



BEHAVIOUR OF USING PERSONAL PROTECTIVE EQUIPMENT BY MIDWIVES DURING NORMAL CHILDBIRTH BASED ON HEALTH BELIEF MODEL AND SOCIAL CAPITAL AT MATERNITY CLINICS

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ABSTRACT

The implementation mechanism of normal childbirth care is inseparable from the potential risks to midwifery health disorders. One of the efforts to prevent health problems due to work is to use Personal Protective Equipment (PPE). The behavior of using PPE by midwives is important to prevent work accidents or occupational diseases during normal childbirth assistance which can be reviewed from a person's health behavior. Theories that can describe health behaviors are the Health Belief Model and Social Capital. The purpose of this study is to analyze the influence of the theory of Health Belief Model and Social Capital on the behavior of using PPE in midwives in normal childbirth care at the Surabaya City maternity clinic. The research design uses clinical observation with a cross sectional approach. The population consists of 80 midwives and the sample consisted of 66 respondents. All aspects of HBM and social capital have a sig > 0.05 which means that these aspects are related to the behavior of using PPE in midwives in normal childbirth care at the Surabaya City maternity clinic. All aspects of HBM and social capital have a sig of < 0.05 which means that these aspects affect the behavior of using PPE in midwives in normal childbirth care at the Surabaya City maternity clinic. The vulnerability aspect of HBM theory and the proactive action aspect of Social Capital theory significantly affect normal childbirth care.

Keywords: health belief model; midwives; normal childbirth; personal protective equipment; social capital

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INTRODUCTION

A study by the International Labour Organization (ILO) noted that every year there are around 2.8 million work accidents that resulting in severe injuries to health workers around the world. According to WHO (2015), the incidence of health workers contracting Hepatitis B and C and HIV transmitted by patients tend to be high. This transmission can occurs through skin injured by needles, knives and other sharp objects or exposure of mucous membranes with body fluids. One of the formal sector workforce those who have the potential to experience work accidents are midwives. Midwives are required providing continuous midwifery services, one of which is carrying out Normal Childbirth Care (NCC).

The mechanisms of carrying out normal maternity care are not exempt from the potential risks to maternal health disorders. One of the efforts to prevent work-related health disorders is to use self-protection tools (Sari & Novita, 2016). Personal protective equipment is used to protect the skin and mucous membranes officers from the risk of exposure to blood, all types of body fluids, secretions, excreted, skin which is not intact, and the patient's mucous membranes. Types of personal protective equipment used adjusted to the type of action or activity. Personal protective equipment used by midwives in normal childbirth assistance,

namely head coverings, glasses, masks, aprons, gloves and boots. For activities childbirth aid, all body protective equipment should be used by health workers to reduce exposure to blood and other body fluids (Depkes RI, 2010).

This is supported by the results of observations and interviews with 58 midwives in Iran found that 82.2% had been pricked by a syringe. Other surveys for six months, 74% of midwives have touched the blood of patients with bare hands, 51% are exposed to blood splashes or body fluids onto the face, 24% experienced a needle prick and only 55% of midwives standard preventive procedures (Amiri-Farahani et al., 2022). Data from Djauhari (2015) which examines factors related to wounds needle prick on village midwives in Mojokerto Regency. With samples a total of 74 village midwives showed results of 39 people (52.7%) village midwives experienced needle prick wounds and as many as 35 people (47.3%) did not experience needle prick wound. As well as data from a preliminary study conducted on 15 midwives at the Bati-Bati Health Center, Tanah Laut Regency, obtained 100% results have been pierced by a syringe/hacting needle, 100% have been injured by a fracture ampuls, 20% had experienced bruises, 13.4% were positive for HbsAg (Andhini, 2023).

The Health Belief Model Theory and Social Capital Theory are theories that can describe health behavior. Some aspects of the Health Belief Model theory are the perception of vulnerability, perception of severity, perception of benefits, perception of obstacles and cues to action (Burke, 2013). Compliance with the use of PPE based on the Health Belief Model (HBM) theory is still important to be studied in order to improve maternal compliance in using self-protection equipment. This was supported by Isnaeni's study (2022) on factors related to nurses' compliance in the use of self-protection equipment in RSUD X which found that the perception of risk and danger when not using APD was related to the level of compliance of APD use in health facilities (Isnaeni & Puteri, 2022).

In the theory of social capital or social capital, there are several aspects, namely participation in a network, mutual relationships, trust, social norms, and proactive actions (Susmiati, 2021). Based on the above background, the researcher will conduct a research entitled behaviour of using personal protective equipment by midwives during normal childbirth based on health belief model and social capital at maternity clinics in Surabaya City Area. This study is aimed at analyzing the influence of the health belief model and social capital theory on the behavior of APD use in midwives in normal childbirth.

METHOD

The design of this study is observational analysis with the research approach (type) used in this study is cross-sectional. Cross-sectional is a form of observational study that aims to find or study the relationship between free variables (risk factors) and dependent variables, by means of approach, observation, or collection of data simultaneously at a time or point time approach (Herdiani, 2021). Population is the whole of the subjects to be studied. Population can be people, objects, symptoms, or areas that the researcher wants to know (Arikunto, 2016). The population used in this study was 80 maternity midwives who worked in 18 Maternity Clinics in the Surabaya City Area and the sample used in this study was 66 people. The research variables consisted of aspects in the Health Belief Model and Social Capital with the behavior of using PPE during normal childbirth assistance. Data collection was carried out through interviews and observations and was complemented by secondary data obtained from maternity clinics in the Surabaya City Area. Data analysis was carried out by univariate analysis, bivariate (chi-square) and multivariate analysis (regression).

RESULTS

The following are the results of a study conducted on 66 respondents related to the use of personal protective equipment in midwives in normal childbirth care at maternity clinics in the Surabaya City area.

Table 1.
Overview of Respondent Characteristics

Variable	f	%
Age		
< 25 years	18	27.2
25 – 30 years	38	57.6
> 30 years	10	15.2
Last education		
Diploma III	26	39.4
Diploma IV	14	21.2
Bachelor	8	12.1
Professional education	18	27.3
Work experience		
1 – 3 years	46	69.7
3 – 5 years	16	24.2
> 5 years	4	6.1
NCC certificate ownership		
Already have	66	100

Table 1, the characteristics of the respondents were the most in the age range of 25 – 30 years (57.6%), the last education of diploma III (39.4%), 1 – 3 years of work experience (69.7%) and already have an NCC certificate (100%).

Table 2.
Behavior of Using Personal Protective Equipment

Variable	f	%
Positive behavior	31	47.0
Negative behavior	35	53.0

Table 2, the behavior of using PPE is classified as negative behavior (53%) in normal childbirth assistance.

Table 3, conclusions can be drawn from 66 midwife respondents at the Surabaya City Maternity Clinic, as many as 58 people or 87.9% of midwives have a very good perception of benefits while as many as 3 people or 4.5% have a very poor perception of vulnerability in the use of PPE according to the aspect of health belief model theory and as many as 52 people or 78.8% of midwives have very good trust and as many as 4 people or 6.1% of midwives have participation in the network that is not good in the use of PPE according to the aspect of social capital theory during normal childbirth assistance.

Table 4, all aspects of HBM including perception of vulnerability, perception of severity, perception of benefits, perception of obstacles and cues to action have a sig of < 0.05 which means that all of these aspects are significantly related to the behavior of using PPE in midwives in Normal Childbirth Care at the Surabaya City Maternity Clinic.

Table 3.
Behavior of Using Personal Protective Equipment Based on Health Belief Model Theory and Social Capital

Variable	Measurement Category							
	Excellent		Good		Not Good		Very Bad	
	f	%	f	%	f	%	f	%
Health belief model								
Perception of vulnerability	57	86.4	6	3.1	0	0	3	4.5
Perception of severity	49	74.2	14	21.2	3	4.5	0	0
Perception of benefits	58	87.9	5	7.6	3	4.5	0	0
Perception of obstacles	34	51.5	31	47.0	1	1.5	0	0
Cues to action	50	75.8	13	19.7	3	4.5	0	0
Social capital								
Participation in the network	32	48.5	30	45.5	4	6.1	0	0
Reciprocal relationship	49	74.2	17	25.8	0	0	0	0
Belief	52	78.8	11	16.7	3	4.5	0	0
Social norms	44	66.7	19	28.8	3	4.5	0	0
Proactive action	47	71.2	16	24.2	3	4.5	0	0

Table 4.
The Relationship between Health Belief Model Aspects and PPE Use Behavior

Variable	Behavior				Sig
	Positif Behavior		Negative Behavior		
	f	%	f	%	
Perception of Vulnerability					
Excellent	54	81,8	3	4,5	0,000
Good	5	7,6	1	1,5	
Very bad	0	0	3	4,5	
Perception of severity					
Excellent	48	72,7	1	1,5	0,000
Good	11	16,7	3	4,5	
Very bad	0	0	3	4,5	
Perception of benefits					
Excellent	55	83,3	3	4,5	0,000
Good	4	6,1	1	1,5	
Very bad	0	0	3	4,5	
Perception of obstacles					
Excellent	34	51,5	0	0	0,001
Good	25	37,9	6	9,1	
Very bad	0	0	1	1,5	
Cues to action					
Excellent	49	74,2	1	1,5	0,000
Good	10	15,2	3	4,5	
Very bad	0	0	3	4,5	

Table 5.
The Relationship between Social Capital Aspects and PPE Use Behavior

Variable	Behavior				Sig
	Positif Behavior		Negative Behavior		
	f	%	f	%	
Participation in a network					
Excellent	32	48,5	0	0	0,000
Good	27	40,9	3	4,5	
Very bad	0	0	4	6,1	
Reciprocal relationship					
Excellent	47	71,2	2	3	0,003
Good	12	18,2	5	7,6	
Very bad	0	0	0	0	
Belief					
Excellent	49	74,2	3	4,5	0,000
Good	10	15,2	1	1,5	
Very bad	0	0	3	4,5	
Social norms					
Excellent	43	65,2	1	1,5	0,000
Good	16	24,2	3	4,5	
Very bad	0	0	3	4,5	
Proactive action					
Excellent	46	69,7	1	1,5	0,000
Good	13	19,7	3	4,5	
Very bad	59	89,4	7	10,6	

Table 5, all aspects of social capital including participation in a network, mutual relationships, trust, social norms and proactive actions have a sig of < 0.05 which means that all of these aspects are significantly related to the behavior of using PPE in midwives in Normal Childbirth Care at the Surabaya City Maternity Clinic.

Table 6.
The Influence of Health Belief Model Aspects on PPE Use Behavior

Variable	R Square	Sig
Perception of vulnerability	0,382	0,000
Perception of severity	0,379	0,000
Perception of benefits	0,359	0,000
Perception of obstacles	0,175	0,000
Cues to action	0,399	0,000

Table 6, all aspects of HBM have a sig < 0.05 which means that all of these aspects affect the behavior of using PPE. The biggest influence of PPE use behavior is the perception of vulnerability at 38.2%.

Table 7.
The Influence of Social Capital Aspects on PPE Use Behavior

Variable	R Square	Sig
Participation in a network	0,322	0,000
Reciprocal relationship	0,129	0,003
Belief	0,232	0,000
Social norms	0,299	0,000
Proactive action	0,344	0,000

Table 7, all aspects of social capital have a sig < 0.05 which means that all of these aspects affect the behavior of using PPE. The biggest influence of PPE use behavior was proactive action at 34.4%.

DISCUSSION

Respondent characteristics

The results of the study stated that the proportion of respondents based on age was the highest, namely the age range of 25-30 years (57.6%). According to Fajar & Kundalim (2022) the age that is still in the productive period usually has a higher level of productivity compared to the elderly workforce, so that the physique they have becomes weak and limited. This is also in line with the opinion of Anita (2017) at the age factor is an individual variable, in principle that the older a person gets, the more mature they will be and the more information they absorb that will affect their behavior.

The results of the study stated that the most respondents were Diploma III graduates (39.4%). According to the Permenkes RI (2019), health workers are capable of providing services, namely with a minimum education level of D3. It is the same as the study of Wianti et al., (2021) education of the highest respondents, namely the Diploma of a total of 42 (58.8%) respondents. This study also said that the highest working period was 1-3 years (69.7%). The length of work is synonymous with experience, the longer a person works, the more experience he or she has. Experience will have an effect in increasing one's knowledge, because one's knowledge is also obtained from experience. This is in agreement with Darsini et al., (2019), which states that experience is a combination of knowledge and a person's behavior, where knowledge is the result of knowing after a person performs a sensation of a particular object, while behavior is any form of reaction of an individual to his environment.

The Relationship between Health Belief Model Aspects and PPE Use Behavior in Midwives in Normal Childbirth Care at Maternity Clinics

All aspects of HBM in this study which include perception of vulnerability, perception of severity, perception of benefits, perception of obstacles and cues to action with $p\text{-value} < 0.05$ are significantly related to the behavior of using PPE in midwives in Normal Childbirth Care at the Maternity Clinic in the Surabaya City Area. Based on the perception of vulnerability which is an individual's belief in his or her vulnerability from the possibility of being exposed to diseases or other medical conditions in line with previous research that there is a significant relationship between the perception of vulnerability and compliance with the use of PPE (Pangaila et al., 2021). The perception of vulnerability can be understood as a perceived vulnerability or as a subjective perception by a person regarding the risk for him or her to be exposed to a disease or other health problem (Prabandari et al., 2020).

Based on the perception of severity which is an individual's belief in his or her vulnerability to the possibility of being affected by diseases or other medical conditions in line with research conducted at Haji General Hospital Surabaya, where there is a relationship between the perception of severity and compliance with the use of PPE (Jannah, 2020). Based on the perception of benefit, which is an individual's belief about the perceived benefits of various actions available to reduce the threat of disease, in line with research conducted that there is a significant relationship between the perception of benefits and compliance with the use of PPE (Pangaila et al., 2021). Similar results to studies conducted in Myanmar show a significant link between perception of benefits and compliance with the use of PPE in nurses (Aung & Dewi, 2016). Based on the perception of obstacles which is an individual's assessment of the magnitude of obstacles or obstacles encountered in carrying out medical behaviors that will be carried out in line with previous research that there is a significant relationship between the perception of obstacles and the behavior of protecting oneself from nurses where one of the items in it is the use of PPE (Chow et al., 2018).

Based on cues to action which is a behavior influenced by something that is a signal for a person to take an action in line with previous research which stated that self-efficacy affects the use of PPE (Muharram, 2020). These results are consistent with the research carried out on nurses in the ICU room of the hospital Kasih Ibu Surakarta. With the results, there is a significant relationship between self-effectiveness and nursing compliance in using PPE ($p=0,001$) (Krisdiarti, 2019). In this study, some midwives who did not use PPE in accordance with the standards assumed that when the midwife performed normal childbirth assistance there was no risk of birth disease directly at the time. As for the midwives who already use PPE according to the standards, they assume that they will be at risk of illness due to work in the future so they protect themselves by using PPE.

The Relationship between Social Capital Aspects and the Behavior of Using PPE in Midwives in Normal Childbirth Care at Maternity Clinics

All aspects of social capital in this study which include participation in a network, reciprocal relationships, trust, social norms and proactive action with $p\text{-value} < 0.05$ are significantly related to the behavior of using PPE in midwives in Normal Childbirth Care at the Maternity Clinic in the Surabaya City Area. Based on the aspect of participation in a network, which is the ability of a group of people to engage themselves in a network of social relationships, in line with previous research, it was stated that there was a significant relationship between the relationship of participation and the use of personal protective equipment (Yulianto et al., 2022).

Based on the aspect of reciprocal relationships, which is the tendency to exchange kindness between individuals in a group or between groups themselves, in line with previous research stated that there is a significant relationship between reciprocal relationships and the use of personal protective equipment (Yulianto et al., 2022). Good reciprocity increases social capital in the workplace. Based on the aspect of trust, which is an attitude of mutual trust in society that allows these communities to unite with each other and contribute to increasing social capital in line with research conducted by Yulianto et al., (2022) stated that there is a significant relationship between trust and the use of personal protective equipment. Based on the aspect of social norms which is the control of behavior that grows from society in line with research conducted by Aprilianti et al., (2022) that social norms have a relationship with the use of PPE. Based on the aspect of proactive action which is a strong desire of group members to not only participate but always find ways for their involvement in a community activity in line with the research conducted by Aprilianti et al., (2022) that proactive actions have a relationship with the use of PPE. The results of this study are in line with the research carried out by Tarja Dkk with the results there is a significant relationship between network participation and a person's health behavior (Nieminen et al., 2013).

Midwives who use PPE according to the standards feel safe when using it, and it has also become a rule in their professional organization. In other ways, they have also found that the support of the working environment as well as the trust that patients have given them is what makes them use PPE as the standard. In the field, we also found still a lot of respondents who have not used PPE in accordance with the standard. They argue that emergency conditions and lack of support from the work environment make the use of PPE conforming to the standard not a necessity, so they only use the PPE that they consider important: pants, gloves, and masks.

CONCLUSION

All aspects from the theory of the Health Belief Model and the theory of Social Capital are related to significantly with the behavior of PPE use in midwives in normal childbirth care at the city area maternity clinic Surabaya. Changes in the behavior of using personal protective equipment with development of the Health Belief Model theory in midwives who performing normal childbirth care is significantly affected by the aspect of vulnerability perception. meanwhile, in theory Social Capital changes in midwifery behavior in the use of protective equipment self in carrying out normal childbirth care is influenced by significantly by the aspect of proactive action.

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