World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

Check for updates

The effect of nursing education strategies based on health promotion model on increasing family independence in caring for maternal health

Naharia Laubo [1], Ruslan Hasani [1,*], Iwan [1], Sri Wahyuni Awaluddin [1], Sukriyadi [1], Sitti Aminah [1], Nuraeni Jalil [1], Abdul Kadir Ahmad [1], Hasifah [2] and Hamsina [3]

[1] *Department of Nursing, Poltekkes Kemenkes, Makassar, Indonesia.*
[2] *Department of Nursing, Stikes Nani Hasanuddin, Makassar, Indonesia.*
[3] *Chemical Engineering Study Program, Faculty of Engineering, Bosowa University of Makassar, Indonesia.*

World Journal of Advanced Research and Reviews, 2022, 14(03), 338–345

Publication history: Received on 02 May 2022; revised on 11 June 2022; accepted on 13 June 2022

Article DOI: https://doi.org/10.30574/wjarr.2022.14.3.0525

Abstract

Maternal health refers to health during pregnancy, during childbirth, and the postnatal period. This is related to the dimensions of family planning, before conception, before giving birth, and after giving birth to improve health status and reduce maternal morbidity and mortality. In 2015, the maternal mortality rate in Indonesia was reported as 305 per 100.000 live births with the highest cause being bleeding. This study aims to evaluate the effect of nursing education strategies based on the health promotion model on increasing family independence in maintaining maternal health. This research was a quasi-experimental study using a non-randomized pretest and posttest with a control group design. The study was conducted at the Bara-Baraya Health Center in Makassar. The research sample consisted of 64 respondents (32 in the intervention group and 32 in the control group) using a purposive sampling technique. Data analysis, findings in the intervention group showed that the average level of family independence in maintaining maternal health at the time of the pretest was 2.78±0.42 and the average level of family independence in maintaining maternal health at the time of the posttest was 7.00±0.00, increased 4.22±0.42 after the HPM intervention. The average level of family independence in maintaining maternal health in the pretest control group was 2.66±0.48, and the average level of family independence in maternal health in the posttest was 3.22±0.42 also increased. The results showed that the Health Promotion Model intervention had an effect on the level of family independence in maintaining maternal health, p = 0.001.

Keywords: Pregnant Mother; Antenatal Care; Health Promotion Model; Family Independence; Maternal Health

1. Introduction

Family independence is an approach taken by the family by utilizing resources in the family in an effort to live a healthy life to achieve optimal health by using an effective and efficient approach. It is said that the family is independent if the family is willing and able to realize their will/desire which is to be involved in actions/deeds in caring for themselves and family members in order to obtain good/improved health status [1] [2].

The level of family independence is divided into four levels. Family independence Level I is the family with the lowest level of independence and Family independence Level IV is the family with the highest level of independence. At the level of family Independence III, the family has met the criteria for family independence level I and II plus the family has been actively using health service facilities and taking preventive actions actively. At the level of Family Independence IV, the family has met the criteria for the level of Family Independence III plus the family is already actively using health

* Corresponding author: Ruslan Hasani
Department of Nursing, Poltekkes Kemenkes, Makassar, Indonesia.

services. Besides that, the family is also active in taking promotive and preventive actions. At levels I and II of Family Independence, the criteria have not been implemented by the family [1] 2].

A Health Promotion Model [HPM] is the display of a person's behavior, which is the result of the interaction between environmental factors and individual perceptions that can affect behavior change. HPM refers to a person's potential to be able to change negative behavior or implement new health behaviors [3].

The Health Promotion Model (HPM) is a health promotive and preventive model that was first used in the nursing world in 1980. This model focuses on efforts to improve health status and efforts to prevent illness in a person. If the promotive and preventive health efforts fail, the third effort that will be made is treatment of the disease. HPM is used as a framework approach to behavioral science and nursing science that affects healthy behavior [3].

Currently, there is a general decline in maternal mortality during the period 1991-2015 from 390 to 305 per 100,000 live births. Although there is a tendency to decrease maternal mortality, the MDGs target that must be achieved is 102 per 100,000 live births in 2015. The results of the 2015 SUPAS show that the maternal mortality rate is three times higher than the MDGs target [4].

Behavioral intervention The Health Promotion Model is an educative and supportive action given to families with the aim of increasing family understanding/knowledge about health. It is hoped that families can leave cultural values that do not support health and well-being maintaining/adopting cultural values that support health so that families are more aware, willing and able to live a healthy life in order to overcome maternal and child health problems in order to achieve sustainable development. Families need to be equipped with knowledge about healthy living behavior. These behavioral interventions should run integrally with various health development activities so that they become mainstream in accelerating the achievement of the MDGs and realizing universal public health insurance [5].

2. Material and methods

This study is a quasi-experimental study using a design non-randomized pre-test and post-test with control group design.

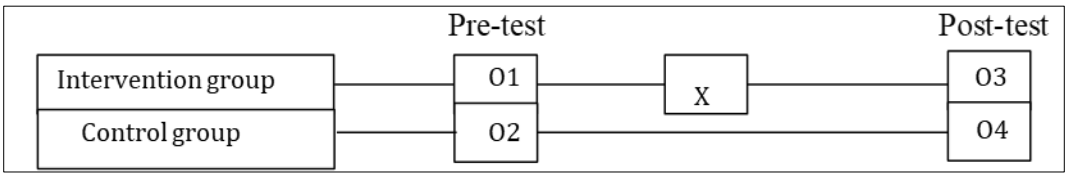

Figure 1 Non-Randomized pre-test and post-test with control group design

Before the treatment (X) was given, initial measurements/observations were made to clarify the level of family independence in the treatment group (O1) and in the control group (O2). Then treatment (X) was carried out using a nursing education strategy based on the Health Promotion Model in the intervention group. After the treatment (X) in the intervention group, final measurements/observations were made on the level of family independence in the intervention group (O3) and in the control group (O4). After the initial and final measurement/observation data have been collected, then data processing and analysis is carried out using the Paired Sample t-test, but if the data is not normally distributed, the Wilcoxon signed test will be used.

The research sample consisted of 64 respondents (32 in the intervention group and 32 in the control group) using a purposive sampling technique. The inclusion criteria for the study were that the family had level I and/or II independence, the family was willing to be the research sample, the family (mother) received antenatal care services at the Bara-Baraya Health Center Makassar, the family participated in all activities. Meanwhile, the exclusion criteria were that the family had a level of independence III and/or IV, resigned/didn't want to continue.

2.1. Data collection

- Tool (I): Family Independence

The data collection tool for the level of family independence used in the form of a checklist instrument that has been declared valid and reliable, which refers to Ferry Efendy and Mukhfudli (2009) [6] [1]. The observation items consisted of seven items, namely 1) receiving officers, 2) receiving health services according to the plan, 3) knowing and being able to express health problems correctly, 4) Use health care facilities as recommended 5) utilizing health service facilities as recommended, 6) taking active preventive actions, 7) carrying out active (promotive) health improvement actions. The data was taken 2 times, namely before and after the nursing education strategy treatment was carried out based on the health promotion model.

2.2. Scoring system

The assessment of the level of family independence uses a checklist by providing an assessment of the criteria displayed by the family. As shown in table 1 below.

Table 1 Level of family independence

No	Criteria	Level of Family Independence			
		I	II	III	IV
1	Receiving officers	v	v	v	v
2	Receiving health services according to the plan	v	v	v	v
3	Knowing and being able to express health problems correctly		v	v	v
4	Use health care facilities as recommended		v	v	v
5	Utilizing health service facilities as recommended		v	v	v
6	Taking active preventive actions			v	v
7	Carrying out active (promotive) health improvement actions				v

- Tool II: Health Promotion model Nursing Education to Improve Maternal Health:

Table 2 Pender Health Promotion Model. Domain (1) Individual Characteristics and Experiences

No	Subdomain and items
Personal biological factors	
1	Age
2	BMI
Personal psychological factors	
3	Self Esteem
4	Self-Motivation
5	Personal Competences
6	Perceived Health Status
7	Definition of Health
Personal socio-cultural factors	
8	Race
9	Ethnicity
10	Acculturation
11	Education
12	Socio-economic Status

It is adapted from Pender (2011) [7]. The Pender Health Promotion Model, which is used to increase family independence in maintaining maternal health. It consists of 23 items, two domains and nine subdomains:

Individual Characteristics and Experiences (Prior related behavior and personal factors)

Explanation of HPM model, Domain (1) Individual Characteristics and Experiences

2.2.1. Personal Factors.

Personal factors include biological, psychological and socio-cultural aspects. These factors are predictors of behavior that are acquired and shaped naturally by the target behavior.

2.3. Behaviour-Specific Cognitions and Affect

Table 3 Pender Health Promotion Model. Domain (2) Behavior-Spesific Cognition and Affect

No	Subdomain and items			
Perceived Benefits of Action				
13	Willing to sacrifice money and time			
Perceived Barriers of Action				
14	Anticipated, imagined, or real blocks			
15	Personal costs of understanding a given behavior			
Perceived Self-Efficacy				
16	The judgment of personal capability to organize and execute a health-promoting behavior			
17	Perceived self-efficacy influences perceived barriers to action			
Activity-Related Affect				
18	Subjective positive or negative feeling occurs before, during, and following behavior based on the stimulus properties of the behavior itself			
Interpersonal Influences				
19	Norms (expectations of significant others)			
20	Social support (instrumental and emotional encouragement)			
21	Modeling (vicarious learning through observing others engaged in a particular behavior)			
Situational Influences				
22	Personal perceptions and cognitions of any given situation or context			
23	Perception of available options, demand characteristics, and aesthetic features of the environment			
Behavioral Outcomes	**4**	**3**	**2**	**1**
Commitment to a plan of action, immediate competing demands and preferences, and health-promoting behavior				

Explanation of HPM model, Domain (2) Behavior-Spesific Cognition and Affect

2.4. Perceived Benefits of Action

A person's plan to carry out a certain behavior depends on the anticipation of the benefits or results that will result. Anticipated benefits are mental representations of positive behavioral consequences. Based on the theory of expecting value.

2.5. Perceived Barriers to Actions

In relation to health promotion behavior, these barriers can be imaginary or real. These barriers consist of: perceptions of unavailability, unpleasantness, cost, difficulty or the use of time for special actions. These barriers are often seen as blocks, barriers and personal costs of a given behavior. Loss of decision to avoid or eliminate behaviors that damage maternal health such as wearing high heels, smoking, drinking coffee, consuming raw vegetables and others to adopt healthier behaviors/lifestyles such as getting enough rest, continuing to exercise regularly, consuming green vegetables, beans, eggs, fish can also be a hindrance. When readiness to act is low and resistance is high then this action is unlikely to occur. If readiness to act is high and resistance is low, the likelihood of taking action is greater. Action barriers as described in the HPM affect health promotion directly by acting as locks against action such as decreased commitment to planning action.

2.6. Perceived Self-Efficacy

Self-efficacy is a decision of a person's capability to organize and carry out real actions. Perceived self-efficacy is a decision from the ability to complete a certain level of performance, where the goal or expectation is a decision of a consequence (eg benefits and costs) as much as the behavior that will be produced. Perceptions of skills and competencies in the domain of individuals' motivation to engage in the behaviors they undergo.

2.7. Activity-Related Affect

Subjective feelings appear before, during and after a behavior, based on the nature of the stimulus behavior itself. These affective responses can be mild, moderate or strong and are consciously anticipated, stored in memory and linked to subsequent behavioral thoughts. Affective responses to certain behaviors consist of 3 components, namely: the emotions that arise from the action itself (activity-related), self-responsibility (self-related), or the environment in which the action occurs (context-related). The resulting feeling is likely to influence whether the individual will repeat the behavior again or maintain the old behavior.

2.8. Interpersonal Influences

According to HPM, interpersonal influence is awareness of the behavior, beliefs or attitudes of others. This awareness may or may not correspond to reality. The main sources of interpersonal influence on health promotion behavior are family (parents and siblings), friends, and health workers. Interpersonal influences include: norms (expectations from meaningful people), social support (instrumental and emotional encouragement) and modeling (learning through observing a person's particular behavior). These three interpersonal processes in a number of health studies appear to predispose a person to carry out health promotion behavior. Social norms form standards of practice that individuals can adopt or reject. Social support for a behavior provides sources of support provided by others. Individuals differ greatly in their sensitivity to expectations, examples of praise from others. Individuals may engage in behaviors that will elicit praise and social support for them.

2.9. Situational Influences

In HPM, situational influences have been suggested as direct or indirect influences on health behavior. Situations can directly influence behavior by providing an environment filled with cues that will lead to action. For example, an environment that is written no smoking will create the characteristics of non-smoking behavior in that environment as requested. Both of these situations support a commitment to health action.

3. Results and discussion

Based on Table (4) shows that, more than half (76.56%) of respondents are aged between 20-35 years. all respondents are women (100%). Less than half of them have a university background (43.75%), high school (39.06%), junior high school (10.94%) and elementary school (6.25%). Regarding socioeconomic status, there are half (50%) respondents with high socioeconomic status.

Table 4 Characteristic of study group according to age, gender, education and economic social

Characteristic	n [Total=64]	Percentage %
Age		
<18 years old	5	7.81
18-20 years old	6	9.38
20-35 years old	49	76.56
>35 years old	4	6.25
Gender		
Male	0	0
Female	64	100
Education background		
College	28	43.75
High School	25	39.06
Junior High School	7	10.94
Elementary School	4	6.25
Economics Social		
High	32	50.0
Medium	18	28.13
Low	14	21.87

The Wilcoxon signed-rank test was carried out to test the main hypothesis of the study. The relevant results are presented below.

Table 5 Level of Family Independence in the experimental and control groups before and after intervention of Health Promotion Model

Group	Family Independence (mean±SD)		Changes in mean±SD	*p value*
	Pre-test	Post-test		
Experiment	2.78±0.42	7.00±0.00	4.22±0.42	0.001*
Control	2.66±0.48	3.22±0.42	0.56±0.67	0.001*

4. Discussion

After the intervention was carried out for 14 days, the mean score of the intervention group increased significantly on the dimensions of family independence. From the data analysis, it is known that the difference in the mean before and after the intervention with the results of the treatment group is 4.22 ± 0.42 and for the control group it is 0.56 ± 0.67 with a p value of 0.001. There is a significant effect of applying the health promotion model to families to increase family independence in maintaining maternal health. This is also in accordance with the research of Abbas et al [8] [9]. Where the factors that influence the health promotion lifestyle are previous related behaviors, perceived benefits of the action, perceived self-efficacy, commitment to the action plan, and interpersonal influence.

The same study was also conducted by Stuifbergen AK, Becker HA in 1994 where he tested the usefulness of the Pender Health Promotion Model (1987) in explaining the occurrence of health promotion behavior among adults with

disabilities. From a sample of 117 adults with disabilities. The findings of this study suggest that interventions aimed at improving health-promoting behaviors among persons with disabilities will be strengthened by addressing perceived abilities to master the situations, particularly the ability to successfully carry out health promotion behaviors [10].

Pender's health promotion model (HPM), derived from social cognitive theory, and includes three groups of factors that influence health behavior: individual characteristics; cognition and behavioral-specific influences; and the likelihood of direct behavior. The model shows how all three These factors can directly and indirectly affect influence health-promoting behavior (3). Pender based his research on Bandura's Social Cognitive Theory and Value Expectation Theory, which resulted in the development of models that explain, predict and modify forms of health-promoting behavior [11].

HPM Pender-based educational interventions can improve self-efficacy, lifestyle, and dimensions in diabetic foot ulcer patients. The results of Parya Vakilian's research (2021) can be used in educational interventions aimed at diabetic foot ulcer patients to change lifestyle and increase self-efficacy [12].

In order to identify quality of life and health-promoting behavior and to predict the stage of change in the associated factors that influence health-promoting behavior, some researchers suggest that the Pender model can be very useful, especially for examining similarities and differences between groups. Health care providers can use this concept to assess, identify and use effective health promotion programs, strategies and interventions.

Using the Pender model, healthcare providers can prevent events that interfere with health-promoting behavior. Everyone can benefit from it and promote healthy behaviors that influence the avoidance of unhealthy lifestyles. According to this model, health promotion can increase healthy behavior, improve health status and reduce health care costs [13].

5. Conclusion

Health promoting behavior that is integrated with a healthy lifestyle, enables improved health and a better quality of life at every stage of development. Predicting and detecting healthy behavior is a major concern of healthcare professionals. The results showed that the application of the Health Promotion Pender Model in health education interventions could increase family independence in maternal health services. Useful for providing information for the development of nursing interventions, disease prevention and risk factors for disease and health promotion activity.

Compliance with ethical standards

Acknowledgments

The authors would like to acknowledge all of those who contributed to this work.

Disclosure of conflict of interest

The authors declared no conflicts of interest.

Statement of ethical approval

All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The required approval was obtained from the relevant Ethics Committee prior to conducting the research. Moreover, participating in the study was voluntary, and the study results are available to the study samples upon request.

Statement of informed consent

The relevant, informed consent form was obtained from all study participants.

References

[1] Kholifah SN, Widagdo W. Modul Bahan Ajar Keperawatan Keluarga dan Komunitas. 1st ed. Jakarta: Pusdik SDM Kesehatan BPPSDM kesehatan; 2016. 33–47 p.

[2] Kaakinen JR, Coehlo DP, Gedaly-Duff V, Hanson SMH. Family health care nursing. Theory, Practice and Research. 4th Edition. Maroney PJ, editor. Vol. 4, F.A Davis Company-Philadelphia. Philadelphia: DaCunha, Joanne Patzek; 2010. 207–234 p.

[3] Pender NJ, Murdaugh CL, Pearsons MA. Health promotion in nursing practice Seventh Edition. 7th ed. Sullivan E, editor. Vol. 7, Pearson. South Carolina: Julie Levin Alexander; 2015. 1–5 p.

[4] Sekretariat Jenderal KR. Profil Kesehatan Indonesia 2018. Kurniawan R, Yudianto, Hardhana B, Siswanti T, editors. Kementerian Kesehatan RI. Jakarta: Kementerian Kesehatan RI; 2019. 111–114 p..

[5] Indonesia MK. Pedoman Penyelenggaraan Program Indonesia Sehat dengan Pendekatan Keluarga. Jakarta; 2016. Report No.: Permenkes RI no. 39/2016.

[6] Efendy F, Mukhfudli. Keperawatan Kesehatan Komunitas: Teori dan Praktik dalam Keperawatan - Google Buku [Internet]. 1st ed. Nursalam, editor. Penerbit Salemba Medika. Jakarta: Salemba Medika; 2009. 178–189 p.

[7] Pender N, Murdaugh CL, Pearson MA. The Health Promotion Model Manual [Internet]. Pearson. Boston; 2011. 1–17 p. Available from: http://nursing.umich.edu/faculty-staff/nola-j-pender.

[8] Heydari A, Khorashadizadeh F. Pender's health promotion model in medical research. J Pak Med Assoc. 2014; 64(9): 1067–74.

[9] Seo HM, Hah YS. A study of factors influencing on health promoting lifestyle in the elderly--application of Pender's health promotion model. JKAN J. 2004; 34(7): 1288–97.

[10] Stuifbergen AK, Becker HA. Predictors of health-promoting lifestyles in persons with disabilities. Res Nurs Health. 1994; 17(1): 3–13.

[11] Carreño J, Vyhmeister G, Grau L, Ivanovic D. A health promotion programme in Adventist and non-Adventist women based on Pender's model: A pilot study. Public Health. 2006; 120(4): 346–55.

[12] Vakiilian P, Mahmoudi M, Oskouie F, Firouzian AA, Khachian A. Investigating the effect of educational intervention based on the Pender's health promotion model on lifestyle and self-efficacy of the patients with diabetic foot ulcer: A clinical trial. J Educ Health Promot. 2021;10(Desember):1–9.

[13] Mendias EP, Paar DP. Perceptions of Health and Self-Care Learning Needs of Outpatients With HIV/AIDS. J Community Health Nurs. 2007; 24(1): 49–64.