

EXPLORATORY STUDY OF THE AWARENESS ON DIABETES MELLITUS

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ABSTRACT

Diabetes is a steadily growing problem in Malaysia and the increase of diabetic's patients in Malaysia is worrisome. The cause of diabetes is a mystery, although both genetics and environment appear to play roles. Therefore, this study aimed to test Diabetes Mellitus Awareness Model (DMAM) that consists of several latent factors i.e. knowledge, attitude, environment, symptom and diabetes awareness. Ten hypotheses have been proposed to test the relationship between five indicators in the model. Partial Least Squares-Structural Equation Modelling (PLS-SEM) technique was used by using the SmartPLS software to analyse the model. The study was conducted at two health clinics under Ministry of Health (MOH) in Pahang. A convenience sample of 441 adults was obtained for this study. The result shows that knowledge has a significant impact on environment, attitude and awareness. Likewise, environment significantly influences the attitude and attitude significantly influences awareness. However, the study also found that there was no significant relationship between knowledge towards symptoms, environments towards awareness and symptom, attitude towards symptoms and symptoms towards awareness. Overall, this study concludes that the relationships that are statistically significant should be taken due care by the health authorities in order to raise diabetes awareness through indicator in the model.

Key words: Diabetes Mellitus Awareness Model (DMAM), Partial Least Square (PLS), Structural Equation Modeling (SEM)

INTRODUCTION

Diabetes mellitus has become a major public health problem worldwide [1,2] and one of the most challenging health problems in the 21st century [3]. According to the Second National Health and Morbidity survey it is estimated that 3.4 million Malaysians are diabetes sufferers in 2010. Also, the same surveys showed that the prevalence of obesity had increased from 4.4% in 1996 to 14.0% in 2006 for adult Malaysians aged 18 years and above and an increase of over 200% in just 10 years. The figure is expected to rise if no effort is made to curb the problem and no awareness among the people.

Therefore, this study was to explore the factor affecting diabetic mellitus awareness in Malaysia among Malaysian by using five construct which is knowledge, attitude, environment, symptom and awareness in the DMAM. Conceptual Framework for DMAM was developed like shown in the Figure 1 which describes the relationship for each variable in the study.

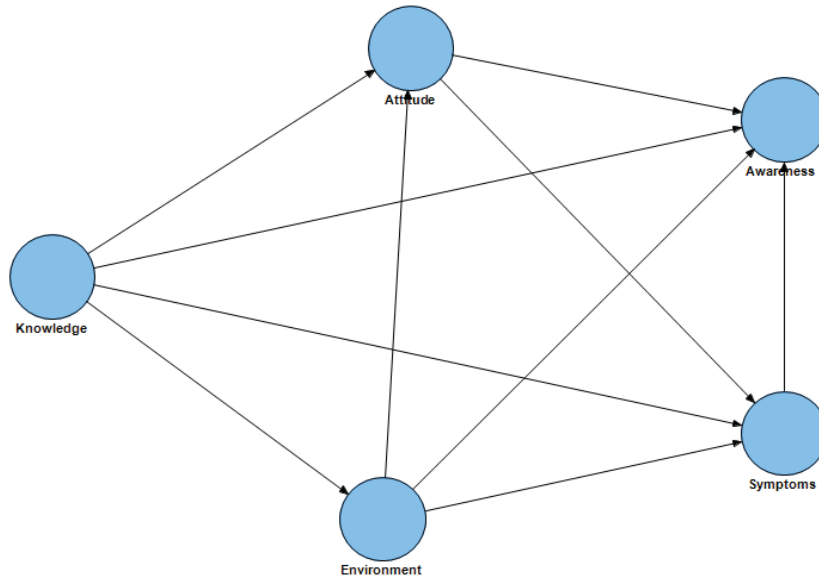


Figure 1. Conceptual Framework for Diabetics Mellitus Awareness Model

A comprehensive survey instrument was developed to measure the constructs in the research model. This study was a cross-sectional descriptive study. Sampling design used in this study was a convenient sampling. Each respondent was given a self-administered questionnaire.

The study sample was adult among Malaysian who attended to the outpatient department at two health clinics Ministry of Health (MOH) in Pahang. The study was conducted from 1 September to 15 October 2015. In order to participate in this study, respondents have to meet certain criteria. The criteria were adults among Malaysian, aged 18 years and above, be able to read and understand Malay language and willing to participate in the study.

The data were analyzed using the IBM SPSS Statistics 20 to analyze the respondents' demography and SmartPLS 3.0 software to analyze the relationship between each construct in a conceptual framework that have been discussed using path modeling, Partial Least Squares-Structural Equation Modeling (PLS-SEM).

MAIN RESULTS

The ten hypotheses posited were tested using partial least squares estimation. The output of the modeling analysis is shown in Table 1.

Table 1. Hypotheses testing

Hypothesis	Relationship	Standard Beta	T Statistic	Decision
H1	Knowledge -> Environment	0.217	4.429**	Supported
H2	Knowledge -> Attitude	0.214	5.039**	Supported
H3	Knowledge -> Awareness	0.502	11.798**	Supported
H4	Knowledge -> Symptoms	0.288	0.969	Not Supported
H5	Attitude -> Awareness	0.167	3.37**	Supported
H6	Attitude -> Symptoms	-0.044	0.355	Not Supported
H7	Environment -> Attitude	0.458	8.749**	Supported
H8	Environment -> Awareness	0.058	1.299	Not Supported
H9	Environment -> Symptoms	0.108	0.691	Not Supported
H10	Symptoms -> Awareness	0.065	0.719	Not Supported

** $p < 0.01$, two-tailed

CONCLUSION

The results of the hypothesis testing show that the relationship between knowledge and environment, knowledge and attitude, knowledge and awareness, environment and attitude and relationship between attitude and awareness has a significant impact with $p < 0.01$. However, there is not significant influence of attitude on symptom, environment on symptom, environment on awareness, knowledge on symptom and symptom on awareness. Based on these findings, we can conclude that knowledge is important to increase the awareness among public and can change the attitude of individuals to prevent the diabetes. Besides that, the environment also can influence the attitude of individual so that can improve the awareness of diabetes mellitus ailment.

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