BEHAVIOR INFLUENCING FACTORS TO DEPESSION AMONG UNCONTROLLED DIABETIC TYPE II PATIENTS*

Anusara Sutad** Weena Thiangtham*** Panan Pichayapinyo**** Naruemon Auemaneekul*****

ABSTRACT -

Diabetic is a crucial chronic disease in global public healthcare. It is also found that depression in diabetic patients increase both the disease's severity. The objective of this Cross - sectional survey aimed to study the behavior influencing factors the depression in uncontrolled diabetic type II patients dwelling in Bangkok Metropolitan. Uncontrolled diabetic type II patients at 35 years old and older n =390 were randomly selected by using multi-stage random sampling method as study samples. A structured interview questionnaire was used for data collection. Data was analyzed using Chi-Square test and Stepwise Multiple Regression Analysis

From the study result, study showed that 74.2% (292 persons) of the patients had no depression while 25.1% of patients had depression. 21.3 % (83 persons) at a mild level, while 3.8% (15 persons) at a moderate level of depression. Females exceeded depression level in comparison to males 78.6% (77 persons) and 21.4% (21 persons) respectively. The statistically significant behavior factors related to depression were dietary control (OR=2.56,95%CI=1.34– 4.90) stress management (OR=4.45,95%CI=2.33– 8.52) and medication behavior (OR=3.03, 95%CI=1.37– 6.91) Stepwise multiple logistic regression analysis revealed factors influencing depression in uncontrolled diabetic type II patients were dietary control behavior, stress management behavior and medication behavior were statistically significant.

The study result may be used as a guideline for surveillance among depressed uncontrolled diabetic type II patients for the prevention and resolution of these problem. Keywords: Depression/ Uncontrolled diabetic type II patients/ Behavior

*A study as part of the thesis for the degree of Master of Nursing Science (Community Nurse Practitioner) **Master student, Master of Nursing Science (Community Nurse Practitioner), Faculty of Public Health, Mahidol University

*** Corresponding Author, Associate Professor, Department of Public Health Nursing, Faculty of Public Health, Mahidol University

**** Associate Professor, Department of Public Health Nursing, Faculty of Public Health, Mahidol University *****Assistant Professor , Department of Public Health Nursing, Faculty of Public Health, Mahidol University

Number	Percent	
15	3.8	
83	21.3	
292	74.9	
	Number 15 83 292	Number Percent 15 3.8 83 21.3 292 74.9

Table1 Depression in uncontrolled diabetic type II patients (n = 390)

Table2 Behavior factors related to depression among uncontrolled diabetic type II patients

(n=390)

	Depression	Non					
Behavior factors		Depression	X ²	p-value	Odds	95%CI	
	Number	Number	-		ratio	Lower-	
	%	%				Upper	
Dietary control							
Low - Moderate	19(43.2)	25(56.8)	8.59	0.003**	2.56	1.34-4.90	
High	79(22.8)	267(77.2)			1		
Medication behavior							
Low - Moderate	13(48.1)	14(51.9)	8.17	0.004*	3.03	1.37-6.71	
High	85(23.4)	278(76.6)			1		
Exercise behavior							
Low - Moderate	79 (27.0)	214(73.0)	2.10	0.147	0.66	0.37-1.16	
High	19(19.6)	78(80.4)			1		
Stress management							
Low - Moderate	86(32.3)	180(67.7)	23.06	<u>0.001</u> ***	4.45	2.33-8.52	
High	12(9.7)	112(90.3)			1		
Behavior to meet doctor appointments.							
Low - Moderate	10(27.8)	26(72.2)	0.14	0.700	0.86	0.39-1.85	
High	88(24.9)	266(75.1)			1		
Smoking behavior							
Yes	3(14.3)	18(85.7)	1.38	0.239	0.48	0.13-1.66	
No	95(25.7)	274(74.3)			1		
Alcohol avoidance behav	ior						
Low - Moderate	0	1(100)	0.33	0.562	0.74	0.70-0.79	
High	98(25.2)	291(74.8)			1		

* p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001

Table 3 The predictive factors of depression among uncontrolled diabetic type II patientsanalyze by stepwise multiple logistic regression.

Factors	Beta	P-value	Adjusted	95%CI	
			OR	Lower Upper	
Dietary control	0.939	0.007	2.55	1.29- 5.06	
Stress management	1.498	0.001	4.47	2.31- 8.64	
Medication behavior	1.103	0.010	3.01	1.30- 6.97	

Constant = -0.672

Reference

- International Diabetes Federation. IDF Diabetes Atlas . Available at http://.diabetesatlas.org, accessed June 18, 2016.
- Lapha R. Factors Predicting depression among patients with type 2 diabetes in tertiary hospitals in Pathumthani province. Mental health and Psychiatric Nursing. Bangkok: Faculty of Graduate studies, Thammasat University, 2011.
- Egede, LE. Effect of Comorbid Chronic Diseases on Prevalence and Odds of Depression in Adult with Diabetes. Journal of Psychosomatic Medicine. 2005;67: 46-51.
- Vamos EP, Mucsi I, Keszei A, Kopp MS, Novak M. Comorbid Depression is Associated With Increased Healthcare Utilization and Lost Productivity in Persons With Diabetes: A Large Nationally Representative Hungarian Population Survey. Journal of

Psychosomatic Medicine. 2009 ;71: 501-507.

- Suppaso P. The Prevalence of Depression among Type 2 Diabetic Patients in PhangKhon hospital. Journal of Srinagarind Med. 2010; 25 (4): 272-279.(In Thai)
- Muangthai S. Prevalence and Factors Associated with Depression in Sisaket's Primary Care Patients with Type 2 Diabetes. journal of Medical Sisaket,Surin,Burirum Hospital. 2013; 28 (2): 109-120. (In Thai)
- De Groot M, Anderson R, Freedland KE, Clouse RE, Lustman PJ. Association of Depression and Diabetes Complications: A Meta-Analysis. Journal of Psychosomatic Medicine. 2001;63: 619-630.
- Thanakwang K,Thinganjana W, Konggumnerd R. Psychometric Properties of the Thai Version of the

Diabetes Distress Scale in diabetic seniors. Institute of Nursing. Nakhon Ratchasima: Faculty of Graduate studies ,Suranaree University of technology, 2015.

- Daniel WW, & Cross CL.Biostatistics: Basic Concepts and Methodology for the Health Sciences (10 Ed.). Singapore: John Wiley & Sons Inc, 2014.
- Thaneerat T. Prevalence of depression, HbA1C level, and associated factors in outpatients with type 2 diabetes at endocrine clinic, King Chulalongkorn Memorial hospital. Department of Psychiatry Faculty of Medicine. Bangkok: Faculty of Graduate studies, Chulalongkorn University, 2008.
- Ponpolsub S. Glycemic Control in type
 Diabetic Patients with Depressive symptoms as Police General hospital.
 Faculty of Pharmaceutical Sciences.
 Bangkok: Faculty of Graduate studies,
 Chulalongkorn University, 2004.
- Rungreangkulking S, Thavornpitak
 Y, Kittiwatanapaisan W, Kotnatal E,
 kaewjanta N. Prevalence and Factors of
 Depression among Type 2 Diabetic
 Patients. Journal of Psychiatr Assoc
 Thailand. 2014; 59(3): 287-298. (In Thai)
- Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. The prevalence of comorbid depression in adults with diabetes: a meta-analysis. Journal of Diabetes Care. 2001; 24: 1069-1078.

- 14. Xu L, Ren J, Cheng M, Tang K, Dong M, Hou X, et al. Depressive symptoms and risk factors in Chinese persons with type 2 diabetes. Journal of Medical Research. 2004; 35: 301-307.
- 15. Egede LE, Ellis C. Diabetes and depression: global perspectives. Journal of Diabetes Research Clinical Practice. 2010; 87 (3): 302-312.
- 16. Sulukananuruk C, JaisanookW
 ,Muktabhant B. Association of
 Depression and Stress with HbA1c level
 of Type 2 Diabetic Patients Attending
 the Diabetes Clinic of Nampong
 Hospital, KhonKaen Province. Journal of
 Srinagarind Med. 2016; 31 (1): 34-45. (In
 Thai)
- Siddiqui A, Madhu SV, Sharma SB, Desai NG. Endocrine stress responses and risk of type 2 diabetes mellitus. Journal of Stress. 2015; 25: 1-9.
- Segal J, Smith M, Segal R, and Robinson L. Stress Symptoms, Signs, and Causes.[cited 2016 December 4]Available at:http://www.helpguide.org/articles/stre ss/stress-symptoms-causes-andeffects.htm
- 19. Taweekeaw C. Relationships among personal factors, illness factors ,social support, self –management , coping , medication adherence, and depression in patients with type 2 diabetes ,Lower Northeastern Region . Faculty of Nursing. Bangkok: Faculty of Graduate

studies, Chulalongkorn University; 2014.

- 20. Nau DP, Aikens JE and Pacholski AM. Effects of gender and depression on oral medication adherence in persons with type 2 diabetes mellitus. Journal of Gender medicine. 2007; 4 (3): 205-213.
- 21. Lin EH, Katon W, Von korff M,Rutter C, Simon GE,Oliver M, et al. Relationship of depression and diabetes selfcare,medication adherence,and preventive care. Journal of Diabetes Care. 2004; 27 (9): 2154-2160.