Open Access Maced J Med Sci **electronic publication ahead of print,**
published on August 25, 2019 as https://doi.org/10.3889/oamjms.2019.472

ID Design Press, Skopje, Republic of Macedonia
Open Access Macedonian Journal of Medical Sciences.
https://doi.org/10.3889/oamjms.2019.472
eISSN: 1857-9655
Neuroscience, Neurology and, Psychiatry

The Comparison of Hospital Anxiety and Depression Scale-Anxiety Scores between Female Caregivers of People with Schizophrenia According to Gender Difference

Andrew Handi*, Dapot Parulian Gultom, Muhammad Surya Husada, Bahagia Loebis, Elmeida Effendy, Mustafa Mahmud Amin, Vita Camellia, Nazli Mahdinasari Nasution

Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia

Citation: Handi A, Gultom DP, Husada MS, Loebis B, Effendy E, Amin MM, Camellia V, Nasution NM. The Comparison of Hospital Anxiety and Depression Scale-Anxiety Scores between Female Caregivers of People with Schizophrenia According to Gender Difference. Open Access Maced J Med Sci. https://doi.org/10.3889/oamjms.2019.472

Keywords: Caregiver; Schizophrenia; HADS-A

***Correspondence:** Andrew Handi. Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia. E-mail: Andrew.h15885@gmail.com

Received: 30-Jun-2019; **Revised:** 13-Jul-2019; **Accepted:** 15-Jul-2019; **Online first:** 25-Aug-2019

Funding: This research did not receive any financial support

Competing Interests: The authors have declared that no competing interests exist

Abstract

BACKGROUND: Caregiver plays an important role for a better outcome in people with schizophrenia, although it usually causes emotional distress for the caregiver. Anxiety is one of the emotional distress. Gender of schizophrenic patients is associated with the emotional distress of caregiver. The differences in HADS-A scores between female caregivers of people with schizophrenia according to gender in Indonesia remain unclear.

AIM: To determine whether HADS-A scores are higher in a male group compare with the female group.

METHODS: This study was an analytical study with a cross-sectional approach to determine the comparison of HADS-A score between 27 female caregivers of male schizophrenic patients (male group) and 27 female caregivers of female schizophrenic patients (female group) in Prof. Dr M. Ildrem Mental Hospital Medan, using a HADS rating scale.

RESULTS: There is no difference between the male and female group in caregivers: age, marital status, employment status, family income/month, education time, the relationship with people with schizophrenia, caring time, time spent / weeks, and the patients age, employment status, education time, PANSS score and number of relapses. The comparison between total HADS-A score between the male group and the female group is not significant with 9.52 ± 4.90 v 8.70 ± 4.49 (p = 0.53).

CONCLUSION: HADS-A scores are not higher in caregivers of male with schizophrenia compared with caregivers of a female with schizophrenia.

Introduction

Schizophrenia is a chronic mental disease. Taking care of people with schizophrenia is very burdensome, especially for their family. About 40-90% of people with schizophrenia live in the community with their caregiver. A caregiver plays an important role in the treatment of people with schizophrenia [1], [2]. The caregiver is the person who takes care of other people who has a disability or medical needs. Most of the caregivers are family or friend, and caregiver usually does not get paid [1].

About 90% of the caregiver of people with schizophrenia experience moderate to the severe burden of care [3]. Families who are taking care of people with schizophrenia are often considered as a forgotten patient. Taking care of people with schizophrenia could lead to psychological distress such as anxiety, depression, fear, etc. [1]. The psychological, financial, and social problem could also lead to higher psychological distress on the caregiver [2]. People with schizophrenia often experience limitations if their caregiver experiences psychological distress [4]. According to Riskesdas 2013, the prevalence of psychological distress in North Sumatera is 4% [5].

One of the psychological distress that occurs in caregiver of people with schizophrenia is anxiety [1]. Anxiety is an alertness signal which alerting us

about future threats and allows people to take action for it. The National Comorbidity Study reported that about 1 to 4 people met the diagnostic criteria for anxiety disorder and the 12-month prevalence for anxiety disorder was 17.7%. The lifetime prevalence for women was 30.5%, and for men were 19.2% [6]. One of the demographic factors associated with burdening for caring also had a positive correlation with anxiety scores [7].

Hospital Anxiety and Depression Scale (HADS)is a valid and reliable measurement tool for determining anxiety and depression. HADS has two subscales, which is Hospital Anxiety and Depression Scale-Depression (HADS-D) dan Hospital Anxiety and Depression Scale Anxiety (HADS-A). HADS-A has a sensitivity and specificity of 0,8 [8]. HADS-A consists of 7 questions, in which each question has a score range from 0 to 4 [9].

A study by Roick et al., (2007) in Britain and Germany concluded that the burden of care for the family was related to the gender of people with schizophrenia. They found that male with schizophrenia associated with the burden of care for their family [10]. However, the result is not by a study by Yusuf et al. (2011) in Nigeria. They found that caregivers' HADS-A scores are not associated with the gender of people with schizophrenia [1]. The difference is probably because the study was conducted in a different country, which burden of care was associated with country factor [10]. Based on that, this study would like to confirm whether there is a difference of HADS-A scores between female caregivers of people with schizophrenia according to the gender difference of people with schizophrenia.

Methods

This was an observational cross-sectional study that used analytic comparative numeric independent two-group approach to determine the comparation in HADS-A scores between 27 female caregivers of male with schizophrenia (male group) and 27 female caregivers of a female with schizophrenia (female group) in Prof. dr. M. Ildrem Mental Hospital Medan from May 2016 to August 2016, using HADS instruments. Before determining the sample size for each group, we made a preliminary study [11]. The sampling method was by consecutive sampling [12], [13].

The subjects were female, first degree relatives, live with people with schizophrenia, aged between 18 to 60 years, education time at least 9 years, at least 1 year caring time, time spent to take care of the people with schizophrenia are at least 10 hours per week that taking care of people with schizophrenia which had education time at least 6 years. Caregivers who had a history of mental illness, chronic physical illness, and disabilities such as blind, deaf, and speech disorder were excluded. People with schizophrenia that comorbid with other mental illness, chronic physical illness, and not cooperative were also excluded from this study.

Female caregivers of people with schizophrenia from the Emergency Unit and outpatient that meet inclusion and exclusion criteria will be given an informed consent and signed it before participating in this study. After that, the subject filled the HADS rating scale. When all the data complete, it was interpreted by us. Firstly, we used the Shapiro-Wilk test to normalise the data, and if it was normally distributed, then we used t-test independent analyse it [14], [15].

Statistical analysis

Sapphiro-Wilk test was performed to determine the normality distribution of the data [16]. Furthermore, t-test independent was conducted for analysis. Both of these tests were carried out via SPSS 22 program.

Results

This study got 54 subjects that divided into two groups that consist of 27 subjects from the male group and 27 subjects from the female group. Statistical tests were performed using SPSS 22 program. From table 1 and table 2 it can be seen that each numeric data was presented by a median, minimum and maximum because all the numeric data is not normally distributed, even when log transformation had been carried out to normalise the numeric data. Therefore, we used an alternative non-parametric test, which is the Mann Whitney U test for each numeric data [14], [17].

Table 1: Caregiver's demographic

	Male Group				Female Group				
	N (%)	*Med*	*Min*	*Max*	*N* (%)	*Med*	*Min*	*Max*	*p*
Age		48	21	59		48	19	60	0.74
Education time		12	9	16		12	9	16	0.94
Employment status									
Working	11 (40.7)				9 (33.3)				0.78
not working	16 (59.3)				18 (66.7)				
Marital status									
married	16 (59.3)				16 (59.3)				1.00
not married	11 (40.7)				11 (40.7)				
Family income/month		2.0	1.0	15.0		2.0	0.6	6.0	0.49
Relationship with people with schizophrenia									
younger sister	2 (7.4)				2 (7.4)				1.00*
older sister	8 (29.6)				9 (33.3)				
daughter	1 (3.7)				1 (3.7)				
mother	16 (59.3)				15 (55.6)				
Caring time (years)		4	1	20		6	1	25	0.66
Time spent/ weeks (hours)		21	14	72		21	10.5	70	0.65

*merge cells.

From Table 1, it can be seen that the median (minimum-maximum) age was 48 (21-59) in the male group and 48 (19-60) in the female group. The median (minimum-maximum) education time was 12 (9-16) in the male group and 12 (9-16) in the female group. The median (minimum-maximum) family income/ month was 2 (1-15) million rupiah in the male group and 2 (0.6-6) million rupiah in the female group. The median (minimum-maximum) caring time was 4 (1-20) years in the male group and 6 (1-25) years in the female group. The median (minimum-maximum) time spent / weeks was 21 (14-72) hours in the male group and 21 (10.5-70) years in the female group. The most employment status was not working 16 subjects in the male group and 18 subjects in the female group. The most marital status was married 16 subjects in the male group and 16 subjects in the female group. The most relationship with people with schizophrenia was the mother of 16 subjects in the male group and 15 subjects in the female group. Table 1 also shows that there were no difference in caregiver's age p = 0,74, education time (years) p = 0,94, employment status p=0,78, marital status p = 1,00, family income / month (million rupiah) p = 0,49, Relationship with patient p = 1,00, caring time (years) p= 0,66, and time spent / weeks (hours) p = 0,65.

Table 2: People with schizophrenia's demographic

	Male group				Female group				
	N (%)	*Med*	*Min*	*Max*	*N (%)*	*Med*	*Min*	*Max*	*p*
Age		28	21	53		31	16	52	0.53
Education time		12	7	14		12	6	16	
Employment status									0.07
Working	6 (22.2)				4 (14.8)				
Not working	21 (77.8)				23 (85.2)				0.73
Marital status									
Married	4 (14.8)				5 (18.5)				1.00
Not married	23 (85.2)				22 (81.5)				
PANSS score		44	32	60		46	32	60	0.43
Number of relapses		2	1	4		1	1	7	0.22

From Table 2, it can be seen that the median (minimum-maximum) age was 28 (21-53) in the male group and 31 (16-52) in the female group. The median (minimum-maximum) education time was 12 (7-14) in the male group and 12 (6-16) in the female group. The median (minimum-maximum) PANSS score was 44 (32-60) in the male group and 46 (32-60) in the female group. The median (minimum-maximum) number of relapses was 2 (1-4) in the male group and 1 (1-7) in the female group. The most employment status was not working 21 subjects in the male group and 23 subjects in the female group. The most marital status was not married 23 subjects in the male group and 22 subjects in the female group. Table 2 also shows that there were no differences in patient's age p = 0.53, education time (years) p = 0.07, employment status p = 0.73, marital status p = 1.00, PANSS score p = 0.43, number of relapse p = 0.22.

Table 3: HADS-D-A score

	Male Group	Female Group	P
HADS – A (*Mean ± SD*)	9.52 ± 4.90	8.70 ± 4.49	0.53

From Table 3, it can be seen that the mean HADS-A score was 9.52 ± 4.90 in the male group and 8.70 ± 4.49 in the female group. Table 3 also shows that the comparison between total HADS-A score between caregivers of male group and female group was not significant (p = 0.53).

Discussion

This study is an observational cross-sectional study that uses analytic comparative numeric independent two-group approach, which is describing and analysing a situation at a certain time. In this case, the analysis conducted was a comparison of HADS-A score between female caregivers that is caring for a male with schizophrenia and female with schizophrenia. The research sample was obtained by nonprobability consecutive sampling method.

Based on the result of the study, the demographic characteristics of the study. Subjects were found by previous research. Based on the demographic characteristics of the subject observed, for the most marital status is 76% in Germany group and 68% in Britain group. For the most marital status is not married 69% in Britain group. For the most employment status for people with schizophrenia is not working 85% in Germany group and 76% in Britain group. The average PANSS score is 46 ± 14.4 in Britain group [10].

This study found that the comparison of HADS-A scores between female caregivers of people with schizophrenia according to gender difference is not significant, which is not by the hypotheses of this study. The hypothesis was made referring to the study by Roick et al. (2007) in Britain and Germany [1]. This can be concluded that the gender of people with schizophrenia is not related to anxiety scores of their caregiver. However from table 3, it can be seen that the mean HADS-A score was 9.42 ± 4.90 in male group, and 8.70 ± 4.49 in female group, the range score from 8 to 10 indicates a suggestive of the presence of anxiety [9], so that clinicians could consider giving intervention program for caregivers to both group [18], [19] since there were treatment gap between low/middle-income countries and high-income countries [20].

The result of this study is consistent with the study conducted by Yusuf et al. (2011) in Nigeria. They found that HADS-A scores indicated by caregivers without education, parents, and unemployed patient with schizophrenia. Therefore, the consistent result with that study maybe because caregiver's education time, relationship with people with schizophrenia, and employment status of people with schizophrenia are not different between male group and female group [1].

However, the result of this study is not consistent with the study conducted by Roick et al. (2007) in Britain and Germany. They found that male with schizophrenia is associated with the burden of care for their family. The inconsistent result with this study may be because this study is conducted in Indonesia where there are geographic, ethnic, custom, and habits difference. The burden of care in the family may also be related to Nationality difference [10].

This study has some strengths. Firstly, this study has succeeded in controlling every single confounding factors such as caregiver's sociodemographic factors, patient's sociodemographic factors, patient kinship, and clinical features [1]. Secondly, by the knowledge of the author based on the literature review, there was no similar study have been made in Indonesia. Thirdly, the sample of this study represents the general population. The weakness is that this study is not done in multicentre because of the limited resource.

In conclusion, HADS-A scores are not higher in caregivers of male with schizophrenia patients compare with caregivers of the female with schizophrenia, so we can consider to give attention to the emotional state of the female caregiver of the schizophrenic patient and also intervention program for the female caregiver of a schizophrenic patient.

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