8] showed the factors associated with self-care behaviors of pregnant teenagers include: household economic status, accessibility to health services, perceived social support, self-esteem, perceived self-efficacy and self-care knowledge.

The aim of this study was to identify factors that predict healthcare behaviors among adolescents who are pregnant. The factors examined included personal characteristics, developmental assets, families' strengths, attitudes toward pregnancy, and health literacy. The healthcare behaviors of pregnant adolescents in this study consisted of self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management. The findings of this study may be valuable for healthcare professionals, as they can use this information to promote appropriate self-care behaviors among pregnant teenagers. By encouraging healthy behaviors, healthcare professionals may be able to reduce the risk of complications and improve the overall quality of pregnancy and life for these individuals.

Methods

Pender's health promotion model focuses on three areas: individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes. The first two areas are related to and influence the behavioral outcomes of persons, which are health-promoting behaviors. The theory notes that each person has unique personal characteristics and experiences that affect subsequent actions. The set of variables for behavior specific knowledge and affect have important motivational significance.[9] Health promoting behavior is the desired behavioral outcome, which makes it the end point in the Health Promotion Model. These health promoting behaviors should result in improved health, enhanced functional ability and better quality of life at all stages of development. [10-12] Pender's health promotion model was applied to a research framework of this study as shown in Figure 1.

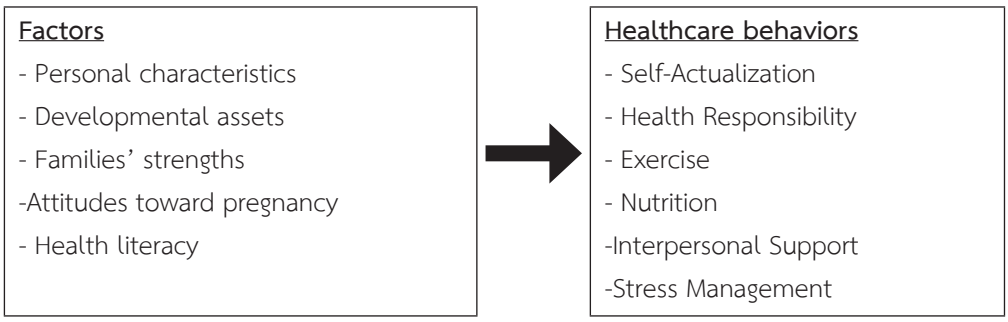

Figure 1 Research Framework

Populations and Participants

Populations in the present study were pregnant adolescents who attended the antenatal care clinics (ANC) of Sawanpracharak Hospital.

Participants: a simple random sampling technique was used to equally assign the participants. The potential participants were pregnant adolescents who attended the ANC of Sawanpracharak Hospital from July 2020 to March 2021. A sample size was calculated by using Power Analysis. There were 7 independent variables. The effect size was medium (0.15) and a total number of samples should be 153. In order to prevent loss of samples, 200 participants were recruited.

The inclusion criteria were: pregnant adolescents who attended the ANC of Sawanpracharak Hospital, aged under 20 years, and able to read and write the Thai language.

The exclusion criteria were: pregnant adolescents who had cognitive impairment or psychiatric illness, and had complications during the pregnancy such as anemia, placenta previa, bleeding per vagina, pregnancy induced hypertension, and diabetes.

Research tool

A questionnaire was used to gather data from 200 participants. This questionnaire compounded of 6 parts:

Part 1- Personal information consisted of age, education level, marital status, work status, economic status, current GA, plan for the current pregnancy, plan for self-child rearing of their babies, number of their family member, their husbands' age, education level, and work status.

Part 2- The questionnaires about developmental assets by Suriyadeo Tripathi [13] compounded of 5 items and 48 questions. The details of each item were present as follows:

There were 15 questions for internal asset, 8 questions for family asset, 11 questions for cognitive asset, 5 questions for friends and activity asset, and 9 questions for community asset.

All questions were 4-Rating Scale. Scoring values were customizable, but 1.00 to 1.74 would be interpreted as Poor, 1.75 to 2.49 as Fair, 2.50 to 3.24 as Good, and 3.25 to 4.00 as Very Good.

Part 3-The questionnaires about Families' strengths by Maleewan Lertsakornsiri [14] had 30 questions within 6 strength themes: affection and affiliation, positive communication, togetherness, valuing each other, religious and moral beliefs, and problem coping strategies.

All questions were 3-Rating Scale. Scoring values were customizable, but 1.00 to 1.60 would be interpreted

as Poor, 1.61 to 2.39 as Fair, and 2.40 to 3.00 as Good.

Part 4- The questionnaires about attitudes toward pregnancy by Maleewan Lertsakornsiri [15] compounded of 3 items and 25 questions. The details of each item were present as follows:

There were 7 questions for physical and psychological changes during pregnancy, 6 questions for care of the fetus, and 12 questions for self-care practices during pregnancy.

All questions were 5-Rating Scale. Scoring values were customizable, but 1.00 to 1.49 would be interpreted as Poor, 1.50 to 2.49 as Fair, 2.50 to 3.49 as Good, 3.50 to 4.49 as Very Good, and 4.50 to 5.00 as Excellent.

Part 5- The questionnaires about health literacy adapted from Nutbeam's health literacy [16] compounded of 3 items and 21questions. The details of each item are present as follows:

There were 7 questions for functional health literacy, 7 questions for communicative/ Interactive health literacy, and 7questions for critical health literacy.

All questions were 4-Rating Scale. Scoring values were customizable, but total score of health literacy from 0.00 to 21.00 would be interpreted as Poor, 21.01 to 42.00 as Fair, and 42.01 to 63.00 as Good.

Part 6- The questionnaires about healthcare behavior of pregnant adolescents by Karuna Pramoolsinsup[17] compounded of 6 items and 50 questions. The details of each item were present as follows:

There were 13 questions for nutrition, 6 questions for exercise, 11 questions for health responsibility, 8 questions for interpersonal support, 6 questions for stress management, and 6 questions for self-actualization.

All questions were 4-Rating Scale. Scoring values were customizable, but 1.00 to 1.74 would be interpreted as Poor, 1.75 to 2.49 as Fair, 2.50 to 3.24 as Good, and 3.25 to 4.00 as Very Good.

Reliability and validity of the questionnaire

Content validity of the questionnaire was done by 3 experts. The Content Validity Index (CVI) in the parts of developmental assets, families' strengths, attitudes toward pregnancy, health literacy, and the healthcare behavior was 0.89, 0.80, 0.86, 0.91 and 0.90 respectively. It was piloted in a group of 30 pregnant adolescents having similar characteristics to the potential participants. The questionnaire was revised several times before data collection taking place. The reliability by Cronbach's Alpha Coefficient in the parts of developmental assets, families' strengths, attitudes toward pregnancy, health literacy, and the healthcare behavior was 0.86, 0.84, 0.82, 0.81 and 0.80 respectively.

Data collection

Potential participants were approached in the ANC of Sawanpracharak Hospital. They were given information about the research project, the purposes of the study, what they would be asked to do, the possible outcomes of participating in the study, anonymity and confidentiality, and the right to withdraw at any time without negative repercussions. All participants were given an opportunity to ask or discuss unclear points with the researchers. After that, the researcher left potential participants to make a decision about participation. Then, they returned to ask for their decision. Before the participants start filling the questionnaires, informed consent was obtained from all of them. In cases where the participant was younger than 18 years of age, informed consent would get from their parent. The researchers gave potential participants 30 minutes to fill their questionnaires. After that they returned to collect and check a completion of the questionnaires.

All data were anonymised. Each participant was assigned a code known only to the researchers. The personal details were stored separately.

Data analysis

Descriptive statistics were used to analyze the data of personal characteristics, developmental assets, families' strengths, attitudes toward pregnancy, and health literacy. In addition, Pearson's product moment correlation, Chi-square, and stepwise multiple regression were applied in finding the factors correlating and predicting the healthcare behavior of adolescence pregnancy.[18]

Ethical considerations

The study was approved by the Research Ethics Committee of Sawanpracharak Hospital (No. 51/2563 on August 19, 2020).

Results

Findings in the present study demonstrated that:

An average age of the participants was 17 years (SD = 1.39). The average age of their husbands was 20.39 (SD = 3.49) years old. Approximately 61.70 % of the participants had an education at secondary school level. Nearly two-third of the sample (66.90%) resided in a nuclear family. About two-third (53.80%) was unemployed and nearly half of the samples reported that their average family monthly income was less than 10,000 baht. Approximately, a half of them had this current pregnancy as the first one and did not plan on falling pregnant.

The participants' developmental assets were at good level ($\bar{X}$= 2.95, SD=0.40). Their families' strengths were at good level ($\bar{X}$= 3.11, SD = 0.28) and attitudes toward pregnancy were at very good level ($\bar{X}$= 3.81, SD=0.43). Health literacy of the participants were at good level ($\bar{X}$= 17.16, SD =0.29).

The healthcare behavior of adolescence pregnancy were at good level ($\bar{X}$= 3.01, SD=0.38). Each component of healthcare behavior was self-actualization ($\bar{X}$ = 3.41, SD=0.50), stress management ($\bar{X}$ = 3.27, SD = 0.53), and nutrition ($\bar{X}$ = 2.62, SD = 0.38) respectively.

The economic status, developmental assets, families' strengths, attitudes toward pregnancy, and health literacy were correlated with the healthcare behaviors of adolescence pregnancy at the significant level of 0.05 and 0.01 (r = 0.13, 0.61, 0.47, 0.44, and 0.54 respectively).

Table 1 Pearson's product moment correlation coefficient among factors and healthcare behavior of adolescence pregnancy (n = 200)

Healthcare behavior	Factors				
	Economic status	Developmental assets	Families' strengths	Attitudes toward pregnancy	Health literacy
Nutrition	-0.05	0.28**	0.13	0.08	0.24*
Health responsibility	0.12	0.52**	0.42**	0.34**	0.51**
Exercise	0.02	0.52**	0.47**	0.35**	0.38**
Interpersonal support	0.19*	0.60**	0.40**	0.42**	0.49**
Stress management	0.17*	0.53**	0.39**	0.44**	0.50**
Self-actualization	0.20**	0.44**	0.39**	0.40**	0.43**
Overall	**0.13**	**0.61****	**0.47****	**0.44****	**0.54****

*p < .05, **p < .01

The predictor variables to the healthcare behavior of adolescence pregnancy were developmental assets, health literacy, and attitudes toward pregnancy. These 3 predictor variables explained approximately 54.30% of the variance in the healthcare behavior of pregnant adolescents. The predictive equation was written as: the healthcare behavior of pregnant adolescents = 0.52+0.43 developmental assets + 0.02 health literacy + 0.12 attitudes toward pregnancy.

Table 2 The predictor variables

Variables	R^2	R^2 change	F change	b	Beta	t	p-value
Constant (a)				0.52		2.52*	0.018
Developmental assets	0.35	0.35	90.13	0.43	0.45	7.51**	<0.001
Health literacy	0.53	0.17	60.45	0.02	0.40	7.19**	<0.001
Attitudes toward pregnancy	0.54	0.01	4.71	0.12	0.13	2.17*	0.034

*p < .05, **p < .01

Discussion

Findings in the present study revealed that participants' economic status was correlated with their interpersonal support, stress management, and self-actualization at the significant level of 0.05 and 0.01 (r = 0.19, 0.17, and 0.20 respectively). This might be due to the fact that family incomes directly affected adolescence pregnancy' quality of life. Furthermore, this sufficient income supported their healthcare behavior and prevented them from stress. Similarly, previous study [19] reported that family incomes was related to healthcare behavior of pregnancy and also their visits to an antenatal care clinic.

In addition, developmental assets were correlated with healthcare behavior of adolescence pregnancy. One plausible explanation was that the samples married and stayed with their families. Consequently, social support from family was positively related to healthcare behavior of pregnant teenagers. Similarly, previous study [20] had reported that love and care from family reduced risk and correlated with healthcare behavior of adolescence.

Furthermore, families' strengths were correlated with healthcare behavior of adolescence pregnancy. The results were similar to the finding of a previous study [21] demonstrating that pregnant teenagers and their families well cooperated to prevent risk factors during pregnancy. Moreover, attitudes toward pregnancy were correlated with healthcare behaviors of adolescence pregnancy. This can be explained that attitudes was very important and directly affected individuals' behavior. In order for individuals to successfully practice healthcare behavior, they need to have positive attitudes toward that aspect. The results were similar to the finding of a previous study [22] demonstrated that positive attitudes toward pregnancy promoted positive healthcare behavior of pregnancy.

In addition, health literacy was correlated with healthcare behaviors of adolescence pregnancy. Eadie [23] claimed that individuals' knowledge and experience contributed to one' health literacy. The health literacy directly affected people' health behavior and quality of life. [24] The predictor variables to the healthcare behavior of adolescence pregnancy were developmental assets, health literacy, and attitudes toward pregnancy. These 3 predictor variables explained approximately 54.30 % of the variance in the healthcare behavior of pregnant adolescents. Similarly, a previous study [25] has reported that developmental assets, health literacy, and attitudes toward pregnancy were predicting variables of adolescence pregnancy's healthcare behavior.

Recommendations and limitations of the study

Based on the findings of this study, it is recommended that healthcare professionals create guidelines aimed at promoting healthy behaviors among adolescents who are pregnant. These guidelines should take into account the adolescents' developmental assets, health literacy, and attitudes towards pregnancy in order to be effective. By tailoring interventions to these specific factors, healthcare professionals can better support adolescent mothers and promote positive health outcomes for both mother and child.

In contrast, findings of this study might not be able to represent all predictor variables to the healthcare behavior of adolescent pregnancy. Due to the fact that the majority of participants in this study were ready for their pregnancies, their developmental assets, families' strengths, and health literacy were already at a good level. Again, their attitudes toward pregnancy were already at a very good level. Further research should focus on many different predictor variables and areas with similar characteristics.

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