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Does quality of life of schizophrenia different from other mental disorder? Quality of life : A study in Outpatient Psychiatric Disorders at King Chulalongkorn Memorial Hospital, Thai Red Cross Society

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- Background** : *Quality of life (QOL) can be used to assess the treatment outcomes. No ranking of quality of life of Thai outpatients based on psychiatric diagnosis was studied before.*
- Objective** : *To study the quality of life of psychiatric outpatients of King Chulalongkorn Memorial Hospital and ranking of quality of life by diagnosis.*
- Setting** : *Psychiatric Outpatient Clinic at King Chulalongkorn Memorial Hospital, Thai Red Cross Society of Thailand*
- Research design** : *Descriptive study.*
- Material and Method** : *In this research, the quality of life of 113 psychiatric outpatient of King Chulalongkorn Memorial Hospital, the Red Cross Society of Thailand was studied with WHOQOL-BREF-THAI. The study analyzes means, variances and the differences of averages whether they significantly differ or not.*

Result : *One hundred and thirteen outpatients, 44 males and 69 females were recruited. Their average age was 47.14 ± 12.47 years old. The common diagnoses were schizophrenia, depression and generalized anxiety disorder. The average quality of life scores of all patients were 97.54 ± 10.00 . Panic disorder had the highest average score at 102 ± 12.61 . Obsessive compulsive disorder had mean scale at 93.00 ± 8.27 which is the lowest quality of life of other diagnostic. The QOL score of 43 schizophrenia were 97.30 ± 10.34 , compared to the 70 non-schizophrenia, whose, QOL score were 98.28 ± 9.64 . Scores in both groups had no significant statistical difference.*

Conclusion : *The outcome of interpretation of QOL scores showed that the overall quality of life of the patients was in the better level. The quality of life in diagnoses sort by order was panic disorder, depressive disorder, schizophrenia, generalized anxiety disorder, bipolar disorder and obsessive compulsive disorder. The quality of life of the schizophrenic did not differ from that of the non-schizophrenia. This study may demonstrate the treatment outcomes that affect the improvement of the quality of life, even if it is a serious disease.*

Keywords : *Quality of life, diagnosis, schizophrenia, ranking, outpatient, Thai.*

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เดชา ลลิตอนันต์พงศ์. โรคจิตเภทมีคุณภาพชีวิตแตกต่างกับโรคอื่น ๆ ทางจิตเวชอื่น ๆ หรือไม่?
การจัดลำดับของคุณภาพชีวิตของผู้ป่วยตามเกณฑ์วินิจฉัย ผลการศึกษาในผู้ป่วยนอกจิตเวช
โรงพยาบาลจุฬาลงกรณ์ สภากาชาดไทย. จุฬาลงกรณ์เวชสาร 2555 มี.ค. - เม.ย.; 56(2):
163 - 76

- เหตุผลของการทำวิจัย** : คุณภาพชีวิตสามารถใช้เพื่อประเมินผลลัพธ์ของการรักษา ยังไม่เคยมีการศึกษาเกี่ยวกับการจัดลำดับของคุณภาพชีวิตของผู้ป่วยนอกจิตเวชในคนไทย มาก่อน
- วัตถุประสงค์** : เพื่อศึกษาคุณภาพชีวิตของผู้ป่วยนอกจิตเวช ใน รพ.จุฬาลงกรณ์ และจัดลำดับคุณภาพชีวิตตามเกณฑ์วินิจฉัย
- สถานที่** : คลินิกผู้ป่วยนอกจิตเวช โรงพยาบาลจุฬาลงกรณ์ สภากาชาดไทย ประเทศไทย
- รูปแบบการวิจัย** : การวิจัยเชิงพรรณนา
- วิธีการศึกษา** : การศึกษาคุณภาพชีวิตของผู้ป่วยนอกจิตเวช จำนวน 113 คน ใน รพ.จุฬาลงกรณ์ สภากาชาดไทย ด้วยแบบวัดคุณภาพชีวิต WHOQOL-BREF-THAI. วิเคราะห์ค่าเฉลี่ย ความแปรปรวน และ ความแตกต่างของค่าเฉลี่ย ว่ามีความแตกต่างอย่างมีนัยสำคัญทางสถิติหรือไม่
- ผลการศึกษา** : ผู้ป่วยนอกจิตเวช จำนวน 113 คน ประกอบด้วยผู้ป่วยเพศชาย 44 คน หญิง 69 คน อายุเฉลี่ยของผู้ป่วยคือ 47.14 ± 12.47 ปี โรคที่ถูกวินิจฉัยบ่อย คือ โรคจิตเภท โรคซึมเศร้า โรควิตกกังวล ชนิด GAD ค่าเฉลี่ยของคะแนนคุณภาพชีวิตของผู้ป่วยคือ 97.54 ± 10.00 โรคแพนิคมีคะแนนคุณภาพชีวิตเฉลี่ยสูงที่สุด คือ 102 ± 12.61 โรคย้ำคิดย้ำทำ มีคะแนนคุณภาพชีวิตเฉลี่ย คือ 93.00 ± 8.27 ซึ่งเป็นค่าคุณภาพชีวิตเฉลี่ยที่ต่ำที่สุด ผู้ป่วยโรคจิตเภท จำนวน 43 คน มีคะแนนคุณภาพชีวิตเฉลี่ยเท่ากับ 97.30 ± 10.34 เมื่อเปรียบเทียบกับโรคจิตเวชอื่น ๆ ที่ไม่ใช่โรคจิตเภท 70 คน มีคะแนนคุณภาพชีวิตเฉลี่ยเท่ากับ 98.28 ± 9.64 ซึ่งคะแนนคุณภาพชีวิตเฉลี่ยทั้งสองกลุ่ม ไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติ

- สรุป** : การวิเคราะห์ผลลัพธ์ของคะแนนคุณภาพชีวิตเฉลี่ยโดยภาพรวมของผู้ป่วยทั้งหมด อยู่ในระดับที่ดี โดยสามารถจัดเรียงลำดับคะแนนคุณภาพชีวิตเฉลี่ย ดังนี้ โรคแพนิก โรคซึมเศร้า โรคจิตเภท โรควิตกกังวลชนิด GAD โรคอารมณ์แปรปรวน และ โรคย้ำคิดย้ำทำ คุณภาพชีวิตของผู้ป่วยโรคจิตเภทไม่ได้แตกต่างกับโรคจิตเวชอื่น ๆ ที่ไม่ใช่โรคจิตเภท การศึกษานี้อาจจะแสดงให้เห็นผลลัพธ์การรักษาซึ่งสามารถเพิ่มระดับคุณภาพชีวิตของผู้ป่วย แม้ว่าจะถูกวินิจฉัยเป็นโรคร้ายแรง
- คำสำคัญ** : คุณภาพชีวิต, วินิจฉัย, โรคจิตเภท, จัดลำดับ, ผู้ป่วยนอก, คนไทย.

The World Health Organization (WHO) has emphasized the significance of the quality of life (QOL). QOL has been used in applications in research and evaluation of various diseases such as in medicine, surgery and patients with mental health problem. ⁽¹⁾ The development of the brief version (WHO-QOL-BREF) is another instrument that represents WHOQOL-100 in evaluating the changes of the quality of life and the results of treatments include physical, psychological, and environmental factors. ⁽²⁾ The researcher selected this test because it is a standard test used widely in research on mental health. The findings can be a reference and a comparison with other studies.

QOL has been studied in Thailand, such as studies on the quality of life of postmenopausal women. It was found that the quality of life declined, particularly in chronic diseases such as diabetes ⁽³⁾ and in cancer patients. The assessments of treatments were used to measure the quality of life with WHOQOL-BREF-THAI in cancers who had received radiotherapy. ⁽⁴⁾

In psychiatric patients, the quality of life of patients with schizophrenia was poor, especially in the subscales of physical health and relationships with others. ⁽⁵⁾ Financial problems, depression symptoms or positive symptoms often interfere with all aspects of quality of life of schizophrenia patients. ⁽⁶⁾ Furthermore, the burden of care for patients, in particular, health factors and social support of other chronically ill family members also affect the quality of life of the caregivers. ⁽⁷⁾

Methodology

This study is a descriptive study at a point in

time (cross-sectional descriptive study). A total of 113 outpatients were randomly selected and assessed by psychiatrist during 2009 - 2010. The Thai version of Quality of Life Scale WHOQOL-BREF-THAI, which measures four aspects of Article 26 consists of four components of quality of life as follows. ⁽⁸⁾

1. The body (physical domain) is to recognize the physical condition of the person that affects their daily life.
2. The mind (psychological domain) is to recognize the mental state of the person.
3. The social relations (social relationships) is on the perception of their relationships with others.
4. Environmental aspects that affects their life.

The quality of life scores were calculated by using descriptive statistics such as percentages, means, standard deviations and differences of average whether they are significantly different or not. Quality of life scores from 26 to 130 points can be compared with the norm defined as follows : 26 - 60 indicates a poor quality of life; 61- 95, moderate quality of life; and 96 – 130, better quality of life.

The inclusion criteria in this study were; an outpatient; older than 15 years old; having no active or sever co-morbid medical illness. The exclusion criteria were; having physical disease; having acute or chronic levels of noise associated with the quality of life; having organic mental disorder includes dementia; having variation in personality problems that need treatment; having significant substance abuse problems; having severe symptoms or risk that must be considered for treatment as a inpatient; and patients who used the service for the first time, or having been recently discharged from inpatient service within a month. The diagnosis, sex, age, duration of the treatment, and records of all patients

recruited were analyzed. This study evaluated the outcomes of all patients who meet the inclusion criteria. Subjects were examined by psychiatrist during Jan. - Feb. 2011.

Result

One hundred and thirteen outpatients who received evaluation QOL were divided into 44 males and 69 females. The most common diagnosis was schizophrenia. The average age of the patients was 46.91 ± 13.39 years old. OCD had the minimum average age (31.66 ± 6.65).

Quality of life scores according to gender showed that both the male and female patients had average level of quality of life scores at 96.52 ± 14.96 , and 97.44 ± 10.15 , respectively. There was no statistically significant difference between genders ($p = 0.902$) Table 2.

The average quality of life scores of all patients were 97.91 ± 9.88 . Panic disorder had the highest average score at 102.2 ± 12.61 . Obsessive

compulsive disorder had the mean scale at 94.0 ± 10.23 which is the lowest quality of life compared to of other diagnoses. This study demonstrates the outcomes of interpretation of QOL scores which showed that the overall quality of life of patients were in the better level. Only bipolar disorder and OCD were of the medium level. (Table 3)

Studying the scores of the quality of life in each component separately show that the important part of overall quality of life is the component in mental health. Panic disorder had the highest overall quality of life scores and had the highest average quality of life in mental component at 23.50 ± 3.21 . Obsessive compulsive disorder (OCD) had the lowest score in overall scale and mental component at 17.83 ± 2.32 . (Table 4)

Table 5 shows that the QOL between non-schizophrenia (QOL = 98.28 ± 9.64) and schizophrenia (97.3 ± 10.34) group does not show statically significant difference ($p = 0.29$).

Table 1. Shows the characteristics of the sample population.

Diagnosis	N	Male	Female	Average age (year)	Sd
schizophrenia	44	14	30	43.2955	12.11875
depression	22	3	19	49.3636	14.01545
Gad	22	12	10	49.5455	13.93771
panic	10	8	2	53.9000	11.57056
OCD	6	3	3	31.6667	6.65332
bipolar	4	1	3	47.7500	5.56028
other	5	3	2	60.0000	10.53565
Total	113	44	69	46.9115	13.39147

Table 2. The mean quality of life classified by sex.

	Sex	N	Mean	Std. Deviation	Sig.
Score	female	69	97.8261	9.96015	P = 0.952
	male	44	98.0455	9.87822	

Table 3. Mean level of quality of life based on diagnosis.

Diagnosis	N	Percent		QOL	
		Mean	Std. Deviation	Interpretation	
Panic disorder	10	8.85	102.2000	12.61216	Better
Depressive Disorder	22	19.47	99.9545	11.09044	Better
Schizophrenia	44	38.94	97.2273	10.23869	Better
GAD	22	19.47	97.1364	6.88888	Better
Bipolar disorder	4	3.54	95.7500	10.21029	Medium
OCD	6	5.31	94.0000	10.23719	Medium
Other	5	4.42	96.2000	6.18061	Better
Total	113	100	97.9115	9.88465	Better

Table 4. Quality of life based on diagnosis and component aspects.

Diagnosis	Component	Physical	Mental	Social	Environment
Panic	mean	27.70	23.50	11.10	32.20
	sd	4.72	3.21	2.02	5.49
Depression	mean	26.50	22.19	10.75	32.00
	sd	3.67	4.13	2.38	4.41
Schizophrenia	mean	27.77	21.00	10.11	31.18
	sd	3.43	3.68	1.88	3.69
Gad	mean	27.69	21.19	9.88	31.88
	sd	2.28	2.16	2.60	2.20
Bipolar	mean	28.00	19.25	9.75	31.50
	sd	4.12	1.79	1.64	0.87
OCD	mean	26.33	17.83	11.33	31.33
	sd	1.97	2.32	2.58	4.63
Other	mean	28.00	20.25	9.50	32.00
	sd	5.35	2.75	3.00	2.16

Table 5. Quality of life, between non-schizophrenia and schizophrenia.

	Group	N	Mean	Std. Deviation	Sig.
Score	nonschizophrenia	70	98.28	9.64	P = 0.29
	schizophrenia	44	97.30	10.34	

Discussion

Although the incidence of mental illness between males and females are different, there was no statistically significant difference between sex ($p = 0.9$) in this study. The average age of patients was 46.91 ± 13.39 years. OCD had the minimum average age (31.66 ± 6.65). Factors affecting the overall quality of life include being a young male patients with better improvement (high cgi) and having received psychotherapy treatment.⁽⁸⁾ The difference between races may affect the quality of life scores. However, the studies of quality of life among races showed not difference. The study in Chinese schizophrenia outpatients showed low quality of life than the general population especially in schizophrenic with depressive symptom, marriage, good social support and adherence to treatment.^(9, 10) The study of schizophrenia inpatients in African found that the patients perceived better quality of life after treatment. Employment and marital status were also factors predictive of the quality of life.⁽¹¹⁾

Previous studies found that Thai patients with bipolar disorder had poor quality of life,^(12, 13) although they responded well to treatments.⁽¹⁴⁾ Thai depressive patients after received treatment had better quality of life.⁽¹⁵⁾ Depression symptom can predict the quality of life. The recognition of illness (insight) did not have any direct effect on the quality of life.⁽¹⁶⁾ A previous

study of outpatients with mental illness at King Chulalongkorn Memorial Hospital showed a favorable clinical manifestations and good level function.⁽¹⁷⁾

Although psychiatric patients are often assessed as high-risk,⁽¹⁸⁾ in patients with epilepsy, after surgery they find a better quality of life.⁽¹⁹⁾

Comparing: Schizophrenia vs non-schizophrenia: Schizophrenia (Third Rank)

Schizophrenia patients are seen as sufferers from chronic illness. The patients are expected to have poor quality of life score. However, the quality of life of schizophrenic in this study did not differ from the non-schizophrenia. The QOL between non-schizophrenia (QOL = 98.28 ± 9.64) and schizophrenia (97.30 ± 10.34) group do not statically significantly differ ($p = 0.29$). Patients in this study had mild and less severe symptoms and they maintained good cooperation.⁽¹⁷⁾ A previous study showed the relationship between QOL and severity of symptoms in schizophrenia.⁽²⁰⁾ According to the relationship between the quality of life (QOL) and cognitive dysfunction in schizophrenia, one study suggested that negative symptom, depressive symptom and cognitive performance were important factors on patients' QOL.⁽²¹⁾ Severity of symptoms can be assessed by psychiatric rating scale like brief psychiatric rating scale (BPRS). The relation between BPRS and QOL previously studied in schizophrenia

patients in Japan showed that BPRS negative symptoms scores predicted the QOL. The study suggests that active treatment for depressive and negative symptoms might be recommended to improve the schizophrenic's QOL.⁽²²⁾ Sufficient financial resources appeared to be a necessary condition for achieving satisfactory QOL in schizophrenia patients.⁽²³⁾ Marital status and employment are predictive of QOL.⁽²⁴⁾ In addition, schizophrenic patients' caregivers in the community had low moderate level of QOL.⁽²⁵⁾ Schizophrenic under antipsychotic treatment over 12-month study period showed that both QOL and symptom severity improved, regardless of the type of antipsychotic taken.⁽²⁶⁾ Quality of life is superior on atypical treatment especially in younger, less seriously ill patients.⁽²⁷⁾ The results of atypical antipsychotic treatment indicate that, in patients with schizophrenia, olanzapine and ziprasidone treatment are associated with significant QOL and clinical improvements.⁽²⁸⁾

Ranking of QOL : Anxiety Disorders and Panic Disorder (ranked highest)

This study showed that anxiety disorders have highest levels of QOL in panic disorder while OCD had the lowest quality of life scores. This study found the mean QOL in panic disorder and generalized anxiety disorder were 102.21 ± 12.61 and 97.13 ± 6.56 , which considered as the better quality of life and responded better to treatment⁽²⁹⁾ when compared to the poor QOL in previous studies in panic disorders.⁽³⁰⁾ The anxiety symptoms were significantly associated with poorer QOL in all domains of QOL. Meanwhile, socio-demographic characteristics had moderating effects on the associations between some domains of QOL and anxiety symptoms.⁽³¹⁾ Especially

in panic disorder, frequency of panic attacks and agoraphobic avoidance were variables accounting for poor QOL in physical functioning and mental health, respectively.⁽³²⁾ The QOL of the panic disorder significant improve after effective treatments⁽³³⁾ and this study supports this point. Other factors such as depressive symptoms, age, frequency of symptoms, agoraphobia and panic attacks may affect the quality of life. The treatment such as CBT can add to improve the quality of life of these patients.⁽³⁴⁾

Obsessive compulsive disorder (ranked lowest)

This study found that obsessive patients had a mean score of QOL at least. OCD had the minimum average age (31.66 ± 6.65) and the lowest score in overall scale and mental component (17.83 ± 2.32). The results of this study support the concept that anxiety patients, like OCD may have the QOL less than psychotic patients. A previous study revealed that QOL scores for the general, physical, psychological and social relationship domains were lower in the OCD group than in the control group. However, it showed no difference in the environmental domain.⁽³⁵⁾

Affective Disorder : Depressive Disorder (ranked second)

Depressive disorder patients that are expected to have poor quality of life but scores in this study is as good as the second. Depressive symptoms even mild depressive symptoms are associated with major deficits in QOL and poor self-acceptance.⁽³⁶⁾ Depressive symptoms predicted all QOL domains, while positive symptoms predicted overall and physical QOL domains.⁽³⁷⁾

Bipolar disorder (ranked fifth)

Comparative study in psychotic disorder in schizopphrenia , schizoffective and bipolar I disorder showed that schizoffective disorder was associated with the lowest of QOL, bipolar I disorder associated with similar or lower QOL than schizophrenia.⁽³⁸⁾ Bipolar patients showed lower scores in all QOL domains and the impairments in QOL may occur even in euthymia or stable phase.⁽³⁹⁻⁴¹⁾ Poorer self-reported QOL correlated significantly with worse cognitive performance, especially on tests of executive functioning and verbal abstraction. Cognitive rehabilitation may be an important factor for restoring QOL to baseline levels among bipolar patients.⁽⁴²⁾

Limitation

The limited population in this study is somewhat less than the overall summary. There are many other factors that may affect the quality of life such as educational level, economic status, family support and the environment. Mental illness symptoms like delusion in schizophrenia can affect realistic perception of the quality of life. Interpersonal relation problems may adversely impact with the quality of life.⁽⁴³⁾ The variations of mental illness treatments may also affect QOL. Moreover, poor psychiatric patients in development countries have not access to novel pharmacological drugs such as the second generation of antipsychotic drugs. Some studies implied better QOL of patients receiving treatments.^(44, 45)

Conclusion

The outcome of interpretation of QOL scores showed that the overall quality of life of the patients

were in the better level. The levels of the quality of life of the diagnosed are accordingly ranked, namely, panic disorder, depressive disorder, schizophrenia, generalized anxiety disorder, bipolar disorder and obsessive compulsive disorder. The quality of life of schizophrenic patients did not differ from the non-schizophrenia. This study may also demonstrate the treatment outcomes that affect improvement of the quality of life of the schizophrenic patients, even though if it is a serious disease.

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References

1. Berlim MT, Fleck MP. "Quality of life": a brand new concept for research and practice in psychiatry. *Rev Bras Psiquiatr* 2003 Oct; 25(4): 249-52
2. O'Carroll RE, Smith K, Couston M, Cossar JA, Hayes PC. A comparison of the WHOQOL-100 and the WHOQOL-BREF in detecting change in quality of life following liver transplantation. *Qual Life Res* 2000 Feb; 9(1): 121-4
3. Bunyavejchevin S, Veerananarapanich S. Quality of life assessment in Thai postmenopausal women with an overactive bladder. *J Med Assoc Thai* 2005 Aug; 88(8): 1023-7
4. Phungrassami T, Katikarn R, Watanaarepornchai

- S, Sangtawan D. Quality of life assessment in radiotherapy patients by WHOQOL-BREF-THAI: a feasibility study. *J Med Assoc Thai* 2004 Dec; 87(12): 1459-65
5. Kugo A, Terada S, Ishizu H, Takeda T, Sato S, Habara T, Fujimoto Y, Namba T, Horii S, Kuroda S. Quality of life for patients with schizophrenia in a Japanese psychiatric hospital. *Psychiatry Res* 2006 Sep 30;144(1): 49 - 56
6. Heider D, Angermeyer MC, Winkler I, Schomerus G, Bebbington PE, Brugha T, Azorin JM, Toumi M. A prospective study of Quality of life in schizophrenia in three European countries. *Schizophr Res* 2007 Jul; 93(1-3): 194-202
7. Lueboonthavatchai P, Lueboonthavatchai O. Quality of life and correlated health status and social support of schizophrenic patients' caregivers. *J Med Assoc Thai* 2006 Sep;89 Suppl 3:S13-9
8. Wehmeier PM, Kluge M, Schacht A, Helsing K, Schreiber W. Correlation of physician and patient rated quality of life during antipsychotic treatment in outpatients with schizophrenia. *Schizophr Res* 2007 Mar; 91(1-3): 178-86
9. Xiang YT, Weng YZ, Leung CM, Tang WK, Ungvari GS. Quality of life of Chinese schizophrenia outpatients in Hong Kong: relationship to sociodemographic factors and symptomatology. *Aust N Z J Psychiatry* 2007 May; 41(5): 442-9
10. Sung SC, Yeh MY. Factors related to quality of life in depressive outpatients in Taiwan. *Psychiatry Clin Neurosci* 2007 Dec; 61(6): 610-5
11. Bamiso Makanjuola A, Ademola Adeponle B, Ayodele Obembe O. A comparison of quality-of-life in schizophrenia and affective disorder patients in a Nigerian tertiary hospital. *Transcult Psychiatry* 2007 Mar; 44(1): 65-78
12. Michalak EE, Yatham LN, Lam RW. Quality of life in bipolar disorder: a review of the literature. *Health Qual Life Outcomes* 2005 Nov 15;3: 72
13. Kongsakon R, Thomyangkoon P, Kanchanatawan B, Janenawasin S. Health-related quality of life in Thai bipolar disorder. *J Med Assoc Thai* 2008 Jun;91(6):913-8
14. Lalitanantpong D, Kasantikul D. Clinical outcome and side effect of Topiramate as adjunctive treatment in outpatients with bipolar disorder at King Chulalongkorn Memorial Hospital, Thai Red Cross Society . *Chula Med J* 2006 Jun; 50(6): 377-85
15. Kongsakon R. The functioning and quality of life of depressive patients with 12 weeks of psychiatric care. *J Med Assoc Thai* 2005 Sep; 88(9): 1261-6
16. Dias VV, Brissos S, Frey BN, Kapczinski F. Insight, quality of life and cognitive functioning in euthymic patients with bipolar disorder. *J Affect Disord* 2008 Sep;110(1-2):75-83
17. Lalitanantpong D. Clinical symptoms and global function study of outpatient schizophrenia at King Chulalongkorn Memorial Hospital, Thai Red Cross Society: *Chula Med J* 2005 Aug; 49(8): 447-57
18. Lalitanantpong D .The patient risk in psychiatric

- service at King Chulalongkorn Memorial Hospital, Thai Red Cross Society : J Med Assoc Thai 2006 Sep; 89 (Suppl 3): S174-9
19. Locharernkul C, Kanchanatawan B, Bunyaratavej K, Srikijvilaikul T, Deesudchit T, Tepmongkol S, Lertlum S, Tuchinda L, Shoungshotti C, Ounpak P. Quality of life after successful epilepsy surgery: evaluation by occupational achievement and income acquisition. J Med Assoc Thai 2005 Sep; 88 (Suppl 4): S207-13
 20. Galuppi A, Turola MC, Nanni MG, Mazzoni P, Grassi L. Schizophrenia and quality of life: how important are symptoms and functioning? Int J Ment Health Syst 2010 Dec 8;4: 31
 21. Ueoka Y, Tomotake M, Tanaka T, Kaneda Y, Taniguchi K, Nakataki M, Numata S, Tayoshi S, Yamauchi K, Sumitani S, Ohmori T, Ueno S, Ohmori T. Quality of life and cognitive dysfunction in people with schizophrenia. Prog Neuropsychopharmacol Biol Psychiatry 2011 Jan 15;35(1):53-9
 22. Aki H, Tomotake M, Kaneda Y, Iga J, Kinouchi S, Shibuya-Tayoshi S, Tayoshi SY, Motoki I, Moriguchi K, Sumitani S, Yamauchi K, Taniguchi T, Ishimoto Y, Ueno S, Ohmori T. Subjective and objective quality of life, levels of life skills, and their clinical determinants in outpatients with schizophrenia. Psychiatry Res 2008 Feb 28;158(1):19-25
 23. Heider D, Angermeyer MC, Winkler I, Schomerus G, Bebbington PE, Brugha T, Azorin JM, Toumi M. A prospective study of Quality of life in schizophrenia in three European countries. Schizophr Res 2007 Jul; 93(1-3): 194-202
 24. Bamiso Makanjuola A, Ademola Adeponle B, Ayodele Obembe O. A comparison of quality-of-life in schizophrenia and affective disorder patients in a Nigerian tertiary hospital. Transcult Psychiatry 2007 Mar;44(1):65-78
 25. Lueboonthavatchai P, Lueboonthavatchai O. Quality of life and correlated health status and social support of schizophrenic patients' caregivers. J Med Assoc Thai 2006 Sep; 89 (Suppl 3): S13-9
 26. Wehmeier PM, Kluge M, Schneider E, Schacht A, Wagner T, Schreiber W. Quality of life and subjective well-being during treatment with antipsychotics in out-patients with schizophrenia. Prog Neuropsychopharmacol Biol Psychiatry 2007 Apr 13;31(3):703-12
 27. Mortimer AM, Al-Agib AO. Quality of life in schizophrenia on conventional versus atypical antipsychotic medication: a comparative cross-sectional study. Int J Soc Psychiatry 2007 Mar; 53(2): 99-107
 28. Phillips GA, Van Brunt DL, Roychowdhury SM, Xu W, Naber D. The relationship between quality of life and clinical efficacy from a randomized trial comparing olanzapine and ziprasidone. J Clin Psychiatry. 2006 Sep;67(9): 1397-403.
 29. Lalitanantpong D. A study of 1 month clinical response in generalized anxiety disorder treatment : Chula Med J 46,7, July. 2002, 549-554
 30. Carrera M, Herran A, Ayuso-Mateos JL, Sierra-Biddle D, Ramirez ML, Ayestaran A, Hoyuela F, Rodriguez-Cabo B, Vazquez-Barquero JL.

- Quality of life in early phases of panic disorder: predictive factors. *J Affect Disord.* 2006 Aug;94(1-3):127-34. Epub 2006 Jun 9.
31. Yen CF, Yang P, Ko CH, Yen JY, Hsu FC, Wu YY. The relationships between quality of life and anxiety symptoms and the moderating effects of socio-demographic characteristics in Taiwanese adolescents. *Qual Life Res.* 2011 Jan 18. [Epub ahead of print]
32. Carrera M, Herran A, Ayuso-Mateos JL, Sierra-Biddle D, Ramirez ML, Ayestaran A, Hoyuela F, Rodriguez-Cabo B, Vazquez-Barquero JL. Quality of life in early phases of panic disorder: predictive factors. *J Affect Disord.* 2006 Aug;94(1-3):127-34. Epub 2006 Jun 9.
33. Heldt E, Blaya C, Isolan L, Kipper L, Teruchkin B, Otto MW, Fleck M, Manfro GG. Quality of life and treatment outcome in panic disorder: cognitive behavior group therapy effects in patients refractory to medication treatment. *Psychother Psychosom.* 2006;75(3):183-6.
34. Heldt E, Blaya C, Isolan L, Kipper L, Teruchkin B, Otto MW, Fleck M, Manfro GG. Quality of life and treatment outcome in panic disorder: cognitive behavior group therapy effects in patients refractory to medication treatment. *Psychother Psychosom.* 2006;75(3):183-6.
35. Hou SY, Yen CF, Huang MF, Wang PW, Yeh YC. Quality of life and its correlates in patients with obsessive-compulsive disorder. *Kaohsiung J Med Sci.* 2010 Aug;26(8):397-407.
36. Nierenberg AA, Rapaport MH, Schettler PJ, Howland RH, Smith JA, Edwards D, Schneider T, Mischoulon D. Deficits in psychological well-being and quality-of-life in minor depression: implications for DSM-V. *CNS Neurosci Ther* 2010 Aug; 16(4): 208-16
37. Xiang YT, Weng YZ, Leung CM, Tang WK, Ungvari GS. Quality of life of Chinese schizophrenia outpatients in Hong Kong: relationship to sociodemographic factors and symptomatology. *Aust N Z J Psychiatry* 2007 May; 41(5): 442-9
38. Saarni SI, Viertio S, Perala J, Koskinen S, Lonnqvist J, Suvisaari J. Quality of life of people with schizophrenia, bipolar disorder and other psychotic disorders. *Br J Psychiatry* 2010 Nov; 197:386-94
39. Brissos S, Dias VV, Kapczinski F. Cognitive performance and quality of life in bipolar disorder. *Can J Psychiatry* 2008 Aug; 53(8): 517-24
40. Kongsakon R, Thomyangkoon P, Kanchanatawan B, Janenawasin S. Health-related quality of life in Thai bipolar disorder. *J Med Assoc Thai* 2008 Jun; 91(6):913-8
41. Gutierrez-Rojas L, Gurpegui M, Ayuso-Mateos JL, Gutierrez-Ariza JA, Ruiz-Veguilla M, Jurado D. Quality of life in bipolar disorder patients: a comparison with a general population sample. *Bipolar Disord* 2008 Jul; 10(5): 625-34
42. Brissos S, Dias VV, Kapczinski F. Cognitive performance and quality of life in bipolar disorder. *Can J Psychiatry* 2008 Aug; 53(8): 517-24
43. Chen H, Cohen P, Crawford TN, Kasen S, Johnson JG, Berenson K. Relative impact of young adult personality disorders on subsequent

- quality of life: findings of a community-based longitudinal study. *J Personal Disord* 2006 Oct; 20(5): 510-23
44. Wehmeier PM, Kluge M, Schneider E, Schacht A, Wagner T, Schreiber W. Quality of life and subjective well-being during treatment with antipsychotics in out-patients with schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry* 2007 Apr 13; 31(3): 703-12
45. Kongsakon R, Trinidad-Onate P, Chaudhry HR, Raza SB, Leynes CR, Khan IU, Ismail HC, Chan B, Ignacio JC, Rodriguez SC, Lowry AJ, Brnabic AJ, Buenaventura R. Asian outpatients with schizophrenia: a double-blind randomized comparison of quality of life and clinical outcomes for patients treated with olanzapine or haloperidol. *J Med Assoc Thai* 2006 Aug; 89(8): 1157-70