

Using Theory of Planned Behavior to Explore Beliefs of Public Health Promoters in Promoting Adolescents' Reproductive Health: Case in *Tengger*

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Abstract. *The aims of the study are to explore personal, social and control factors that determined promoting ARH. To construct belief-based of attitude, subjective norms and perceived behavioral control on intention to promote adolescent's reproductive health (ARH) based on theory of planned behaviour. Participants were community health promoters in center of integrated service (kader pos pelayanan terpadu/ posyandu) of Tengger from 3 villages at Sukapura District, Probolinggo Regency, and East Java, Indonesia. The research conducted in two phases. Phase 1: conducted with 20 public health promoters (females; mean age= 34 years, SD=8.75). We used opened-ended question form and focused group discussion to elicit behavioral (advantages and disadvantages), normative (referents who have significant role for them) and control (certain personal or situational factors) beliefs related in promoting ARH. Based on content analysis, it was identified 15 beliefs from public health promoters. Phase 2: conducted with 14 public health promoters (females; mean age= 34 years, SD=8.75). By using two questionnaires to measure beliefs strength and evaluation toward the beliefs. The result has been identified that 10 salient beliefs from health promoters. Increasing knowledge, communication skills and self confidence in promoting ARH were the most salient behavioral beliefs for the two groups. Health officers and partner in organization were the significant referent who support them to promote ARH. The availability of media that can be used in promoting ARH was the most situational factor that facilitate them in performing promotion. Conclusions: Theory of planned behavior provided useful and systematic framework to explore salient beliefs in promoting ARH. Identified salient beliefs is basis for constructing attitude, subjective norms and perceived behavioral control as determinants of intention to promote ARH. The identified beliefs in this research can be used to develop and design program for health promoters in promoting ARH.*

Keywords: *Health promotion, Reproductive health, Theory of planned behaviour, Tengger*

Introduction

There are several limitations to the adolescent reproductive health (ARH) program, which are sustainability (Menna, Ali, & Worku, 2015) and unidentifiable changes in behavior (Rashid & Mwale, 2016) are the main issues. Unsustainable programs are caused by gaps between program design, theory basis used and evaluation of achieved results (Sood, Shefner-Rogers, & Skinner, 2014) and willingness to communicate ARH problems (Rankin et al., 2016). Health promoters in the community play important roles of the success of the program. The role of health promoters, other than to provide education, are to complete administrative and institutional matters related to the promotion of ARH (Valdez, Dvorscek, Budge, & Esmond, 2011). In the *Tengger* community, the presence of health promoters in integrated with health service center (*kader pos pelayanan terpadu/ kader posyandu*) is a voluntary participation and they are not paid for the activities they do. The *kader posyandu* work voluntarily to help the health practitioners in the village (midwives

or nurses) by holding regular socialization and checkups in that *Posyandu*. One of the activities unique to the *Tengger* community related to ARH is *Pethek'an*. This activity is an effort by the *Tengger* community to promote ARH. *Pethek'an* is a result of the collaboration of the *Tengger* community's value with the local government in promoting adolescent reproductive health. This activity is also a bridge that connects the needs of the parties in the structure of the *Tengger* community, which is head of village and culture, spiritual leader, formal and informal institutions of health and adolescence itself. Despite that, the efforts made have not been able to increase adolescent knowledge of ARH (Widyarini, 2014; Widyarini, Retnowati, & Setiyawati, 2017).

For that reason, it is important to explore the personal, social and control determinants of *kader posyandu* in promoting ARH. An individual model to explain decision making related to health and other factors that influence it has existed since the 1950s. Triggered by low participation of tuberculosis sufferers in the United States around that time, the health belief

model (HBM) was the first theory to explain that condition. HBM was developed by a group of psychologists from the US having the assumption that behavior is determined by the value an individual puts on avoiding diseases (Cao, Chen, & Wang, 2014; Janz & Becker, 1984). The creation of the HBM became the start of the discussions for the next 20 years, which related to the Theory of Reasoned Action (TRA), extended by the Theory of Planned Behavior (TPB) in 1975. The assumption is that intention and behavior follow a rational flow of thought. This assumption helps in conducting this research, and practitioners in the field of health by considering the main constructs that determined intention, which are attitude, subjective norms, and perception of behavior control (Ajzen, 1991, 2002; Ajzen, Brown, & Carvajal, 2004). In line with that statement, the Trans Theoretical Model (TTM), also known as Stages of Change (SoC) model which successfully developed by Prochaska, DiClemente, and their colleagues to become a robust model in 1990. TTM developed by Prochaska, DiClemente, and colleagues emphasize on the six stages of behavioral change in an individual (Brindis, Sattley, & Mamo, 2005; Prochaska & DiClemente, 1982, 1983; Prochaska, DiClemente, & Norcross, 1993; Stroebe, 2008).

Several topics can be discussed in this individual-based theory are the factors that determine individual behavior and the role of social environment that contain this behavior. Regarding the first topic, TTM is a theory that defines clearly the stages of behavior change, as opposed to TPB and HBM. TTM distinguishes individuals who have and do not have intention to behave in a certain way at certain stages, but this leaves a theoretical question. Whether an individual lacking in intention to behave is caused by a short time to think or long determinations, so they choose not to act?. The second question is whether an individual who has intention but does not show a particular behavior is due to lack of opportunity to act or because they tried to act and failed?. In this case, HBM and TPB can explain the issue by placing intention in a specific behavioral scope, thus each stage of behavior change has its own factors and dynamics (Fishbein & Ajzen, 2010; VanLandingham, Suprasert, Grandjean, & Sittitrai, 1995).

The second problem related to the social aspect, which encompasses healthy individual behavior. HBM considers risk assessment and severity of a disease so that there is an effort from the individual to avoid these risks and strive for healthy behavior. This behavior is not explained by HBM or TTM. Meanwhile, it cannot be denied that the social aspect is an important factor whose role needs to be understood further in healthy behavior. TPB offers interesting analyses related to social role through subjective norms (Billari, Philipov, & Testa, 2009; Fishbein & Ajzen, 2010). The basic assumption of TPB is that intention to behave follows a reasonable, consistent and even automatic line of thought based on belief. Belief is the cognitive basis for attitude, subjective norm and self-control for intention and

behavior. A person tends to evaluate the consequence of a behavior, the person compelling him/her to behave and situations that facilitate or hinder behavior (Ajzen, 2005; Dennett, 1981; de Leeuw, Valois, & Seixas, 2014). There are 3 determinants of intention, which are personal, social influence and center of control determinants. Personal determinant is attitude toward behavior. Attitude is a positive or negative evaluation of an individual toward behavior that gains his/her attention. The second determinant is individual perception of social pressure to show certain behaviors. If this is consistent with normative concepts, then the second determinant is described as subjective norm. The third determinant relates to self-efficacy or the ability to perform certain behavior (perceived behavioral control) (Ajzen, 2012; Fishbein & Ajzen, 2010).

Present Research. We conducted two phases of research to explore beliefs of health promoter in promoting ARH. Phase 1 identified the salient behavioral, normative and control beliefs that determined health promoters' attitudes, subjective norms and perceived behavioral control concerning promoting ARH. Phase 2 identified the beliefs strength measured on a unipolar scale and evaluation outcome, motivation to comply and power with bipolar scale.

For ethical Approval, the Research Committee of the Faculty of Psychology Universitas GadjahMada (No. 1461/SD/PL.03.01/IV/2018) has approved this study.

Phase 1: Modal Salient Beliefs Elicitation

Method.

Participants were 20 public health promoters from 3 villages in the Sukapura District (females; mean age= 34 years, SD=8.75). We used opened-ended questions and focused group discussion to identify the set of accessible behavioral (advantages and disadvantages), normative (references who have significant roles for them) and control (certain personal or situational factors) beliefs related to promoting ARH. Behavioral beliefs were assessed by two questions, e.g. 'What do you believe would be the advantages of promoting ARH?', 'What do you believe would be the disadvantages of promoting ARH?'. Normative beliefs were assessed by two questions, e.g. 'Which individuals or groups of people would approve (i.e. think it was a good idea) of you for promoting ARH?' and 'Which individuals or groups of people would disapprove of you in promoting ARH?'. Control beliefs were accessed by two questions for each health behavior, e.g. 'What things (i.e. factors or circumstances) would make you more likely to engage in promoting ARH?' and 'What things (i.e. factors or circumstances) would make you less likely to engage in in promoting ARH?.'

Results.

We identified 15 beliefs of health promoters in promoting ARH. Five behavioral (e.g. increasing knowledge and skills in promoting ARH), three normative (e.g. village and health officers,

kaderposyandu) and seven control beliefs (e.g. place of socialization close to home, availability of funds and fixed activity schedule) (see table 1, column 1). These beliefs were used in Phase 2 to identify beliefs strength.

Phase 2: Identification of Beliefs Strength

Method.

Participants were 14 health promoters who previously participated in Phase 1. (female; mean age=34 years, SD=8.75). We used two questionnaires. Firstly, a seven-point scale from impossible for me to obtain (1) to very likely for me to obtain (7) to measure belief strength, e.g. ‘By promoting ARH, my knowledge on ARH will increase.’; from not supportive (1) to very supportive (7) to measure normative belief, e.g. ‘Village midwife is ... to me in promoting ARH.’; unavailable (1) to available (7) to measure control belief, e.g. ‘A socialization place for ARH close to my home is...’. Secondly, a seven-point scale from something that is bad for me (-3) to something that is good for me (+3) to measure outcome evaluation with respect to promoting ARH, e.g. ‘choose the value that shows your evaluation toward results you may obtain in promoting reproductive health to other people.’; from will not follow (-3) to will follow (+3) to measure motivation to comply, e.g. ‘choose the value that represents how far you will follow and comply with the person deciding that you are promoting ARH?’; from hinder (-3) to facilitate (+3) to measure power, e.g. ‘choose the value that represents the extent that the following situation will influence you in promoting ARH?’

The next step is to calculate attitude, subjective norm and perceived behavioral control.

To measure attitude, the following equation is used:

$$A = \sum b_i e_i \dots \dots \dots \text{(Equation 1)}$$

Description:

A = attitude toward promoting ARH

b_i = strength of belief

e_i = evaluation outcome

To measure subjective norm, the following equation is used:

$$N = \sum n_i m_i \dots \dots \dots \text{(Equation 2)}$$

Description:

N= subjective norm

n_i = normative belief strength

m_i = motivation to comply

To measure behavioral control, the following equation is used:

$$PBC = \sum c_i p_i \dots \dots \dots \text{(Equation 3)}$$

Description:

PBC= perceived behavioral control

c_i = control belief

p_i = power

Results.

Table 1. Showed, columns 2 and 3 showed the means and in parentheses, the standard deviation of belief strength, normative and control beliefs. Columns 4 and 5 show the means and standard deviation of outcome

evaluation, motivation to comply and power. The mean and standard deviation of attitude, subjective norm and perceived behavioral control based on belief are shown in columns 6 and 7. Participants generally have strong belief in what outcome they will receive in promoting ARH. An interesting finding is that although housework would be affected (M=5.43; (SD)=1.45) and that there is the possibility that teenagers would ignore ARH promotion that they do (M=4.86; (SD)=1.61), the two things are seen as not so important as to disturb their work (M=-2.29; (SD)=0.73) for housework and (M=-2.43; (SD)=0.85 for the possibility of them ignoring their promotions. This is considered to be a part of their job. Participants also have a strong attitude toward the five results that they may obtain when promoting ARH.

There were 3 salient referents of public health promoters with respect to engaging in promoting ARH. It can be seen in columns 2 and 3 that all the referents were determining themselves in promoting ARH. Compliance and positive attitude toward the three referents can be understood because each referent has a different type of social pressure. Midwives represent expert power because they have adequate knowledge and skills to conduct ARH testing from a medical perspective, while the village government is a legitimate power that has policies and authority to monitor the program. Public health promoters will give support to each other and help in the execution of the program.

From the seven control factors that have been identified in column 1, opportunities to obtain training related to ARH is still lacking (M=3.21, (SD)=2.01), however, this actually facilitates them in promoting ARH (M=2.86, (SD)=0.36). Based on an FGD conducted, it is concluded that the skills needed to carry out ARH are communication, creating and utilizing media, organizing interesting programs for young adults to spark enthusiasm among adolescent people present in ARH promotions.

Table 1. Mean and Standard Deviation of Beliefs in Behavioral Beliefs, Salient Referents, and Control Factors of Health Promoters in Promoting ARH (N=14)

Behavioral beliefs	Behavioral belief strength (b)		Outcome evaluation (e)		Attitude (bxe)	
	M	(SD)	M	(SD)	M	(SD)
Increasing knowledge about ARH	5.86	1.29	2.86	0.36	16.71	4.36
Increasing self-confidence in giving socialization	6.00	0.55	2.57	0.51	15.43	3.50
Increasing skills in giving socialization	5.64	1.28	2.57	0.51	14.29	3.93
Interruptions to housework	5.43	1.45	-2.29	0.73	-12.86	6.05
Ignorance among the adolescent	4.86	1.61	-2.43	0.85	-11.71	6.14
Salient referents	Normative belief (n)		Motivation to comply (m)		Injunctive norm (nxm)	
	M	(SD)	M	(SD)	M	(SD)
Health officer: Midwife	6.79	0.43	2.79	0.43	19.07	3.83
Village government	6.93	0.27	2.43	0.51	16.86	3.76
Kader Posyandu	6.93	0.27	2.79	0.43	19.36	3.30
Control factors	Control Belief (c)		Power (p)		Perceived behavioral control (cyp)	
	M	(SD)	M	(SD)	M	(SD)
Place of socialization is close to home	6.86	0.36	3.29	1.07	22.57	7.68
The availability of programs	6.21	1.05	2.93	0.27	18.14	3.30
Funds to carry out socializations	6.33	0.52	2.83	0.41	18.00	3.29
Media: for example pictures, books, on ARH	4.36	2.59	2.64	0.50	11.36	7.45
Avaibility of fixed schedule	6.64	0.84	2.93	0.27	19.43	2.95
Sufficient time	5.57	1.40	2.79	0.43	15.64	5.03
Opportunity to obtain training	3.21	2.01	2.86	0.36	9.07	5.89

Note. M=Mean, (SD)=standard deviation.

Belief strength, normative and control belief ranges from 1 to 7

Outcome evaluation, motivation to comply and power ranges from -3 to +3

Discussion

This research is conducted in two phases, which have successfully obtained (1) modal salient behavioral referents and in situations or factors that influence the promotion of ARH. Overall, there are 15 modal salient beliefs, consisted of outcomes in promoting ARH (5 salient beliefs), parties that determine to promote ARH (3 salient referents) and situations or conditions that are considered available or unavailable that they can utilize in promoting ARH (7 salient control factors). According to TPB, this step is the most determining phase in knowing the characteristic of target population in the program development (Epton et al., 2015; Fishbein, 2008; Fishbein & Cappella, 2006). The use of free response format to obtain a deeper understanding through focused group discussion has helped the researcher to obtain more accurate information of salient beliefs. In phase 2, there are two measurement components (a) a description of behavioral belief strength, normative and control beliefs. Component (b) outcome evaluation, motivation to comply and power related to the promotion of ARH. Based on the calculations of the two components, an idea of the multiplicative results of the two components as a basis of attitude, subjective norm and perceived behavioral control development. By eliciting readily accessible beliefs about factors that can determine performance or behavior under investigation, we can obtain important information about determinants of attitude, subjective norm and perceived behavioral control.

In practice, the participants have shared knowledge about the factors that determine their beliefs in promoting ARH. By conducting a joint evaluation, participants realize the benefits that they may gain, the parties who are able to cooperate in their situations and support their ARH promotion. This process was value added that enable participants to build supportive and participative atmosphere in designing ARH program (Minkler, 2000; Wagemakers, Vaandrager, Koelen, Saan, & Leeuwis, 2010). With that in mind, it is expected that they can jointly determine efforts to develop ARH promotion to make it sustainable and continuous, with the social and cultural characteristics of the *Tengger* community.

This research is a preliminary research to develop an ARH promotion model with the *Tengger* culture as basis. TPB provides a systematic and replicable framework and procedure that have strong theoretical foundations to capture beliefs in promoting ARH by considering demographic factor. Acknowledgements. This study was supported by a research grant from the Directorate General of Higher Education, Ministry of Research, Technology and Higher Education of the Republic of Indonesia (No.0045/ET/LL/2018). We thank The Government of Probolinggo Regency and the participants who made this study possible.

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