Social support, gratitude, and quality of life of patients with chronic disease in Yogyakarta, Indonesia

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Abstract

This research was aimed to analyze factors that affect the quality of life for patients with chronic disease. The research focuses on social support and gratitude as primary factors that influence quality of life among patients. Hypotheses proposed is that social support and gratitude have significant positive correlation with patients' quality of life. The subject of research are patients with type 1 diabetes, kidney failure, and hypertension who have been being diagnosed for at least six months. The research was conducted on 152 subjects consist of 85 male and 67 female. The study employs WHOQOL-BREF from WHO, gratitude scale (Brief Report Psychological Measures of Islamic Gratitude (PMIG)) based on Al-Jawziyyah's gratitude theory and social support scale (Multidimensional Scale of Perceived Social Support (MSPSS)). Data was analyzed using regression, and the result shows that coefficient of correlation between social support and quality of life of chronic disease patients is $r = 0.455$ and $p = 0.000$ ($p < 0.01$). Other result shows that coefficient of correlation between gratitude and quality of life of patients is $r = 0.191$ and $p = 0.009$ ($p < 0.01$).

Keywords: social support; gratitude; quality of life; chronic disease

Introduction

Chronic disease can be defined as a stable or recurring disease in a patient with at least three months of experiencing it. Such disease was difficult to avoid by vaccines or cured or leave itself. In its nature, the chronic disease tends to spread wider in the patient along with his or her growing age. In developing countries, cardiovascular diseases, diabetes mellitus, chronic respiratory disease, kidney disease and tumor/neoplasm are among common types of chronic diseases. According to Wang et al. (2014), chronic disease is the leading cause of death in developing countries.

Chronic diseases have many characteristics such as uncertainty of its cause, multiple risk factors, requiring a long duration, causing malfunctions or incompetence and at some point incurability. Such disease may cause bio-psycho-social-spiritual responses which include

response to losing. Furthermore, patients with chronic disease may fell some types of loss in the form of social (Charmaz, 1983) and spiritual aspects (Williams, 1984). Not only impact life, but the chronic disease also affects many other dimensions including spiritual aspects of patients. For this reason addressing patients' psychosocial and spiritual needs in health care is also important (Büssing & Koenig, 2010).

Patients with chronic diseases commonly have psychiatric disorder issues, dysfunctional beliefs and coping strategies (Howe, Robinson, & Sullivan, 2015). At some point, chronic disease can bring implications in patients self-states disruption (Garrett & Weisman, 2001) and depression especially due to lack of mobility and daily activities (Doumit & Nasser, 2010). Patients can also experience depressive symptoms and psychological distress (Hamdan-Mansour, Aboshaiqah, Thultheen, & Salim, 2015). For elderly, feeling lonely, isolated and dependent also contribute to depression (Siddiqui, Anwar, & Perveen, 2009). Such conditions will make patients uncomforted and decrease their quality of life. It was something no one expects because high quality of life is required to ensure patients' strength in dealing with their efforts to be healthy again and live their happy life.

World Health Organization (1996), defined a quality of life "as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and about their goals, expectations, standards and concerns." In general, quality of life and health cover many aspects such as physical health, psychological health, social relation and environment (WHO, 1998). The high quality of life and health is a dream individual seek to achieve. However, due to some circumstances, many people might make less, and for the case of patients with chronic disease, such achievement is necessary to help them through the process of treatment.

Based on the previous background, this research aims to analyze factors that contribute quality of life among patients with chronic disease. An initial interview with prospective subjects

indicates some insights that help the process of the research. Subject with hypertension stated that poor health condition sets back his daily life. It affects his physical, emotional, and social aspects of life not only in family scope but also in work and society. Family environment and psychological health are among the most important issues affecting him and his family.

Previous works have shown many factors that psychologically contribute quality of life among patients with chronic disease. Among these factors are the personality (Burgess et al., 2000), self-efficacy (Axelsson, Lötvall, Cliffordson, Lundgren, & Brink, 2013), social support (Bohlke et al., 2008) and spirituality (Jahani et al., 2013). This research focuses only on two factors: social support and gratitude. These two factors are chosen for some considerations from previous literature review, availability of research instruments and cultural-religious background of subjects as Javanese and Muslims who are famous with eastern hospitality and Islamic values. To support this reason, some previous works on the social support can be described as follow. Vilheina et al., (2014) proved that psychological factors including social support have correlation with quality of life of patients with chronic disease. Yadaf (2010) also showed that social support and hope impact quality of life. Source of social support as discussed and employed in this research are family, friends, and significant other (Zimet, Dahlem, Zimet, & Farley, 1988).

This research also proposes gratitude as the factor affecting the quality of life in patients with chronic disease. In general, gratitude has strong relation with quality of life so that intervention to promote it is promising (Wood, Froh, & Geraghty, 2010). From an Islamic perspective, gratitude scale developed by Kurniawan, Romdhon, Akbar, & Endah (2012) consider Al-Jawziyyah's approaches to understanding gratitude model in Islam. Individuals are considered as grateful if they acknowledge the mercy of Allah, praise Him for His blessing, and using His mercy to achieve what He pleases (Al-Jawziyyah, 2008, p. 290).

Based on the short discussion above this research proposes a hypothesis that social support and gratitude has a positive and significant correlation with quality of life of patients with chronic disease. To ensure brief analysis, this paper is structured as follow. This section provides background for research; next section explains materials and methods of research, followed by results of data analysis. Discussion on finding is given next followed by conclusion on study and acknowledgment.

Materials and Methods

Subjects were patients who experience chronic disease in first level health centers Sleman Regency and City of Yogyakarta. Some criteria were used in determining the patients of chronic disease as subjects of the study, such as experiencing the disease for at least six months. The chronic diseases were limited to hypertension, diabetes, cancer and lung. The subjects were chosen from Sleman Regency and City of Yogyakarta because of increasing cases in the two areas. Data was collected from 152 subjects for this study.

Data was collected through a survey to subjects using a questionnaire. The questionaire consists three scales: gratitude scale based on Psychological Measures of Islamic Gratitude (PMIG) developed by Kurniawan, Romdhon, Akbar, & Endah (2012), social support scale based on Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet, Dahlem, Zimet, & Farley (1988), and quality of life scale based on WHOQOL-BREF of the WHO (Orley, Harper, Power, Billington, & Group, 1997). After being collected, the data was then processed and analyzed using IBM SPSS Statistics. Regression analysis was conducted to analyze data.

Result

Subject Description

Respondents of this study can be described based on demographic categories, such as gender, age, marital status, education, and diagnosis. Table 1 below describes information on demographic characteristics of this research subjects.

Table 1 Research Subjects Description

Factors	**Category**	**N**	**Percentage**	**Total**
Type of chronic disease	Diabetes	57	37.5%	100%
	Kidney Failure	40	26.32%	
	Hypertension	55	36.18%	
Gender	Male	85	55.92%	%100
	Female	67	44.08%	
Age	30-40 years	39	25.66%	100%
	41-50 years	34	22.37%	
	51-60 years	58	38.15%	
	61-70 year	21	13.82%	
Education	Elementary school	14	9.2%	100%
	Junior high school	16	10.53%	
	Senior high school	57	37.5%	
	University	65	42.77%	
Time of diagnosis	≤ 10 years	93	61.18%	100%
	> 10 years	59	38.82%	

Source: Primary data.

In general, chronic diseases experienced by respondents are diabetes and hypertension. Most of the respondents are male, and their ages are between 51-60 years old. From the educational perspective, most respondents pursued the higher level of education, i.e. senior high school and university, compared to Indonesian citizen in general. From the time of being diagnosed with chronic disease, most respondents have it less than years old.

Data Description

Descriptive statistics of the variables in the research can be viewed in Table 2 below. The table summarizes relevant descriptive statistics results for social support, gratitude, and quality of life. Minimum, maximum, mean and standard deviation for hypothetical and empirical values are described in the following table.

Table 2 Descriptive Statistics of Variables

Variables	Hypothetical value				Empirical value			
	Min	**Max**	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**
Social support	12	60	36	8	26	59	47.64	6.11
Gratitude	25	100	62.5	12.5	59	98	83.46	7.74
Quality of life	26	130	78	17.3	63	130	94.90	13.25

Source: Primary data.

Descriptive statistics of variables in Table 2 was then used as a base value for categorization of subjects. Three are five categories for subjects: very low, low, middle, high and very high. This categorization was based on a range of minimum and maximum hypothetical data to generate a standardized empirical score. A more general classification of subjects can be derived from the hypothetical and empirical mean as in the following rule:

Table 3 Rule in Categorization of Subjects

Category	Norm
Very low	$X < \mu - 1.8\ \sigma$
Low	$\mu - 1.8\ \sigma \leq X < \mu - 0.6\ \sigma$
Middle	$\mu - 0.6\ \sigma \leq X < \mu + 0.6\ \sigma$
High	$\mu + 0.6\ \sigma \leq X < \mu + 1.8\ \sigma$
Very High	$X > \mu + 1.8\ \sigma$

Notes: μ = hypothetical mean; σ = standard deviation
Source: Primary data.

Based on this rule, categorization of subjects can be derived from each variable. Table 4 below describes the classification of subjects based on social support score. The results indicate that most respondents receive high and very high social support as reflected in the large percentage of two categories in the table.

Table 4 Categorization of Subjects Based on Social Support

Category	Score	N	Percentage
Very low	$X < 21.6$	0	0%
Low	$21.6 \leq X < 34.92$	4	2.63%
Middle	$34.92 \leq X < 37.08$	6	3.95%
High	$37.08 \leq X < 50.4$	87	57.24%
Very High	$X > 50.4$	55	36.18%

Source: Primary data.

Categorization of subjects based on gratitude is described in Table 5. As the previous categorization, the subject is concentrated in a high and very high category which reflect their gratitude to the condition.

Table 5 Categorization of Subjects Based on Gratitude

Category	Score	N	Percentage
Very low	$X < 40$	0	0%
Low	$40 \leq X < 55$	0	0%
Middle	$55 \leq X < 70$	8	5.26%
High	$70 \leq X < 85$	78	51.32%
Very High	$X > 85$	66	43.42%

Source: Primary data.

The last categorization of subjects was based on the quality of life and can be viewed from Table 6 below. A third of subject can be categorized as a middle in their quality of life and more than half in high category and the rest in very high one.

Correlation Analysis

The data was then analyzed using regression to test the correlation between social support and quality of life and correlation between gratitude and quality of life. The analysis was conducted for all data simultaneously general and then for a different type of diseases experienced by patients. The result for a general correlation between variables was shown in Table 7 below.

Table 6 Correlation Analysis Between Social Support and Gratitude and Quality of Life for All Patients

Variables	R	r^2	p
Social support ⇔ Quality of life	0.455	0.207	0.000
Gratitude ⇔ Quality of Life	0.191	0.037	0.009

Source: Primary data.

This result indicates significantly positive correlation between social support and the quality of life with $R = 0.455$ and $p = 0.000$ ($p < 0.01$). For patients with chronic diseases in general, the result implies higher social support will increase their quality of life and vice versa. The

regression model shows r2 = 0.207 which reflect the contribution of 20.7% from social support as the dependent variable to the quality of life as the dependent variable. The result also indicates significant positive correlation between gratitude and quality of life, R = 0.191 and p = 0.009 ($p < 0.01$). This correlation implies that higher gratitude among patients of chronic diseases will impact in the better quality of their life. However, the regression result shows r = 0.037 which mean that gratitude explains only 3.7% of the quality of life among subjects.

For different types of chronic diseases patients, the result of correlation analysis was depicted in Table 8 below. Correlation between social support and quality of life and between gratitude and quality of life of different types of chronic diseases were analyzed to grasp a more detail fact in the subjects.

Table 7 Correlation Analysis Between Social Support and Gratitude and Quality of Life for Different Type of Patients

Variables	$\boldsymbol{R}$	$\boldsymbol{r^2}$	$\boldsymbol{p}$
Diabetes patients			
Social support ⇔ Quality of life	0.432	0.187	0.000
Gratitude ⇔ Quality of Life	0.212	0.045	0.057
Kidney failure patients			
Social support ⇔ Quality of life	0.320	0.110	0.022
Gratitude ⇔ Quality of Life	0.216	0.047	0.091
Hypertension patients			
Social support ⇔ Quality of life	0.398	0.160	0.001
Gratitude ⇔ Quality of Life	0.078	0.006	0.286

Source: Primary data.

The data above shows significant positive correlation between social support and quality of life for three types of patients as indicated by $p < 0.05$. Social support also shows strong impact on quality of life as captured by more than 10% contribution to explain the quality of life. However, a different result was derived from the correlation between gratitude and quality of

life. In three different types of chronic diseases, the correlation was positive but insignificant as p > 0.05. r2 obtained from estimation process for each type was also small which indicate a small contribution of gratitude in explaining the quality of life.

Since social support significantly correlates with quality of life, further analysis for items within the variables is conducted, and the result can be viewed in Table 9 below. Correlation between social support from family, friend and other and quality of life was analyzed. The result was arranged in three different types of patients.

Table 8 Correlation Analysis Between Items of Social Support and Quality of Life for Different Type of Patients

Variables	R	r^2	p
Diabetes patients			
Social support (family) ⇔ Quality of life	0.108	0.012	0.093
Social support (friend) ⇔ Quality of life	0.150	0.023	0.033
Social support (significant other) ⇔ Quality of life	0.196	0.038	0.008
Kidney failure patients			
Social support (family) ⇔ Quality of life	0.151	0.023	0.031
Social support (friend) ⇔ Quality of life	0.041	0.002	0.307
Social support (significant other) ⇔ Quality of life	0.038	0.0001	0.319
Hypertension patients			
Social support (family) ⇔ Quality of life	0.175	0.031	0.016
Social support (friend) ⇔ Quality of life	0.014	0.0002	0.433
Social support (significant other) ⇔ Quality of life	0.112	0.013	0.084

Source: Primary data.

The data in the table above indicates that among diabetes patients, social support of friend and other correlate significantly with quality of life. Estimation results show R = 0.150 and p = 0.033 (p < 0.05) for correlation between social support from friend and quality of life and R = 0.196 and p = 0.008 (p < 0.05) for correlation between social support from other and quality of life. Social support from family has also positive significant correlation with quality of life

among kidney failure patients, with $R = 0.151$ and $p = 0.031$ ($p < 0.05$) and among hypertension patients, with $R = 0.175$ and $p = 0.016$ ($p < 0.05$). In general, this research shows that social support correlation with quality of life is positive and significant even though its degree differ between sources of social support.

Discussion

The research shows that social support has significant positive impact on quality of life of patients with chronic disease. This finding is in line with many previous studies on the effects of social support on quality of life. Gallicchio, Hoffman, & Helzlsouer (2007) for example stated that social support is one factor that influences quality of life, particularly concerning health. Poor social networks due to weak social integration and activity will lower the patient's physical and mental health. Social support should be given to providing comfort, a sense of calm, as well as to improve the quality of life of chronic diseases patients. Good social support of the environment will also improve the quality of life of patients because such support is an important instrument to manage healthcare process.

Such finding was also stated in Li, Yang, Liu, & Wang's (2016) research which in the case of bladder cancer patient, social support along with hope and resilience are significantly and positively associated with quality of life. Low perceived social support will affect the way to handle stress response of individuals in adjusting to a chronic disease. Perceived social support that can be provided to the patient's environment may include emotional support, informational support, network support, esteem support and instrumental support (Sanderson, 2013, pp. 166–167).

The correlation coefficient between social support and quality of life is equal to 0.455 as analyzed simultaneously. It also indicates that social support contributes in improving the quality of life in patients with diabetes by 20.7%. However, when the analysis is conducted

partially for each chronic disease, it turns out that highest contribution of social support to the quality of life in patients with chronic disease occurs in patients with diabetes mellitus. The active contribution of social support on quality of life of patients with diabetes is 18.7%. Kadirvelu, Sadasivan, & Ng (2012) argue that increasing understanding of the benefits of social support for patients with diabetes will greatly affect the improvement of patients' self-care, adherence to the doctor's advice, lifestyle changes, and awareness of diabetes in the future.

Good social support will affect patient's subjective perspective about his ability to get things they wish, such as physical, mental, and social health. Well-established personal perspective within the patients will improve their individual quality of life which according to Moons et al. (2004) can be identified in various domains such as family, job or education, friends, health, leisure time, financial means, material well-being, and future. Furthermore, social support has also contributed substantially to the quality of life in patients with hypertension with about 16%, although its contribution was less than in patients with diabetes mellitus.

Another interesting finding in this study is that the source of the most influential social support on quality of life in patients with diabetes mellitus are significant other and friends. This finding might be an indication that as age increases, the social relationship is narrowed, but provide more quality among adult. As noted by Boyd, Johnson, & Bee (2015, p. 525) social relationships give insights to adults in determining their quality of life. Thus, such relationship will be more supportive and increase personal satisfaction on his or her quality of friendship. Social support from friends also shows significant result since having a friend with diabetes, make patient easy to obtain information about treatment, alternative medicine, self-management according to patient's stage, and to increase adherence to a new and healthier lifestyle. This information will help patients to handle social barriers and deal with complex self-management behavior (Kadirvelu et al., 2012).

This finding also strengthens the previous study by Morris, Chambers, Campbell, Dwyer & Dunn (2012) among women with breast cancer that peer support can decrease isolated feeling and increase hope and optimism for the future. Such result can also be expected in the context of the chronic disease since social relationship the patients build, provide the opportunity to share personal experience and knowledge as well as spread hope. In contrary, social support from family has an insignificant contribution to the quality of life which is relevant to study by Carter-Edwards, Skelly, Cagle, & Appel (2004). Some reason beyond less impact of family social support might come from patients' perspective who felt guilty of being helped by the family member or late support received for their disease.

Social support from family in this study has higher significant impact on patients with kidney failure, $r = 0.151$ and $p = 0.031$ ($p<0.05$) and hypertension, $r = 0.175$ and $p = 0.016$ ($p<0.01$). This result shows that in the case of patients with hypertension, family social support is more important than that came from friends and significant other. This finding is in line with Sinaga's (2016) research that concludes meaningful correlation between family support and hypertension prevention in a West Java district study and (Herlinah, Wiarsih, & Rekawati (2013) in a Jakarta district. For this reason, social support from family in many forms can be very helpful for patients with hypertension. Family support in the home along with conducive environment and emotional support can be expected to improve the quality of life among hypertension patients.

Another part of this research deal with the correlation between gratitude and quality of life and the result shows significant positive correlation with $r = 0.191$ and $p = 0.009$ ($p < 0.01$). However, its contribution is about 3.7% which is statistically less than social support's contribution in this study. This finding suggests that gratitude as part of religiosity contribute significantly to quality of life among patients with chronic disease. It can be inferred that good religiosity and spirituality within patients will empower them during illness and then improve

their quality of life. In this case, spirituality can facilitate and improve emotional and resilience status throughout positive experiences in patients' life (Vilhena et al., 2014). Based on this idea, spiritual treatment can be expected to provide not only a positive impact on the mental aspect of quality of life, but also functional scales such physical functions, role, emotion, cognition, and social aspects of the patients (Jafari et al., 2013). Furthermore, spirituality, life meaningfulness, and religiosity can contribute to lower stress and improve the quality of life among patients in the recovery process (Laudet, Morgen, & White, 2006).

A positive result in gratitude might come from its function as the mood rather than as emotion. Gratitude mood can be viewed as an important aspect of affection to understand gratitude for it has larger distribution and absorption within individual consciousness. As results, gratitude mood might affect other psychological systems such as cognition, perception, physiology, and coping which will not be found in gratitude emotion since the last mostly deal with focus, action-oriented, and short-lived influence. Individuals with more gratitude mood from their daily, tend to feel more gratitude emotion for daily events, express more gratitude intensely and have many people around them as the source of gratitude (McCullough, Tsang, & Emmons, 2004). As for Hart (2013), individuals with grateful will feel more satisfaction in their life which in the end will improve the quality of life.

Individuals with gratitude will use coping strategy in dealing with difficulties. They will also use emotional and social support, positive interpretation, active coping and planning to deal with their problems. Gratitude has also other advantages for individuals to avoid negative dysfunctional coping such as disorder behavior, drug usage, denial and self-blaming (Wood, Joseph, & Linley, 2007). As noted by Hill, Allemand & Roberts (2013) gratitude also correlate positively with physical health. Grateful individuals will have a physical improvement for their well psychological condition so that they do more positive and healthy activities and have the willingness to ask when they feel some issues with their health. Other positive changes

that patients with chronic disease might experience also reported by Maqsood, Jabeen, & Khatoon (2013) which imply further model development consisting many aspects including social and spiritual in treatment.

Conclusion

Previous result and discussion conclude that, in the simultaneous model, social support and gratitude have a positive and significant correlation with quality of life of patients with chronic diseases e.g. diabetes, kidney failure, and hypertension. This implies that higher social support and gratitude will impact in the higher quality of life among research subjects, and vice versa. However, in the partial model, gratitude has insignificant correlation with quality of life for each type of chronic disease patients. While social support consistently shows significant correlation with quality of life in three types of patients. This result can be caused by the absence of normality in gratitude distribution.

In general, research findings are in line with many previous studies that demonstrate the importance of social support and gratitude in improving patients' quality of life. Furthermore, this research contributes to the enhancement of previous studies by providing insights on how social support and gratitude impact different types of patients with chronic disease, especially for Indonesian context. However, some limitations should also be noted from the research such as limited variables analyzed, the number of research subjects, and other issues. This research employ gratitude scale originated from Islamic teaching which will be prospective for further research in Indonesia for its status as the country with largest Muslim citizen in the world. Another approach to understanding gratitude in Islamic teaching should also be introduced to enhance current scale which indicates positive and significant correlation with quality of life.

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