MOTIVATIONAL PHASE IN PREDICTING THE BEHAVIOURAL INTENTION TO PREVENT HYPERTENSION AT THE AGE OF 18-35 YEARS

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ABSTRACT

Background: Hypertension is considered as a public health problem that needs to be focused on its prevention. Moreover, hypertension is not only diagnosed with the elderly group, but there has been an upward trend of young hypertensive patients so far. One effort that can be done is to control hypertension risk factors which are tend to be behavioural factors or unhealthy lifestyle which is closely related to the rate of hypertensive morbidity at a young age. It needs a concept to motivate individuals in conducting hypertension prevention behaviour. Therefore, this study aims to analyse social cognitive factors in predicting the intention to behave in order to prevent hypertension during the motivational phase.

Materials and Methods: This analytical observational study with cross-sectional design. The sample of the study was persons aged 18-35 years who live in the working area of Puskesmas Tanah Kali Kedinding (Tanah Kali Kedinding Public Health Center in Surabaya). The cluster random sampling technique was used with the total amount of 163 respondents. The survey instrument was an adapted questionnaire. Data were analyzed statistically by using Multiple Logistic Regression with significance level (α=0.05).

Result: Social-cognitive variables outcome expectancies and action self-efficacy have proven to predict the behavioural intention to prevent hypertension (p <0.05) during the motivational phase. Meanwhile, the risk perception variable does not affect the behavioural intention to prevent hypertension.

Conclusion: There is a significant influence between outcome expectancies and action self-efficacy toward the behavioural intention to prevent hypertension.

Keywords: Risk Perception, Outcome Expectancies, Action Self-Efficacy, Behavioural Intention
1.0 Introduction

One of the non-communicable diseases that has become a public health crisis in the world is hypertension. In 2015, the prevalence of hypertension in persons aged 18 years and older in the world is 20% in women and 24% in men. The number of hypertensive persons reaches 1.13 billion in the world (WHO, 2017). This disease is one of the major risk factors for global death. Hypertension is associated with increased risk of cardiovascular diseases, such as coronary heart disease and stroke. WHO (2013) reports that the mortality rate of heart disease due to hypertension reaches 45%, while stroke due to hypertension reaches 51%.

In Indonesia, hypertension is the third leading cause of death after stroke and tuberculosis with the percentage of 6.7% in all age groups (Minister of Health of Indonesia, 2010). The prevalence of hypertension in persons aged 18 years and older in Indonesia decreased from 31.7% in 2007 to 25.8% in 2013. Nevertheless, data shows that most cases of hypertension (63.2%) in the society have not been diagnosed (Minister of Health of Indonesia, 2013). Meanwhile, the government targets a 23.4% reduction in hypertension prevalence by 2019 (Minister of Health of Indonesia, 2017). From 2007 to 2013, there has been hypertension cases in the pre-elderly group (Minister of Health of Indonesia, 2013).

In Surabaya, the prevalence of hypertension in the persons aged 18 years and older has decreased from 26.4% in 2007 to 22% in 2013. Nevertheless, the data indicate that there are still 35% of cases of hypertension in the society have not been diagnosed (Minister of Health of Indonesia, 2013). Other facts indicate that hypertension occupies the top 10 most found diseases in Surabaya within the last three years. In 2017 the disease is ranked first compared to other non-communicable diseases with the number of 101,635 cases (Surabaya City Health Office, 2017).

Similar with Indonesia, in the period of 2014 to 2017, there has been tendency of hypertension cases in the pre-elderly group (<45 years). The trend of hypertension increases in pre-elderly group continues to increase from year to year and occurs in some public health centres in Surabaya. One of them is Puskesmas Tanah Kali Kedinding.

In 2014 and 2015, there were no cases of hypertension in the people aged 15-19 years at Puskesmas Tanah Kali Kedinding. In 2016, there were two hypertension cases and it increased to 4 cases by 2017. Meanwhile, in people aged 20-44 years, there were 91 cases of hypertension in 2014 and an increase to 284 cases by 2015. In 2016, cases of hypertension in the age group 20-44 years increased to 285 cases and 334 cases by 2017 (Surabaya City Health Office, 2017). This condition needs to be followed by health efforts aimed at reducing the number of hypertensive patients in that certain age group and preventing hypertension complications in elderly.

One effort that can be done is to control hypertension risk factors that are behavioural factors or unhealthy lifestyle which is closely related to the morbidity rate of hypertension in young age (pre-elderly group). However, in accomplishing hypertensive prevention behaviour is certainly not easy. It needs a concept to motivate individuals in conducting hypertension prevention behaviour.
Health Action Process Approach (HAPA) was utilized to explain in detail the motivational or pre-intentional phases. This theory focuses on the process of increasing motivation to establish behavioural intention. HAPA consist of social-cognitive aspects such as risk perception, outcome expectancies, and action self-efficacy that can affect the behavioural intention to prevent hypertension. Thus, the purpose of this study is to analyze the social-cognitive variables in predicting the behavioural intention to prevent hypertension in the motivational phase.

2.0 Materials and Methods

This observational analytic study used cross sectional design. The research was conducted in the working area of Puskesmas Tanah Kali Kedinding in March until May 2018. The research sample was the people with inclusion criteria: aged 18-35 years, able to communicate well, and have been residing in the working area of Puskesmas Tanah Kali Kedinding for at least 1 months before the research was conducted. Selection of the age range was done because this study focuses on prevention of hypertension that will run effectively if it is done before entering high-risk age of hypertension. The sample size was 163 respondents. Sampling technique was cluster random sampling. Dependent variable was behavioural intention to prevent hypertension, while independent variable was risk perception, outcome expectancies, and action self-efficacy.

Data collection was done through self-administered questionnaire. The survey instrument was an adapted questionnaire (Renner, B. et al., 2007). The instrument consists of five sections namely demographic information, risk perception, outcome expectancies, action self-efficacy and behavioural intention and the items were measured on 4-point Likert-type scale. The risk perception variable consists of 24 questions of vulnerability and severity perception about hypertension. It is categorized into no risk (score <68) and at risk (score ≥68). Outcome expectancies variable consists of 16 questions about the expected outcomes of respondents if they behave to prevent hypertension. It is categorized into not hope (score <51) and hope (score ≥ 51). Action self-efficacy variable consists of 20 questions about the beliefs of respondents to prevent hypertension. It is categorized into not confident (score <58) and confident (score ≥58). Behavioural intention variable consists of 10 questions about respondents’ intentions for routine health checks (blood pressure check and weight control), healthy diet, regular exercise, and no smoking. It is categorized into no intention (score <31) and with intention (score ≥31).

The data collection procedure were: (1) The researcher made sure that the prospective respondent met the inclusion criteria; (2) Prospective respondents got an explanation of the research procedure and for those who are willing to be respondents were asked to sign informed consent; (3) Trained medical personnel measure respondents blood pressure; (4) Respondents were required to fill the self-administered questionnaire for ± 30 minutes; (5) Trained medical personnel measured respondents blood pressure again after completion of the questionnaire. The process of filling out the questionnaires was conducted at the house of each respondents accompanied by the Health Cadre.
Validity and reliability test of research instruments were done to 30 respondents in urban communities under the same sub district and have similar characteristics to the research location. Validity test used the Pearson Product-Moment correlation, while reliability test used the alpha’s Cronbach coefficient with significance level ($\alpha=5\%$). Data analysis used Multiple Logistic Regression test to analyse the effect of risk perception, outcome expectancies, and action self-efficacy toward the behavioural intention to prevent hypertension. This study has obtained approval from the Research Ethics Committee of the Faculty of Nursing Universitas Airlangga with letter number 753-KEPK.

3.0 Result

3.1 Characteristics of Respondents

Table 3.1 Characteristics of Respondents

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Age Group (Year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18-24</td>
<td>86</td>
<td>52.8</td>
</tr>
<tr>
<td></td>
<td>25-35</td>
<td>77</td>
<td>47.2</td>
</tr>
<tr>
<td>2.</td>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>44.8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>55.2</td>
</tr>
<tr>
<td>3.</td>
<td>Blood Pressure Measurement Results</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hypertension</td>
<td>29</td>
<td>17.8</td>
</tr>
<tr>
<td></td>
<td>Prehypertension</td>
<td>87</td>
<td>53.4</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>47</td>
<td>28.8</td>
</tr>
<tr>
<td>4.</td>
<td>Risk Perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No risk</td>
<td>81</td>
<td>49.7</td>
</tr>
<tr>
<td></td>
<td>At risk</td>
<td>82</td>
<td>50.3</td>
</tr>
<tr>
<td>5.</td>
<td>Outcome Expectancies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not hope</td>
<td>74</td>
<td>45.4</td>
</tr>
<tr>
<td></td>
<td>Hope</td>
<td>89</td>
<td>54.6</td>
</tr>
<tr>
<td>6.</td>
<td>Action Self Efficacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not confident</td>
<td>75</td>
<td>46.0</td>
</tr>
<tr>
<td></td>
<td>Confident</td>
<td>88</td>
<td>54.0</td>
</tr>
<tr>
<td>7.</td>
<td>Behavioural Intention</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No intention</td>
<td>77</td>
<td>47.2</td>
</tr>
<tr>
<td></td>
<td>With intention</td>
<td>86</td>
<td>52.8</td>
</tr>
</tbody>
</table>

Table 3.1 shows most respondents aged 18-24 years (52.8%). This indicates that the majority of respondents are in the final teen age group. The 18-35 year age criteria was chosen because this study focuses on preventive efforts and physiologically, hypertensive attacks after entering young adult age (> 35 years), then the effort is considered to be effective if done before entering high-risk age of hypertension.
Female respondents (55.2%) were more than men. Research indicated that the gender factor can contribute to the incidence of hypertension. Before entering the age of menopause, the rate of hypertension in men is higher than women. It was because men were assumed to have a lifestyle that tends to increase blood pressure.

Blood pressure measurement resulted average calculation of two blood pressure measurements on each respondent that is categorized as hypertension, prehypertension, and normal. The research found that the majority of respondents were in the prehypertension category (53.4%). Respondents who obtained the results of blood pressure measurement in the hypertension category were 17.8%. From 17.8%, respondents who are included in the category of hypertension, 1 respondent had been diagnosed with hypertension by a medical practitioner, while the rest had never been diagnosed. This condition indicates there has been a shift in hypertensive age, which is not only suffered by the elderly, but there are cases of hypertension in young age groups.

Based on the criteria of dependent and independent variables, most respondents felt at risk of suffering from hypertension (50.3%). Majority of respondents hoped to avoid hypertension disease and its complication (54.6%). Furthermore, most respondents had confidence in their ability to prevent hypertension before initiating action (54%). The majority of respondents had intentions to prevent hypertension include intentions for health checks (blood pressure check and weight control) on a regular basis, healthy diet, exercise regularly, and not smoking (52.8%).

Table 3.2 Result of Influence Analysis Risk Perception, Outcome Expectancies, and Action Self Efficacy to The Behavioural Intention to Prevent Hypertension

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>β</th>
<th>P value</th>
<th>OR</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Risk Perception</td>
<td>-0.260</td>
<td>0.482</td>
<td>0.771</td>
<td>Not significant</td>
</tr>
<tr>
<td>2.</td>
<td>Outcome Expectancies</td>
<td>-1.117</td>
<td>0.002</td>
<td>0.327</td>
<td>Significant</td>
</tr>
<tr>
<td>3.</td>
<td>Action Self Efficacy</td>
<td>-1.734</td>
<td>0.000</td>
<td>0.177</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Table 3.2 shows that risk perception has no significant effect on behavioural intention to prevent hypertension with p value of 0.482 (p value > 0.05). This means risk perception is not a factor that influences the behavioural intention of the respondent to prevent hypertension. Outcome expectancies have a significant effect on behavioural intention to prevent hypertension with p value of 0.002 (p value <0.05). This means that the expectation of respondents to avoid hypertension disease and its complication in the future is a factor that contributes in determining the behavioural intention of respondents to prevent hypertension. The OR value of 0.327 indicates that respondents who have a hope of avoiding hypertension and their future complications have a probability of 0.327 times greater to intend to prevent hypertension than those who do not hope. Action self-efficacy has a significant effect on behavioural intention to prevent hypertension with p value of 0.000 (p value <0.05). This means that respondents confidence to perform hypertensive prevention behaviour, before starting the action, becomes a factor that plays an important role in developing the behavioural intention of the respondent to prevent hypertension. The OR value of 0.177 indicates that respondents who confident or have a high action self-efficacy in their ability to behave to prevent hypertension successfully have a probability of 0.177 times greater to intend to prevent hypertension than those who have a low action self-efficacy.
4.0 Discussion

The results of multiple logistic regressions indicate that risk perception has a significant effect on the behavioural intention to prevent hypertension. The HAPA model explains that behavioural intention can be predicted by risk perception (Renner & Schupp, 2011). Risk perception is the main factor that triggers the formation of outcome expectancies and action self-efficacy at a later stage (Schwarzer, 2008). In the early stages of the process of developing the behavioural intention, people are prone to suffering from hypertension. Besides, they should also be aware of the severity of hypertension disease if no control measures are taken. After that, they will go to the next development stage behavioural intention. It is developing outcome expectancies and action self-efficacy which is person will be motivated to adopt hypertensive prevention behaviours. So that, people should be informed about the risks or health threats to take hypertension prevention. In contrast to the HAPA model, the study found that the high risk of hypertension felt by the respondents did not affect their behavioral intention. Fear and risk perception may be able to stimulate respondents in making decisions to adopt behaviours. However, this constructive role in shaping the respondents' intentions to prevent hypertension will be more efficient when used simultaneously with attitude change interventions such as attitudes and subjective norms (Ruiter, et al, 2001).

Another study suggests that the severity perception of the disease also plays an important role in the process of forming the intention to adopt healthy behaviours (Rippetoe and Rogers, 1987). In this study, risk perceptions included perceptions of susceptibility and severity of hypertension. In this study, most of the respondents were not hypertensive patients, so they may not feel motivated by an increased risk of hypertension. One respondent who had been diagnosed with hypertension by a medical practitioner admitted that as long as he did not feel pain symptoms such as dizziness, he did not need to make efforts controlling hypertension such as a healthy diet. This condition reflects that the concept of perception of susceptibility and severity of hypertension has not been believed to be true by the respondents. Therefore, risk perception of hypertension is not effective enough in determining whether respondents will intend to prevent hypertension or not.

The results of multiple logistic regression indicate that outcome expectancies has a significant effect on the behavioural intention to prevent hypertension. This finding is in line with research conducted by Schwarzer and Renner (2000) stated that outcome expectancies along with action self-efficacy significantly influence the formation of intentions to apply a healthy diet as one of the efforts of hypertension prevention. Other studies revealed that sports activity can be well predicted by risk perception, outcome expectancies, and action self-efficacy (Scholz, et al., 2005).

The HAPA model explains that risk perception, outcome expectancies, and action self-efficacy are the best predictors of behavioural intention (Schwarzer, 2016). In the process of adopting hypertensive prevention behaviours, people not only needs to realize prone to hypertension, but also needs to understand the contingency between hypertensive prevention behaviours and outcomes or benefits to be gained in the future. Therefore, a people needs enough knowledge about the benefits to be gained from a set of actions to be performed and how to regulate behaviour (Renner & Schwazer, 2005).
The results of Multiple logistic regression show that action self-efficacy has a significant effect on the behavioural intention to prevent hypertension. This finding is in line with research conducted by Renner and Schwarzer (2005) stated that the behaviour of low-fat diet as one of the prevention of hypertension can be predicted well by the intention to adopt low-fat diet which is influenced simultaneously by three social cognitive variables such as risk perception, outcome expectancies, and action self-efficacy. The HAPA model explains that once a people develops hopes to avoid hypertension and its complications, it will be in the next stage of the stimulated stage action self-efficacy (Schwarzer, 2008). In this case, outcome expectancies which have been formed can stimulate one's confidence in his or her ability to perform hypertensive prevention behaviours successfully. People who have a high action self-efficacy would imagine that they are capable of successfully performing hypertensive prevention behaviours, preparing strategies for anticipating obstacles and tending to adopt hypertensive prevention behaviours. Conversely, those who have a low action self-efficacy would envisage failure to adopt hypertensive prevention behaviours, hesitate and tend to have no intention to adopt hypertensive prevention behaviours. Eventually, action self-efficacy will operate together with outcomes expectancies and play a key role in influencing respondent intentions to prevent hypertension in the motivational phase.

These research findings have implications for health interventions. The results provide a different strategy idea from previous research. Previous research suggests interventions that focus on risk communication. People need to be educated to be aware of health risks or threats (Schwarzer & Renner, 2000). However, as the study progresses, risk communication interventions are no longer considered effective enough. Interventions should be tailored to respondents' needs. In the intention forming phase (pre-intentional or motivational), research findings indicate that strategies are needed to improve outcome expectancies and action self-efficacy (Schwarzer, et al., 2008). Respondents should be informed of the benefits to be gained in the future if they behave to prevent hypertension. In addition, interventions need to focus on communication resources namely the respondent must be made aware of the ability or skills possessed to perform hypertensive prevention behaviour. In this case, respondents can be given counselling to increase their confidence to be able to anticipate various barriers during the process of adopting hypertensive prevention behaviour.

5.0 Conclusion and Recommendation

5.1 Conclusion

The majority of respondents aged 18-24 years, female, have blood pressure measurement results in prehypertension category, feel at risk of hypertension, have expectation to avoid hypertension disease and its complications, feel confident in its ability to perform to prevent hypertension behaviours, and have intent to prevent hypertension. The behavioural intention to prevent hypertension can be well predicted by outcome expectancies and action self-efficacy, but not predicted by risk perception. Outcome expectancies and action self-efficacy play an important role in the process of forming the behavioural intention to prevent hypertension in the motivational phase. Meanwhile, risk perception do not contribute in determining whether respondents will intend to prevent hypertension or not.
5.2 Recommendation

Communication, Information and Education Interventions improve outcome expectancies and action self-efficacy which proved to have an effect on the intention to prevent hypertension. Further research needs to include attitude variables to improve the effectiveness of the role of other social cognitive variables in the formation of intent to prevent hypertension.

Acknowledgement

We would like to thank all respondents of the research, Health Cadre and Head of local Neighbourhood, East Java Provincial Health Office, Surabaya City Health Office and Tanah Kali Kedinding Surabaya Public Health Centre.

Declaration

Authors declare that there is no conflict of interest regarding publication of this article.

Author’s contribution

Author 1: information gathering, data analysis
Author 2: review of manuscript
Author 3: preparation, review of manuscript

References


