

Effect of Locus of Control, Self-Efficacy, and Personality Type on the Quality of Life among Caregivers of Schizophrenia Patient in Godean Sub-District, Yogyakarta

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ABSTRACT

Background: Caregivers of schizophrenia patients have an important role in fulfilling the need of patients. This task implicates on care burden and psychological problems on the caregivers. The quality of life of the caregivers may have important impact on the caring process. This study aimed to examine effect of locus of control, self-efficacy and personality type on the quality of life among caregivers of schizophrenia patient.

Subjects and Method: This study was analytic observational with cross-sectional design. It was carried out at Godean Sub-District, Yogyakarta, from March to April 2017. A sample of 102 caregivers of schizophrenia patient were selected for this study by fixed diseases sampling. The dependent variable was quality of life. The independent variables were age, gender, personality type, locus of control, self-efficacy, family concern, family income. The data was collected by questionnaire, and analyzed by path analysis.

Results: Higher quality of life of caregivers was affected by self-efficacy ($b=0.46$; $SE=0.15$; $p<0.001$), extrovert personality ($b=0.21$; $SE=0.10$; $p=0.01$), and higher family income ($b=0.18$; $SE=0.05$; $p=0.02$). Self-efficacy was affected by better family concern ($b=0.22$, $SE=0.16$; $p=0.02$) and extrovert personality ($b=0.33$; $SE=0.06$; $p<0.001$).

Conclusion: Higher quality of life of caregivers was directly affected by self-efficacy, extrovert personality, and higher family income. Higher quality of life of caregivers was indirectly affected by better family concern and extrovert personality.

Keywords: quality of life, locus of control, self-efficacy, schizophrenia, caregiver

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BACKGROUND

Mental disorder is one of serious health problems faced by every country including Indonesia. Schizophrenia is a chronic mental disorder that affects way of thinking, behavior and it is marked by the occurrence of obvious psychotic symptoms such as hallucination, agitation, insomnia and others. The disease takes a long process and it affects the entire aspects of patients' life. Therefore schizophrenia becomes one of the diseases that contribute on global disease burden

(Fischer dan Buchanan, 2016). Schizophrenia is one of the main causes of disability. It is because of the occurrence of setbacks on physical health that probably is accompanied by complication, cognitive function decline, deficit on the psychomotor performance/ skills, and reducing level of independence (Strassing *et al.*, 2014). As the consequence schizophrenia patients are not able to perform daily activities well so that they need other people to take care of them (caregiver) (Prianto, 2005 in Fitrikasari *et al.*, 2012).

Family is the primary caregiver that has an important role to help patients' recovery. A caregiver of schizophrenia patients possesses care burden that can concern his psychological well being and at risk for mental disorder (Geriani et al., 2015; Gupta et al., 2014; Lesibikan and Ayinde, 2013). The burden a caregiver undergoes may lead to the low quality of life that can affect the process of care and the accomplishment of treatment on schizophrenia patients (Geriani et al., 2015). Quality of life of the caregivers is a key of success in giving treatment (Margetic *et al.*, 2013).

Quality of life of a caregiver of schizo-phrenia patients is affected by negative stigma from society, level of education (social and environmental aspect), health condition of caregiver, level of depression (physical and psychological aspects), and the duration of disease (El-Tantawi et al., 2010; ZamZam et al., 2011). Quality of life is also affected by self efficacy (Cramm et al., 2012; Testa et al., 2016). High level of efficacy on a caregiver of schizophrenia patients affects on the level of life contentment, the low acceptance of care burden, and better quality of life (Lakhani and Shardha, 2016).

One's self efficacy is affected by the occurrence of force from within (internal) and outside (external) that is commonly known as *locus of control*/perception toward control. The locus of control is related to self efficacy, self concept, and self esteem that can influence one's view toward his behavior (Bandura, 1977 in Gerald, 2016). Someone with high locus of control and self efficacy have good capacity to control his life (Kauba and Pitlik, 2014).

Number of schizophrenia patients in the world is still relatively high. It is esti-

mated there are 21 million of people who suffer from schizophrenia (WHO, 2016). Based on Indonesia Basic Health Resarch (Riskesdas) year of 2013 the number of Psychotic Mental Disorder in Indonesia was 1.7 per mill and Special Region of Yogyakarta was in the top rank that was 2.7 per mill (9,820 people), whereas the number of mental disorder in Sleman Regency was 1.52 per mill (1,769 people) (Balitbang Kemenkes RI, 2013).

Godean Sub-district is one of the sub districts in Sleman Regency. There were still few activities intended for caregivers. In addition, health problems faced by caregivers were not yet completely detected. The purpose of the study was to analyze factors that affect life quality of caregivers of schizophrenia patients in Godean Sub-district, Special Region of Yogyakarta.

SUBJECTS AND METHOD

1. Design of the Study

The study was a quantitative study. The design of the study was observational with cross sectional approach. The study was conducted in Godean sub-district, Special Region of Yogyakarta in the months of March and April 2017.

2. Population and Sampling

The population of the study was all caregivers of schizophrenia patients in Godean Sub-district, Special Region of Yogyakarta. There were a total of 102 selected as the subjects of the study, who was selected by using fixed disease sampling. Subject selection was based on status of the disease, consisted of those who suffered from the disease or who did not suffer from the disease being studied, whereas status of subjects' exposure were varied in accordance with the status of subjects' disease (Murti, 2013).

Inclusion criteria among others were: caregivers were between 18 -60 years of age, took care of schizophrenia patients based on doctors' diagnosis, performed care for outpatients, performed care without any rewards and had been performing care for at least 1 year.

3. Variables of the study

There were eight variables in the study, consisted of dependent and independent variables. The dependent variable was quality of life of caregivers of schizophrenia patients. The independent variables were age, sex types, income, personality types, concern/ caring, *self efficacy*, *locus of control*.

4. Operational Definitions

Age of the study subjects was defined as age which was calculated from birth until the implementation of the study and stated in year; sex categories of the study subjects was defined as physical identification based on the differences in anatomy and physiology structure on human; income of the study subjects was defined as the source of income received by caregivers of schizophrenia patients and used to fulfill his/her needs and desires.

Types of personality was pattern of thinking, differences in characteristic patterns of thinking, feeling and behaving of caregivers of schizophrenia patients. Family concern/ caring was defined as the family's feeling of concern toward caregivers of schizophrenia patients by showing attention, empathy and compassion in giving treatment for patients.

Locus of control was a belief/ encouragement that came from either internal or external of an individual that influences caregivers in taking care of schizophrenia patients. *Self efficacy* was a confidence possessed by caregivers in taking care of schizophrenia patients;

quality of life of caregivers of schizophrenia patients was how a caregiver of schizophrenia patient valued the positive aspects within her/himself included physical, mental, social and environmental.

5. Instrument variable

Data collection was conducted by using questionnaires. The standard questionnaires used were among others *general self efficacy*, *locus of control*, *WHOQOL-BREF*. Meanwhile questionnaires on personality types and family concern were made by the researcher therefore it needed to conduct validity and reliability tests.

Based on the result of reliability test on item-total correlation, it was found that the measurement of family concern and personality types was $r \text{ count} \geq 0.20$, and Cronbach's Alpha ≥ 0.70 , therefore each question item were declared as reliable.

6. Data analysis

Characteristics of sample data were continually described in n, mean, SD, minimum, maximum. Categorical sample data was described in n and percentage. Bivariate analysis on continuous data used Pearson correlation, whereas multivariate analysis was analyzed by using path analysis model. Steps of data analysis by using path analysis, among others:

1. Model specification
2. Model Identification
3. Model Compatibility
4. Parameter estimation
5. Model respecification

RESULTS

Table 1 showed that out of 102 study subjects there were 79.4% who were middle aged; 64.7% were female; 28% were unemployed and 72.5% had income above Regional Minimum Wages.

The result of descriptive statistics on continuous data namely family concern, personality types, locus of control, self

efficacy, and quality of life can be seen in Table 2.

Table 1. Characteristics of study subjects

Characteristics	Criteria	n	%
Age	18-45 year	21	20.6
	46-60 year	81	79.4
Sex categories	Male	36	35.3
	Female	66	64.7
Income	<Regional Minimum Wage	28	27.5
	≥Regional Minimum Wage	74	72.5

Table 2. Univariate analysis on variables of the study

Variables	n	Mean	SD	Min	Max
Family Concern	102	9.6	2.98	2	13
Caregivers' type of personality	102	50.4	7.96	23	65
Caregivers' locus of control	102	9.78	2.74	3	15
Caregivers' self efficacy	102	31.9	5.22	14	40
Caregivers' quality of life	102	67.12	9.44	37.5	81.25

Table 2 showed that each variable had relatively small data variety. Mean represented the average value, standard deviation (SD) represented how great the

data would varied. The small SD was an indication that the data was representative.

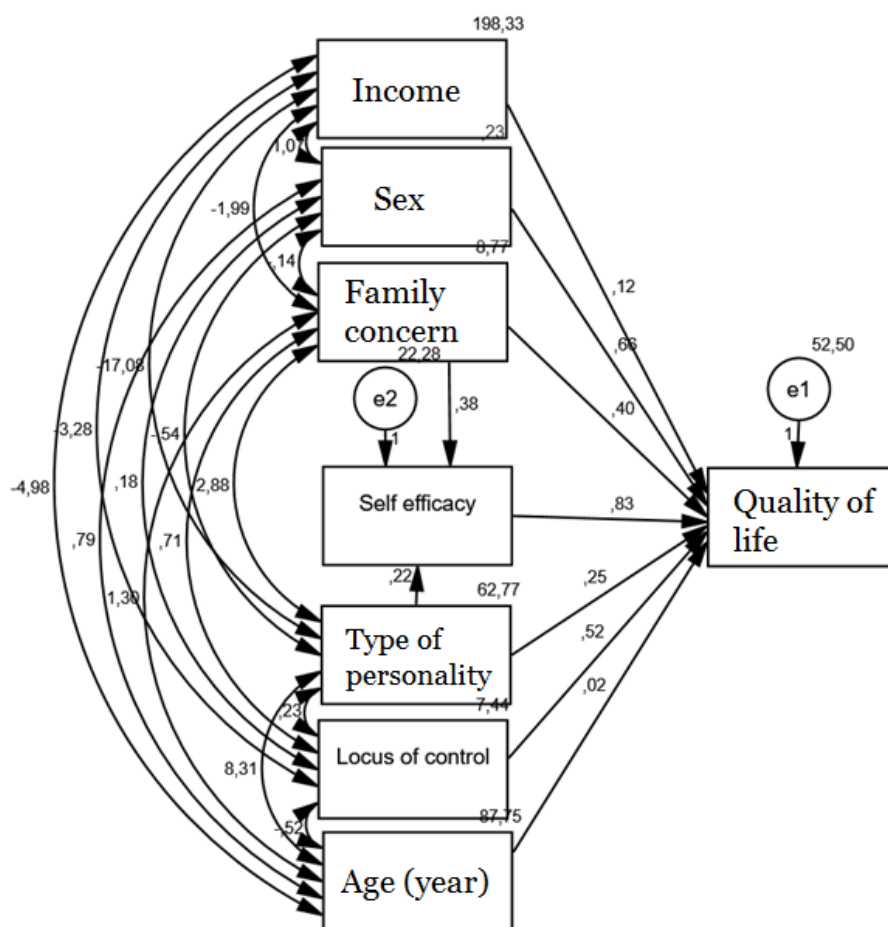
Table 3. Bivariate analysis on the effect of age, sex categories, family concern, type of personality, income, locus of control, self efficacy toward the quality of life of caregivers of schizophrenia patients

Independent Variables	r	p
Age	0.98	-0.003
Sex categories	0.89	0.014
Family concern	0.27	0.006
Type of personality	0.37	0.000
Income	0.08	0.410
Locus of control	0.08	0.073
Self efficacy	0.55	0.000

Table 3 showed that good family concern (r=0.27; p=0.006), type of personality (r=0.37; p=0.000), self efficacy (r=0.55; p<0.001) had positive effects toward the quality of life of schizophrenia patients and statistically significant.

Path analysis model made by the researcher was based on the theory later, the compatibility was checked by using good correlation model according to SPSS that was known as saturation model.

Picture 1 showed the structural model after an estimation. Indicator that showed model compatibility on path analysis was represented by the occurrence of goodness of fit measure (measurement of model compatibility), it obtained CMINfit index as big as 4.07; p= 0.40>0.05; NFI= 0.96 ≥0.90; CFI= 0.99 ≥0.95; RMSEA= 0.01 ≤0.08, it means the model fit the criteria that were determined and stated by using empirical data.



Picture 1. Structural Model on Path Analysis

Table 4. Result of Path Analysis

Endogenous Variables	Exogenous Variables	b*	SE	p	β**
Direct Effect					
Quality of life	← Income (Rp 100,000)	0.21	0.05	0.02	0.18
Quality of life	← Sex Category (male)	0.66	1.60	0.68	0.34
Quality of life	← Family concern	0.40	0.25	0.12	0.13
Quality of life	← Self efficacy	0.83	0.15	<0.001	0.46
Quality of life	← Tipe kepribadian	0.25	0.10	0.01	0.21
Quality of life	← Locus of control (external)	0.52	0.27	0.05	0.15
Quality of life	← Age (year)	0.02	0.80	0.76	0.02
Indirect Effect					
Self efficacy	← Type of personality	0.22	0.06	<0.001	0.33
Self efficacy	← Family concern	0.38	0.16	0.02	0.22
Model Fit					
CMIN	= 4.07	p = 0.463	(> 0.05)		
NFI	= 0.96	(≥ 0.90)			
CFI	= 0.99	(≥ 0.95)			
RMSEA	= 0.01	(≤ 0.08)			
*: unstandardized path coefficient		**: Standardized path coefficient			

It was identified from Table 4 that quality of life of caregivers of Schizophrenia patients was directly affected by income, self efficacy and type of personality. Each increasing unit of income would increase the quality of life of caregivers by 0.21 unit ($b=0.21$; $SE= 0.05$; $p= 0.02$).

Each increasing unit of extrovert personality type would increase the quality of life by 0.25 unit ($b=0.25$, $SE=0.10$; $p=0.01$). Each increasing unit of self efficacy would increase the quality of life by 0.83 ($b=0.83$; $SE=0.15$; $p<0.001$). Each increasing unit of type of personality (extrovert) would increase self efficacy by 0.022. ($b=0.22$; $SE= 0.16$; $p=0.02$). Every increasing unit of self efficacy would increase self efficacy by 0.38 ($b=0.38$; $SE=0.16$; $p=0.02$).

DISCUSSION

1. The effect of income toward quality of life of caregivers of schizophrenia patients

There was a positive correlation between income and the quality of life of caregivers of schizophrenia patients. Caregivers whose high income increases the possibility for good quality of life. According to National for National Statistics (2015) income/ wealth will influence one's welfare.

Low income will influence one's vitality and health (Costa *et al.*, 2013). With adequate income someone will obtain healthcare service more easily, therefore it will influence his quality of life. According to Yu *et al.*, (2013) income does not influence one's quality of life. Underprivileged community still obtain healthcare service for free since they were supported by health insurance aid from the government.

Schizophrenia is a chronic mental disorder therefore it needs assistance in fulfilling his needs. It brings care burden such as in economy, social, psychology, and others (Sigh and Prajawati, 2012). Financial burden is one of the factors that influence the low quality of life of caregivers. Caregivers should stop working or reduce their savings for treatment and medication (Nayak *et al.*, 2014).

Income of caregivers of Schizophrenia patients affects their quality of life. It is in accordance with this study that showed the significant correlation between income and the quality of life of caregivers of schizophrenia patients. Schizophrenia patients need fund for their regular treatment however some of them have possessed health insurance to get healthcare service for free, therefore the quality of life of their caregivers is still maintained despite the small income.

2. The effect of sex categories toward the quality of life of caregivers of schizophrenia patients

Based on the statistics test, it showed that there was no correlation between sex categories with the quality of life of caregivers. The result is in accordance with the study made by Jain and Sigh (2014) and Kaur (2014) that there is no significant correlation between sex categories with quality of life. Quality of life of male and female is more correlated to level of stress and psychological condition (Vanagas dan Axelsson, 2004).

Quality of life of men is more affected by economy, physical, and psychological condition, whereas on women, it is affected by physical and psychological health (Campos et al, 2014). Women are more likely to get stressed compare to men therefore it affects their quality of life (Gottlieb *et al.*, 2014).

There are several differences of study result related to the correlation between sex categories and quality of life. They are only able to define the correlation in one group respectively. The inconsistency shows that there is no a definite explanation about the correlation between sex categories and quality of life.

Life burden undergone by the caregivers of schizophrenia patients is affected by age, sex categories, level of education and others (Shamsaei *et al.*, 2015). The result of the study is in contradiction with several previous studies. Sex categories does not correlate with the quality of life of caregivers since there were some matters found during the process of study, among others were the condition of patients being taken care of was well maintained, regularly obtained treatment, and were always supported by their family.

3. The correlation between age and quality of life of caregivers of schizophrenia patients

There was no significant correlation between age and quality of life of caregivers of schizophrenia patients. It is in contradiction with the opinion from Xie *et al.*, (2016) the age of caregivers significantly affect the quality of life on physical aspect. It is more related to one's physical function declining along with the age therefore it affects the process of treatment.

Quality of life within a family is affected by kinship system (Margetić *et al.*, 2013). The older the person it will affect the quality of coping strategy toward a problem (Cramm *et al.*, 2012). The result of the study is in contradiction with the previous study that shows age and sex categories do not have significant correlation. It is because of the shifting of treatment from hospital into community,

therefore family (parents, siblings, children) is demanded to be able to take care of schizophrenia patients. Caregivers of schizophrenia patients have the similar care burden despite of different age that can affect their quality of life, besides caregivers always obtain excellent family support. It affects the quality of life of the caregivers.

4. The correlation between type of personality with quality of life of caregivers of schizophrenia patients

There was a positive correlation between extrovert personality type with quality of life of caregivers of schizophrenia patients and statistically significant. Type of personality affects care burden that gives impact to mental health of caregivers such as neurotic disorder (Abralde *et al.*, 2013). Symptoms of neurosis, level of depression, and care burden are reducing on caregivers whose personality type is extrovert (Melo *et al.*, 2010).

Extrovert personality negatively related to quality of life (Hosseini-khanzadeh and Taher, 2013). Extrovert personality compares to introvert personality. The result of the study showed there was a correlation between extrovert personality type with quality of life of caregivers of schizophrenia patients. Caregivers with extrovert personality are likely to be open to other people, therefore the level of depression and care burden of caregivers of schizophrenia will be reducing. Caregivers with low level of depression and care burden will lead to better quality of life (Settineri *et al.*, 2014).

5. The correlation between self efficacy and quality of life of caregivers of schizophrenia patients

There was a positive correlation between self efficacy with quality of life of caregiver of schizophrenia patients and statistically

significant. Cancer patients with high self efficacy have high quality of life (Liang *et al.*, 2015). Cramm *et al.*, (2013) explains that adolescents with Diabetes Mellitus are likely to have high life confidence, however their quality of life tend to be getting declining. The disease that is suffered by those teenagers affects their quality of life.

Caregivers of schizophrenia with high self efficacy increase life contentment and reduce care burden (Lakhani dan Shradha, 2016). Improving self efficacy helps someone to improve his quality of life (Haugland *et al.*, 2016).

Caregivers' self confidence on his capacity in giving treatment is the primary key in helping patients to recover. Self confidence is able to improve caregiver's concern to patients therefore it promotes the recovery. Patients' well being promotes the improvement of caregivers' quality of life (Crellin *et al.*, 2014).

6. The correlation between locus of control and quality of life of caregivers of schizophrenia patients

Locus of control and quality of life of caregivers do not statistically correlate. The result is in contradiction with several results of studies that explain the occurrence of correlation between locus of control with life quality (Heidari dan Ghodusi, 2016; Aliha, 2015). People with external locus of control are likely to suffer from psychological disorder such as depression compare to people with internal locus of control. Result of the study shows that internal locus of control and extrovert personality improve quality of life (Kandi and Zeinali, 2016).

Maximum level of contentment occurs when internal and external locus of control are in balanced which is commonly known as biolocal expectancy. Either internal or external locus of control only

represents one imbalanced locus, therefore contentment will not be optimal (April *et al.*, 2017).

There are several previous study results that are not in accordance with the result of the study. The difference is caused by the occurrence of other factors that affect the quality of life a caregivers such as level of depression, self esteem, care burden and others.

7. The correlation between family concern, self efficacy and quality of life of caregivers of schizophrenia patients

Family concern through self efficacy affects the quality of life. Excellent family support is able to improve self confidence. Family is the first and primary environment that influences someone (Widanarti dan Indati, 2002).

Caregivers need the availability of health information, support to obtain aids from the professionals and support from the community including family support. Care burdens which are experienced the most by caregivers are financial and time burden (Kumar *et al.*, 2015). Most of caregivers feel contented with the relationship and social support they received. Financial burden and treatment time are related to social support. Good social support will improve the quality of life a caregivers (Anjas *et al.*, 2015).

Social support and self efficacy for caregivers are able to minimize the existing stressors so that caregivers as well as family become more resilient in facing problems (Weiss *et al.*, 2013). Self efficacy contributes as a variable between social support and coping mechanism that help minimizing depression incidents on caregivers. Caregivers who obtain excellent family and social support are able to improve self efficacy therefore able to minimize psychological problems such

as depression and it affects their quality of life (Tang *et al.*, 2015), (Deakhashanpur *et al.*, 2015).

8. The correlation between types of personality, self efficacy and quality of life of caregivers of schizophrenia patients

There was a positive correlation between extrovert personality type with self efficacy of caregiver of schizophrenia patients and statistically significant. According to Pandey and Kavita (2015) there is significant correlation between extrovert personality type, openness to experiences, with self efficacy.

Personality types through self efficacy affect one's welfare (life satisfaction and subjective happiness) (Strobel *et al.*, 2013). A mother with extrovert personality and is emotionally stable will have high self confidence so that she is able to breastfeed for a longer period of time. Extrovert personality encourages an individual to look for supports therefore his self confidence is increasing and it gives impact to the improvement of quality of life (Brown, 2013).

Caregivers of schizophrenia patients whose personality is extrovert tend to try to find support for helping patients' recovery. The support obtained by caregivers will increase their self confidence in giving treatment to patients therefore it can reduce care burden that generates the improvement on their quality of life. An individual with extrovert personality is usually more open to the experience he encounters.

Based on the result of the study, it can be concluded that the quality of life of caregivers of schizophrenia patients is affected by income, self efficacy, and type of personality (extrovert). Self efficacy is

affected by type of personality (extrovert) and high family concern.

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