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FAMILY ROLE MODEL BASED ON QUALITY OF LIFE IN PATIENTS DIABETES MELLITUS IN PROBOLINGGO

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ABSTRACT

Baground and the objective: Diabetes Millitus according to the public referred to as diabetes is a metabolic disorder that caused by various factors, with the symtoms of chronic hyperglycemia and metabolic disorder in carbohidrate, fat, and protein (Yakti, 2011). Kraksaan district health centers, there were 173 patients with diabetes militus in 2013, this shows a decrease of about 5, 46% of people with diabetes millitus in 2012, namely 183 patients. Of 173 patients are 83 of them are new patient with active status visits to health centers and the res older, less active patients visits to the clinic. The Objective of this studi was to develop a model of family roles based on quality of life of people with diabetes millitus in probolinggo.

Method: this study used a survey method in the review of this research time using design crosssectional with the nature of the research if to give an explanation (explanatory research) based on the perception of respondents. Inferential analysis techniques used to test the empirical model and hyphotheses proposed in this study. Analysis techniques used with Partial Least Square (PLS).

Results: The result showed that the role of family influence on improvement of physical health in people with diebetes mellitus, family role no influence on the psyche of people with diebetes mellitus, family roles affect the environment diebetes mellitus, psychic patient with diebetes mellitus effect on social support of people with diebetes mellitus, social condition diebetes mellitus affect the quality of life of people with diebetes mellitus, the discovery of a model quality of life based on family roles with diebetes mellitus.

Conclusion: The conclusion that the family role models can improve the quality of life for patient with diebetes mellitus.

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INTRODUCTION

Diabetes mellitus is a public health problem or a majority of the most commonly suffered by the Indonesian population. However, until now there are many people who think diabetes is a disease of the elderly or a disease caused by hereditary factors. Diabetes mellitus (DM) community called diabetes is a metabolic disorders caused by various factors, with symptoms such as hyperglycemia (elevated blood glucose levels) chronic and metabolic disorders in carbohydrate, fat, and protein (Yekti, 2011). Indonesia now ranks fourth number-dang penyan diabetes largest after the United States, China and India.

Based on data from the Central Statistics Agency (BPS) penyadang number of diabetes in 2003 was 13.7 million people, and is based on the pattern of population growth is expected in 2030 there will be 20.1 million people with diabetes with a prevalence rate of 14.7% for urban areas and 7.2% in rural areas. Meanwhile, the World Health Organization (WHO) predicts increase in the number of people with diabetes mellitus in Indonesia from 8.4 million in 2000 to approximately 21.3 million in 2030. While the Board of the International Diabetes Federation (IDF) in 2009 estimated that the increase in the number of persons diabetes mellitus from 7.0 million in 2009 to 12.0 million in 2030 (PDPERSI, 2011). The primary data were taken from the sub district Puskesmas Kraksaan recorded as many as 173 people with diabetes in 2013. It is Indicated a decrease of about 5.46% of the number of people with diabetes in 2012, ie 183

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patients. Of the 173 patients, 83 of which are new patients with active status melakkan visits to the health center and the rest are older, less active people do visit to the health center. From the description it can be concluded that there are 90 people who are less active long visit to the health center, after a visit to their home, apparently ma-yoritas of them opt for treatment only when there are complaints. The quality of life of people with diabetes mellitus should be maintained in order to survive and are able to independently conduct their activities properly, which is not dependent on others around them. Where Quality Of Life includes Aspects of Physical, psychological aspects, social aspects of the relationship, and Environmental Aspects. (Atchibri, *et al.*, 2010). National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health (Youngren, 2003) mentions how to prevent or minimize the complications of diabetes mellitus is to avoid the risk factors by health behaviors, among others latihan physical, diabetic diet, avoiding alcohol consumption, cigarettes, me-control mechanisms of coping with stress and medical treatment as well as traditional. The purpose of this research is to Develop a Model Quality Of Life by Diabetes Mellitus The role of the family in the village of the Kraksaan Probolinggo.

MATERIALS AND METHODS

This study uses survey research methods, the research determined by taking a sample of the population and the use of a questionnaire as a main data collection instruments. Judging from the time this study using cross-sectional design with the nature of the research is to give an explanation (explanatory research), based on the perception of respondents, which explain the causal relationship between variables based on respondents' answers through hypothesis testing. The design of this research is the study diskriptive Korelative, namely by looking at the influence of the two variables Role of Families of the quality of life Diabetes Millitus.

The use of descriptive analysis to obtain a description of the characteristics of survey respondents from various aspects, such as; Family roles, Quality Of Life descriptive analysis was done by analysis of frequency distribution by counting the frequency or number and percentage of aspects of the measure.

Analysis of this description is also intended to describe respondents' perceptions regarding indicators each study variable, based on the tendency of respondents to the questions in the research instrument. The description in every indicator is expressed in value and average frequency. With descriptive analysis is obtained picture of respondents' perceptions of indicators that reflect the research variables. Inferential analysis technique used to test the empirical model and hypotheses proposed in this study. The analytical technique used is the model equation struktural variance based or component-based, which is famous for Partial least square (PLS). PLS is a powerful analysis, and therefore does not assume the data must by measuring certain scale, small samples, and also can be used to confirm the theory (Ghozali, 2008; Hair *et al.*, 2010)

RESULTS AND DISCUSSION

The research result Model Quality of life is based on family role in patients with Diabetes Millitus in Probolinggo, including common data which include age, sex, education, marital status. As for specific data including Quality of life. The role of the family and the result is as follows. Based on Table 1. most of the respondents were women aged between 50-60 years with the status of married and became a housewife. As for the role of families in this study, as in the following table. Variable role of the family in family members who suffer diabetes mellitus with indicators such as: breadwinner, educators, protective and social support, as the table below.

Table 1. Characteristics of Respondents Frequency distributions based on gender, age, employment Marriage status and diabetes mellitus in Probolinggo

No	Characteristics	Indicator	Frequency	
			Σ	(%)
1	Gender	Male	8	38
		Famale	13	62
2	Age	40-50	5	24
		50-60	12	57
		>60	4	19
3	Marital Status	Married	21	100
		Not Married	0	0
4	Occupation	Private employees	6	28
		Houswife	12	57
		Not working	3	14

Source: Primary Data Results in2015

Table 2. Variable Role of Family

No	Family Role (X1)	Category						Total	
		Goods		Enough		Less		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Earnar	6	28,6	9	42,9	6	28,6	21	100
2	Educator	2	9,5	13	61,9	6	28,6	21	100
3	Protector	4	19	6	28,6	11	52,4	21	100
4	Social support	3	14,3	11	52,4	7	33,3	21	100

Source: Primary Data Results in 2015

Based on table 2 the role of family to family members who suffer diabetes mellitus family roles less the number of respondents 11 people (52.4%). As for the conditions Quality of life in patients with diabetes mellitus may be described in the following table.

Physical health variables on family members who suffer diabetes mellitus with indicators such as: fatigue, comfort, mobility, dependability, activity and rest, as the table below. Table 3 physical health based on family members who suffer

Table 3. Physical Health Variables

No	Physical Health (X1)	Category						Total	
		Goods		Enough		Goods		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Fatigue	4	19	9	42,9	8	38,1	21	100
2	Comfort	3	14,3	14	66,7	4	19	21	100
3	Mobility	4	19	7	33,3	10	47,6	21	100
4	Dependence	5	23,8	11	52,4	5	23,8	21	100
5	Activity	0	0	12	57,1	9	42,9	21	100
6	Break	7	33,3	7	33,3	7	33,3	21	100

Source: Primary Data Results in 2015

Table 4. Variable Psychic Health

No	Psychic Health (X1)	Category						Total	
		Goods		Enough		Goods		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Welfare	4	19	10	47,6	7	33,3	21	100
2	Mental	3	14,3	13	61,9	5	23,8	21	100
3	self Esteem	3	14,3	5	23,8	13	61,9	21	100
4	Confidence	7	33,3	9	42,9	5	23,8	21	100
5	Mind	2	9,5	10	47,6	9	42,9	21	100
6	Body image	7	33,3	7	33,3	7	33,3	21	100
7	Feeling	3	14,3	10	47,6	8	38,1	21	100
8	Concentration	2	9,5	15	71,4	4	19	21	100

Source: Primary Data Results in 2015

Table 5. Environment Variables

No	Environment (X4)	Category						Total	
		Goods		Enough		Goods		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Financial	4	19	10	47,6	7	33,3	21	100
2	Freedom	3	14,3	13	61,9	5	23,8	21	100
3	Care	3	14,3	6	28,6	12	57,1	21	100
4	social care	7	33,3	9	42,9	5	23,8	21	100
5	Access	3	14,3	9	42,9	9	42,9	21	100
6	Home environment	5	23,8	9	42,9	7	33,3	21	100
7	skills	2	9,5	10	47,6	9	42,9	21	100
8	recreation	2	9,5	15	71,4	4	19	21	100
9	Pollution	3	14,3	5	23,8	13	61,9	21	100

Source: Primary Data Results in 2015

Table 6. Variables Social Support

No	Social Support (Y1)	Category						Total	
		Goods		Enough		Goods		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Personal	5	23,8	11	52,4	5	23,8	21	100
2	Support	4	19	13	61,9	4	19	21	100
3	Activity	4	19	9	42,9	8	38,1	21	100
4	Friend	7	33,3	9	42,9	5	23,8	21	100

Source: Primary Data Results in 2015

Table 7. Variable Quality of Life

No	Quality Of Life (Y2)	Category						Total	
		Goods		Enough		Goods		(f)	(%)
		(f)	(%)	(f)	(%)	(f)	(%)		
1	Satisfaction	6	28,6	13	61,9	2	9,5	21	100
2	Well being	7	33,3	11	52,4	3	14,3	21	100

Source: Primary Data Results in 2015

from physical mobility diabetes mellitus is less than the number of respondents 10 people (47.6%) as well as on indicators of fatigue, activity and rest. Variable Psychic Health on family members who suffer diabetes mellitus with indicators such as: welfare, mental, self esteem, confidence, thinking, body image, feeling, concentration, as the table below. Based on the table 4 on the psychological health of family members who suffer from self esteemiabetes mellitus is less than the number of respondents 13 people (61.9%) Environment variable to a family member who suffers diabetes mellitus with indicators such as: financial, freedom, care, social care, access, home environment, skills, recreation, pollution, as the table below. Based on the table 5 environment to family members who suffer from diabetes mellitus is less pollution by the number of respondents 13 people (61.9%)

number of respondents 11 people (52.4%), Family breathing is very important in supporting the conditions experienced by diabetics Millitus, As mentioned in theory friedman (2003) The role of the family describe a set of behaviors interpersonal, nature, activities relating to individuals in certain positions and situations. The role of the individual within the family based on the expectations and behavior patterns of family groups and their community. Various roles are contained in the family are as follows: (1) The role of the father: the father as husband and wife role as breadwinner, educator, protector and give a sense of security, as the head of the family, as a member of a social group, and community members from the environment. (2) The role of the mother: as a wife and mother of his children, the mother has a role to take care of the household, as caregivers and educators of their

Table 8. Coefficient Parameter Path to Construct Latent Effects of Direct and Indirect Between Variables

No	Causality relationships directly and not directly between exogenous and endogenous	Koefisien parameter Jalur	Sample Mean (M)	Standar Error	T Value- Statistik	Ket.
1	The role of family influence on Physical Health Patients	0,000	-0,613	0,066	5,951	Sign
2	The role of family influence on the Psychic Patients	0,137	-0,316	0,176	1,504	no Sign
3	The role of family influence to the Environment Patients	0,014	-0,388	0,228	2,510	Sign
4	Social psychological influence on the patient	0,001	-0,343	0,102	3,346	Sign
5	Social influence on the Quality Of Life	0,024	-0,261	0,115	2,305	Sign

Source: Primary Data Analyze Results in 2015

Variable social support to family members who suffer diabetes mellitus with indicators such as: personal, support, activities, friends, as the table below. According to the table 4.6 social support to family members who suffer less activity diabetes mellitus is the number of respondents 8 (38.1%). Variable quality of life on a family member who suffers diabetes mellitus with indicators such as: satisfaction, well-being, as the table below. Based on Table 7 quality of life on a family member who suffers diabetes mellitus is enough satisfaction with the number of respondents 13 people (61.9%). Hypothesis Testing of the path parameter either directly or indirectly, can be explained as follows: Based on Table 8 is the test path analysis found the conclusions of causality as follows: (1) The role of family influence on improvement of physical health in people with diabetes mellitus, (2) The role of the family there is no effect on the psyche of people with diabetes mellitus, (3) The role of powerful family patients with diabetes mellitus for the environment, (4) Psychic diabetes mellitus effect on social support for people with diabetes mellitus, (5) the social condition of diabetes mellitus bterhadap affect quality of life of people with diabetes mellitus.

The final results of the role model of family based Quality of life as follows: Based on Figure it can be concluded that there are environmental influences on mental patients with diabetes mellitus, there is the influence of psychological conditions of the social, social aspects of diabetes mellitus affect the quality of life of people with diabetes mellitus, the role can improve the physical condition of patients with diabetes mellitus, the role can improve environmental conditions , it can be concluded that all indicators can support the model variables were arranged, except in the indicator breaks, nursing, pollution, social care, dependence on the value of the outer model cannot Support variables. The role of family to family members who suffer diabetes mellitus family roles less the

children, protective and one group of social role, as well as community members from the environment, as it also can serve as an additional income earner in the family. (3) The role of children: children do psycho-social role seauai with the level of development, whether physical, mental, social and spiritual. The central role in approaching health and other activities, in a family cannot be separated from each family member in enacting and support among each family, so that the role which should be mutually supportive with each other will grow even if the condition of one of the family members have health problems, economic, social and others.

Health problems experienced by family members must not be separated by other conditions related to each other, as represented examples of those who experienced a health decline or Millitus Diabetes condition, it certainly cannot be separated and left without support and increase the role of the family in a family structure. Quality Of Life on a family member who suffers diabetes mellitus is enough satisfaction with the number of respondents 13 people (61.9%), can be described as the concept and theory of the World Health Organization Quality of Life (WHOQOL, 1995) defines quality of life as an individual's perception of the position they were in life viewed from the context of the culture and value systems in which they live and their relationship with the goals, expectations, standards, and other matters of concern to the individual. Based on Calman and WHO definition implies that quality of life is determined by the individual's perception regarding the current living conditions. Hooker defines quality of life as the level of life satisfaction of individuals in the area of physical, psychological, social, activities, materials, and structural requirements. Ferrans define quality of life as feeling prosperous individuals, which comes from a sense of satisfaction or dissatisfaction with the individual areas of life that are important to him. According to Taylor, the quality of life illustrates the ability of individuals to maximize the

function of the physical, social, psychological, and employment is an indicator of recovery or adaptability in chronic diseases (Taillefer, 2013). Furthermore Padilla and Grant (in Hacker, 2010) defines quality of life as a personal statement of positivity or negative attributes that characterize a person's life and describe the individual's ability to function and satisfaction in doing so. Some understanding of the above it can be concluded that the quality of one's life is a subjective feeling about her well-being, based on the experience of her life as a whole. Quality of life illustrate the achievement of the ideal of human life, or as desired. The ideal condition of human life can be viewed Quality of life is directly influenced by the experience of positive parenting, negative parenting experience, and chronic stress. Economic resources and social resources have a direct impact on quality of life.

Ferrans and Powers (Galloway, *et al.*, 2006) four domains that are critical to the quality of life that is the health and function, socio-economic, psychological, spiritual, and family. Health domains and functions include aspects such as the usefulness to others and physical independence. Socio-economic domains related to living standards, environment, friends, and so on. Domain psychological / spiritual covering happiness, peace of mind, control of life, and other factors. Domain families include family happiness, children, couples, and family health. Although it is difficult to get rid of all the elements of life, the four domains includes most of the elements considered essential to the quality of life. Thus the creation of conditions for a good Quality Of Life will depend on the role played by the family of the patient, thus becoming a counterweight to contribute to the determination of a condition Quality Of Life. That there is influence of environment on mental patients with diabetes mellitus, there is a psychological effect on social conditions, social aspects of diabetes mellitus affect the quality of life of people with diabetes mellitus, the role can improve the physical condition of patients with diabetes mellitus, the role can improve environmental conditions. As Mentioned in theory friedman (2003) The role of the family describe a set of interpersonal behavior, nature, activities relating to individuals in certain positions and situations.

The role of the individual within the family based on the expectations and behavior patterns of family groups and their community. Various roles are contained in the family are as follows: (1) The role of the father: the father as husband and wife role as breadwinner, educator, protector and giver a sense of security, as the head of the family, as a member of a social group, and community members from the environment. (2) The role of the mother: as a wife and mother of his children, the mother has a role to take care of the household, as caregivers and educators of their children, protective and one group of social role, as well as community members from the environment, as it also can serve as an additional income earner in the family. (3) The role of children: children do psycho-social role seauai with the level of development, whether physical, mental, social and spiritual. The role of each member of the family will be important in improving the health status, physical and psychological aspects, with the hope mamapugive good contribution in the human condition in general. The ideal condition of human life can be viewed Quality of life is directly influenced by the experience of positive parenting, negative parenting experience, and chronic

stress. Economic resources and social resources have a direct impact on quality of life. Ferrans and Powers (Galloway, *et al.*, 2006) four domains that are critical to the quality of life that is the health and function, socio-economic, psychological, spiritual, and family. Health domains and functions include aspects such as the usefulness to others and physical independence. Socio-economic domains related to living standards, environment, friends, and so on. Domain psychological / spiritual covering happiness, peace of mind, control of life, and other factors. Domain families include family happiness, children, couples, and family health. Although it is difficult to get rid of all the elements of life, the four domains includes most of the elements considered essential to the quality of life. The quality of human life logically influenced by the family's role in giving attention and reinforcement to be motivated in order to cope with life independently and to be attentive to other family members.

Conclusion

The better the role of the family will improve physical health in people with diabetes mellitus, role of the family there is no effect on the psyche of people with diabetes mellitus, role of family influence on the environment with diabetes mellitus, Psychic diabetes mellitus effect on social support of people with diabetes mellitus, social condition diabetes mellitus affects to the quality of life of people with diabetes mellitus, Founded Model Quality Of Life is based on the family's role Diabetes Mellitus. The central role of the family so that the nurse can provide insight to other family members, so the need to reassess the condition of the Quality Of Life was developed into a model in a nurse caring behaviors.

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REFERENCES

- Almatsier, S. 2010. Penuntun Diet EdisiBaru. Jakarta: Gramedia Pustaka Utama.
- Arifin, A. L. 2012. PanduanTerapi Diabetes Mellitus Tipe 2 Terkini. Bandung: Sub Bagian Endokrinologi and Metabolisme, Bagian / UPF Ilmu Penyakit Dalam, Fakultas Kedokteran UNPAD/ RSUP dr. HasanSadikin. (online), (http://www.pustaka.unpad.ac.id/wp-content.panduan_terapi_diabetes_mellitus.pdfdiaksespadatangal27 Mei 2013 pukul 20.02 WIB).
- Arikunto, S. 2006. ProsedurPenelitianSuatuPendekatanPraktik, Cetakan Ketiga Belas. Jakarta: PT. RinekaCipta
- Atchibri, A. L. Ocho – Anin, K. D. Brou, T. H. Kouakou, Y. J. Kouadio and D. Gnakri. 2010. Full Length Research Paper: Screening for Antidiabetic Activity and Phytochemical Constituents of Common Bean (*Phaseolus vulgaris* L.) *Seeds Journal of Medicinal Plants Research* Vol. 4.

- (online), (<http://www.academicjournals.org/JMPR>). diakses padataanggal 16 Maret 2013 pukul 19.48 WIB).
- Budianto, E. 2009. Uji Penurunan Kadar Glukosa Darah Perasan Buah Buncis (*Phaseolus Vulgaris L.*) Terhadap Kelinci Jantan yang Dibeberikan Glukosa. (SKIPSI). Surakarta: Fakultas Farmasi Universitas Muhammadiyah Surakarta. (Online), (<http://www.scribd.com/doc/51235249/buncis#/download>), diakses padataanggal 11 Desember 2013 pukul 20.45 WIB)
- Departemen, Kesehatan. 2010. Riskeda 2010. (online), (<http://www.riskedas.litbang.depkes.go.id>) diakses 16 Maret 2013 20.45 WIB).
- Dey, L. *et al.* 2011. Alternative Therapies for Type 2 Diabetes. China: Tang Family Foundation. (online), (http://www.google.com/scholar/Al_Ther_TypeII.pdf) diakses padataanggal 27 Mei 2013 pukul 20.22 WIB).
- Felce, D. and Perry, J. 1995. Quality of life: Its definition and measurement research. *Research in Developmental Disabilities*, 16, 51-74. doi:10.1016/0891-4222(94)00028-8
- Friedman, M. M. 2003. Family nursing: Theory and assessment. New York: Appleton-Century-Crofts.
- Galloway, S., Bell, D., Hamilton, C., and Scullion, A. C. 2006. Quality of life and well-being: Measuring the benefits of culture and sport: Literature review and thinkpiece (Scottish Executive Education Department Report). Retrieved from <http://www.scotland.gov.uk/Publications/2006/01/13110743/2>
- Hacker, E. D. 2010. Technology and quality of life outcomes. *Seminars in Oncology Nursing*, 26, 47-58. Doi:10.1016/j.soncn.2009.11.007
- Koller, M., and Lorenz, W. 2002. Quality of life: A deconstruction for clinicians. *Journal of the Royal Society of Medicine*, 95, 481-488. Doi:10.1258/jrsm.95.10.481
- Koller, M., Klinkhammer-Schalke, M., and Lorenz, W. 2005. Outcome and quality of life in medicine: A conceptual framework to put quality of life research into practice. *Urologic Oncology*, 23, 186-192. Doi:10.1016/j.urolonc.2005.03.002
- Kushariyadi. 2010. Asuhan Keperawatan pada Klien Lanjut Usia. Jakarta: Salemba Medika.
- Lelkens, J. P. M. 2005. Quality of life in cancer patients with unfavourable prognosis. In E. Sgreccia and I. Carrasco de Paola (Eds.), *Quality of life and the ethics of health: Proceedings of the sixth Assemblée Generale Pontificia Pro-Vita*, Vatican City, Vatican City State. Retrieved from http://www.academia.edu/pdf/assemblees/11/quality_of_life_and_the_ethics_of_health.pdf
- Manoharan, G. 2010. Anti-Cancer effects of *Momordica Charantia* In-vitro (THESIS). Lancashire: University of Central Lancashire Press. (online), (http://www.google.com/scholar/Manoharan_Gunaseker_Final_e-Thesis_Pare.pdf) diakses padataanggal 27 Mei 2013 pukul 20.22 WIB).
- Perkumpulan Endokrinologi Indonesia (PERKENI) 2011. Konsensus Pengelolaan Dan Pencegahan Diabetes Melitus Tipe 2 Di Indonesia. Jakarta: PERKENI Press. (online), (<http://id.scribd.com/doc/73323977-Konsensus-DM-Tipe-2-Indonesia-2011>) diakses padataanggal 21 Maret 2013 pukul 21.08 WIB).
- Pusat Data and Informasi Persatuan Rumah Sakit Seluruh Indonesia (PDPERSI). 2011. RI Rangka Keempat Jumlah Penderita Diabetes Terbanyak Dunia. (online), (<http://www.pdpersi.co.id/content/news.php?mid=5&andnid=618&andcatid=23>) diakses padataanggal 16 Maret 2013 pukul 20.08 WIB).
- Robbins, *et al.* 2007. Buku Ajar Patologi Volume 2, Edisi 7. Jakarta: EGC.
- Smeltzer, S. C. dan Brenda G. Bare. 2002. Buku Ajar Keperawatan Medikal Bedah Brunner and Suddarth Edisi 8 Volume 2 Alih Bahasa H. Y. Kuncara, Andy Hartono, Monica Ester, Yasmin Asih, Jakarta: EGC.
- Sutrisno, S. 2009. Buku Ajar Ilmu Penyakit Dalam Jilid III, Edisi 4. Jakarta: Departement Ilmu Penyakit Dalam FKUI.
- Taillefer, M.C., Dupuis, G., Roberge, M.A., and Le May, S. 2003. Health-related quality of life models: Systematic review of the literature. *Social Indicators Research*, 64, 293-323. Doi:10.1023/A:1024740307643
- Tobing, A. 2008. Care Your Self Diabetes Mellitus. Jakarta: Penebar Plus.
- WHOQOL Group. 1995. The World Health Organization quality of life assessment (WHOQOL): Position paper from the World Health Organization. *Social Science and Medicine*, 41(10), 101403-1409. Doi:10.1016/0277-9536(95)00112-K
- Yekti, 2011. *Hidup Sehat Dan Bahagia Bersama Diabetes Mellitus*. Jakarta: Gramedia Pustaka Utama
