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Application of The Health Belief Model on The Intention To Stop Smoking Behavior Among Smokers In Kuala Terengganu, Malaysia

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Abstract

The goal of this article is to look at the factors associated with smokers' intentions to quit smoking in Kuala Terengganu. This study utilized a Health Belief Model (HBM) to examine the relationship between independent variables (perceived susceptibility, perceived severity, perceived benefit, and perceived barriers) and smokers' intention to stop smoking. A survey instrument was created to collect data from Kuala Terengganu inhabitants using the convenience sampling technique. The minimum sample size of the study is 84 samples since the study has 4 predictors. However, this study successfully managed to obtain 162 respondents in the final data collection. The Statistical Package for Social Sciences (SPSS) version 26 was used to combine and analyze the data that had been collected as well as to come out with the findings of the study. This study revealed that perceived susceptibility, perceived severity, and perceived benefits were found to have moderate relationship effects on the intention to quit smoking. Meanwhile perceived barriers were observed to have weak relationship effects on the intention to quit smoking.

Keywords: Health Belief Model, Smokers, Stop Smoking Intention, Smoking Behavior

Introduction

Tobacco smoking, according to the World Health Organization (WHO), is a public health concern that causes over 8 million lives each year and is the biggest preventable cause of sickness, disability, and death worldwide (Institute for Health Metrics and Evaluation (IHME), 2018). Datuk Seri Dr. S. Subramaniam, Malaysia's Minister of Health, stated in Clinical Practice Guidelines on Treatment of Tobacco Use Disorder (2016) that smoking kills 20,000 Malaysians each year from diseases such as cancer, stroke, or heart disease.

According to the National Health and Morbidity Survey (2019), 4.8 million Malaysians aged 15 and above are smokers, resulting in approximately 27,200 smoking-related fatalities each year. According to statistics from the National Health and Morbidity Survey (2019), Kedah had the greatest prevalence (27.6 percent), followed by Sabah (25.3 percent) and Terengganu (23.9 percent), with Putrajaya having the lowest percentage (12.2 percent). The proportion of current smokers among males was more than 30 times higher than that of females. However, the overall proportion of current smokers aged 15 and above fell somewhat from 22.8 percent in 2015 to 21.3 percent in 2019. Chean et al. (2019) discovered that 52.3 percent of current smokers in Malaysia attempted to quit smoking in the previous 12 months in their study.

Despite a gradual drop in smoking rates in Malaysia, smoking-related health consequences such as cancer, heart disease, stroke, and others remain a source of concern. Terengganu was placed third in the National Health and Morbidity Survey despite having a smoker prevalence of 23.9 percent. Smoking cessation has numerous immediate and long-term health advantages (World Health Organization (WHO), 2020). The deleterious effects of tobacco smoking, on the other hand, are widely ignored or underestimated, although it remains a serious public health concern among the poor and marginalized, as well as those in developing countries, which bear a disproportionate amount of the cost (Viswanath et al., 2010). Therefore, this study is being conducted:

Research objective: to investigate factors associated with intention to quit smoking among smokers in Kuala Terengganu, Malaysia.

The Health Belief Model (HBM) is used in this study to construct the study's hypothesis. The HBM is the ideal theory to guide and assist this research. This theory explains how an individual's beliefs and behaviors interact, as well as how personal motivation influences health habits at the decision-making level (Bakan & Erci, 2018). According to LaMorte (2019), a person's worldview about the efficacy of the prescribed health activity and behavior, as well as their belief about their risk levels for illness or disease, may determine whether or not they will begin the practice. Several researchers have demonstrated that HBM is an effective model for understanding tobacco use and quitting behavior. A larger perceived threat of smoking-related diseases, higher perceived advantages of stopping, fewer perceived barriers to quitting, and stronger self-efficacy for quitting, for example, predicted a higher likelihood of quitting smoking (Pribadi & Devy, 2020; Kathuria et al., 2019).

Literature Review

Perceived susceptibility

The term "perceived susceptibility" refers to a person's sense of sensitivity to illness or disease (Lamorte, 2019). Perceived susceptibility examines the likelihood that a health danger would result in a negative health outcome, and the greater the individual's perception of the risk, the more likely they are to take efforts to lower the risk (Hayden, 2009). According to Boskey (2022), a person will not modify their behavior unless they believe they are in a dangerous situation. For example, a smoker believes that they would never suffer a heart attack as a result of smoking until they are admitted to the hospital for a heart attack.

Rahman et al (2018) discovered a link between activities linked to smokers' intentions and quitting when individuals believe they have health difficulties or are suffering from

illnesses as a result of their continued cigarette usage. According to the study, perceived susceptibility influences behavioral intentions to continue or quit smoking in the case of tobacco use. According to HBM theories involving risk perception, an individual is more likely to minimize and prevent unneeded behavior if it is the source of their vulnerability. According to Ma et al (2020), practicing self-affirmation before reading graphic warning warnings enhances African American smokers' perceived susceptibility, which leads to comparatively high intentions to quit smoking sooner and a stronger desire to quit altogether. Based on this, it is possible to hypothesize:
H1: There is a relationship between perceived susceptibility and intention to quit smoking.

Perceived Severity

According to the HBM, perceived severity refers to a person's assessment of the seriousness of getting sickness or illness if they do not seek treatment for it (Lamorte, 2019). According to Champion and Skinner (2008), this type of response to a specific illness is likely to be more serious and severe if it is left untreated and concerns physical outcomes such as death or disability as well as an influence on likely social consequences such as family life and other relationships. According to Boudreaux et al (2010), the more dread a person felt as a result of their health concerns, the more likely they would indicate higher intentions to quit smoking.
H2 - There is a relationship between perceived severity and intention to quit smoking

Perceived Benefits

Perceived benefits are a person's perceptions about the efficacy of various interventions offered to reduce the risk of sickness or disease, as well as the advantages achieved from taking action (Lamorte, 2019). Furthermore, smokers should believe that quitting will provide them with numerous benefits, including a healthier, more productive society and protection from the signs of drug and synthetic drug addiction. This finding is consistent with the reason-action approach provided by Carter-Harris et al (2017), which stated that people who have lung cancer screenings benefit from fewer side effects from early detection and treatment, peace of mind, and a readiness to quit smoking.
H3 - There is a relationship between perceived benefits and intention to quit smoking

Perceived Barriers

Perceived Barriers in HBM explores how people perceive the barriers to engaging in suggested health activities. Because everyone perceives obstacles or limits differently, doing something requires time, money, and effort (Lamorte, 2019). In other words, a multitude of factors prohibits individuals from changing their behavior. Smokers struggle to quit for a variety of reasons, including a lack of desire, a lack of support from family and friends, a higher drop-out rate from smoking cessation treatment, an inability to pay for smoking cessation services, and many more. McHugh et al (2017) conducted a study on Perceived Barriers to Smoking Cessation in Adults with Substance Use Disorders and discovered that for people receiving inpatient treatment for substance use disorders (SUD), perceived barriers to quitting smoking were positively related to lower levels of confidence in one's willingness to do so. They advised that anxiety sensitivity be the primary therapy focus to promote patients' involvement and, ultimately, success in stopping smoking. Based on this, it is possible to hypothesize:
H4 - There is a relationship between perceived barriers and intention to quit smoking

Research Methodology

This study used a cross-sectional design to analyze the correlation between the factors associated to stop smoking behavior among smokers in Terengganu, Malaysia. Respondents were 162 smokers aged between 18 and 50 years above. Data were collected using a closed questionnaire to measure four independent variables, and subsequently, their correlation was tested with the dependent variable, that is, the intention to stop smoking, through the use of Pearson Correlation Analysis. This study also utilized non-probability sampling techniques which are convenience sampling techniques. All data and variables were computerized and encoded. The Statistical Package for Social Sciences (SPSS) version 26 was used to combine and analyze the data that had been collected as well as to come out with the result of the study. The information was presented and documented in a tabular format. In this study, descriptive statistics were utilized for the demographic profile of the study, and Pearson Correlation analyses were performed for hypothesis testing.

Findings

Demographic Profile

Table 1 shows the proportion of smokers who participated in the study, with 120 males and 42 females. The highest prevalence of the 134 respondents who identified as Malay (82.7%) and followed by 11 respondents who identified as Chinese (6.8%), 9 respondents who identified as other ethnicities (5.6%), and last but not least, 8 respondents who identified as Indian (4.9%). The most dominant age group among the respondents ranged between 30-39 years old (59.3%). In terms of educational background, the majority of the respondents are diploma holders (40.7%) while only 0.6% of the respondents hold a Ph.D.

Table 1
Demographic Profile

Profile	N:162 Frequency	Percent (%)
Gender		
Male	120	74.1
Female	42	25.9
Ethnicity		
Malay	134	82.7
Chinese	11	6.8
Indian	8	4.9
Others	9	5.6
Age Group		
18-29 years old	24	14.8
30-39 years old	96	59.3
40-49 years old	30	18.5
50 and above	12	7.4
Educational background		
Secondary School	44	27.2
Diploma	66	40.7
Bachelor's Degree	43	26.5
Master's degree	6	3.7
Doctorate (Ph.D.)	1	0.6
Others	2	1.2

Preliminary Analyses
Reliability Results

Table 2 shows the reliability results of the study. All items in the variables of the study can be considered reliable since the Cronbach Alpha values are more than .60.

Table 2
Reliability Results of the Study

Constructs	No. of Items	a Value
Dependent Variable		
Quit Smoking Intention	3	.881
Independent Variable		
Perceived	3	.900
Susceptibility	4	.869
Perceived Severity	5	.831
Perceived Benefits	4	.675
Perceived Barriers		

Normality Result

The normality tests are used to determine whether a data set is modeled for normal distribution. To verify a normal distribution, values of skewness and kurtosis must be within -2 and +2 is regarded as acceptable (George & Mallery, 2010). Skewness = -.443 and Kurtosis = - .473 in the dependent variable construct (Quit Smoking Intention) meet the criterion range of -2 to +2. In addition, the Skewness and Kurtosis values for the independent variables of perceived susceptibility, perceived severity, perceived benefits, and perceived barrier are within the range of -2 to 2.

Table 3
Normality Results

Constructs	**Mean**	**Standard Deviation**	**Skewness**	**Kurtosis**
Dependent Variable: Quit Smoking Intention	3.7	1.028	-.443	-.473
Independent Variables:				
Perceived Susceptibility	4.4	.670	-1.061	.683
Perceived Severity	4.3	.678	-.734	-.487
Perceived Benefit	4.4	.627	-.698	-.545
Percevied Barriers	3.3	.813	.025	-.043

Correlation Analysis

Table 4 shows the relationship between perceived susceptibility, perceived severity, perceived benefit, and perceived barriers and quit smoking intention. All independent variables of the study were found to be correlated with the quit smoking intention as the p-value is less than .05. Except for perceived barriers, all independent variables of the study were found to be positively correlated with quit smoking intention. Besides that, the strengths of the relationship between perceived susceptibility, perceived severity, and perceived benefits and quit smoking intention were moderate while the relationship between perceived barriers and quit smoking intention was weak.

Table 4
Pearson Correlation Results

		Quit Smoking Intention
Perceived Susceptibility	Pearson Correlation	.473**
	Sig.	.000
	N	162
Perceived Severity	Pearson Correlation	.454**
	Sig.	.000
	N	162
Perceived Benefit	Pearson Correlation	.484**
	Sig.	.000
	N	162
Perceived Barriers	Pearson Correlation	-.026**
	Sig.	.000
	N	162

Discussion

Perceived susceptibility refers to a person's belief about the risk or probability of developing a sickness or disease (Lamorte, 2019). According to Boskey (2022), a person will not modify his or her behavior unless he or she senses they are in grave danger. For example, a person who feels he or she will never suffer a heart attack as a result of smoking until he or she is hospitalized for one. According to Rahman et al (2018), there are links between activities connected to smokers' intention and quitting when a person believes they have health difficulties or are suffering from illnesses as a result of their ongoing cigarette smoking. The study also discovered that perceived harshness is related to the intention to quit smoking. According to Champion & Skinner (2008), if a disease is not treated, it will become more serious and severe. This includes physical results such as death or disability, as well as social repercussions such as family life and other relationships.

Furthermore, this study discovered that perceived benefit is associated to quit smoking. According to the HBM, perceived benefits are a person's perception of the efficacy of various interventions available to reduce the risk of sickness or disease, or the perception of the benefits achieved from taking action (Lamorte, 2019). According to Chen & Yang (2016), the influence of cancer fear on quitting intention is mediated by the benefit perception of quitting, indicating that the decision to stop smoking is more likely the result of a reasonable thought process, with the benefit perception of quitting appearing as a proximal element and cancer fear appearing as a remote component of stopping intention when choosing between quitting and continuing to smoke.

Last but not least, perceived barriers were found to be connected to the intention to quit smoking in this study. In HBM, perceived barriers are a person's views of hurdles or constraints that vary widely, resulting in a cost of effort, money, and time (Lamorte, 2019). A range of circumstances prevents the person from changing their behavior. For example, smokers are unable to quit for a variety of reasons, including a lack of motivation, a lack of support from family and friends, a greater drop-out rate from smoking cessation treatment, and an inability to pay for smoking cessation services, among others. This study was consistent with previous research on perceived barriers to smoking cessation among people with Substance Use Disorders conducted by (McHugh et al., 2017). They discovered that perceived difficulties in quitting smoking were positively connected to lower levels of confidence in one's readiness to do so in those getting inpatient treatment for Substance Use Disorders (SUD).

Conclusion

The intention to quit smoking among Terengganu smokers is significantly related to the HBM construct's perceived components, which comprise perceived susceptibility, perceived severity, perceived benefit, and perceived barriers. HBM, as one of the most frequently used health behavior theories (Glanz & Rimer, 2015), identifies various cognitive antecedents to health-related behavior (Janz & Becker, 1984) and is extremely useful in building effective public health interventions. When people perceive a significant health hazard and believe that the benefits of engaging in a health-promoting behavior surpass the barriers to executing the conduct, they are more likely to engage in the behavior.

Many smokers assume that quitting will reduce their risk of acquiring smoking-related ailments. However, the majority of them face concerns such as low self-esteem, a lack of family and social support, a sense of reliance on cigarettes, and other obstacles that undermine their desire to quit. As a result, smokers must have the mental fortitude and resolve to persevere to achieve their goal of quitting smoking. A healthy lifestyle shift is really helpful in quitting smoking. Smoking harm should be addressed as soon as possible. This is because extensive knowledge will enable every person in Kuala Terengganu to gain more helpful knowledge and understand the benefits of quitting smoking. To ensure that this study is more valuable, the number of respondents should be raised and should not be confined to Kuala Terengganu residents only because they would only represent small-scale community members. The study might be conducted on a wider scale, such as examining the intention of Terengganu citizens to quit smoking.

Furthermore, anti-smoking teaching should begin in primary and secondary schools. This will have a long-term impact on society and future generations. The campaign against the dangers of smoking can also be successful with the help of school-based initiatives. It is vital to underline the detrimental effects of smoking through images and films. The dangers linked with tobacco use should be covered in school learning texts based on the age of the students. Our findings emphasize the need of acquiring health information, regardless of cancer-related negative health attitudes, while attempting to quit smoking. The outcomes of our investigation have immediate policy and practice consequences. Policymakers and practitioners must figure out the best strategy to encourage smokers to seek smoking-related information. Such measures will aid in the achievement and maintenance of smoking cessation.

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