

Treatment Related Risk Factors Associated with the Default of Depression Treatment Among the Elderly – A Case Control Study

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Abstract: *Introduction:* We are living in an ageing world. Depression is a serious psychiatric disorder especially when the elderly are inflicted with it. The prevalence of depression in Malaysia ranges from eight to 67%. Depression leads to a decreased quality of life and it is a risk factor for suicides among the elderly. Geriatric depression can be treated effectively but only ten percent of those who need psychiatric help receive it and 40 to 70% of those who receive treatment are not compliant.

Aim: The objective of this study was to determine the treatment related risk factors associated with the default of depression treatment among the elderly.

Methodology: This study was ethically conducted using a case control study design with two controls in four major hospitals in northern Malaysia. Cases made up of 148 elderly depressed patients who had defaulted treatment. One control group comprised of 148 depressed elderly patients who did not default treatment and another comprised of 148 non depressed psychiatric patients who were on regular follow up in the same hospitals.

Results: The type of antidepressant medication prescribed ($p=0.04$), not given a choice to choose the treating doctor (OR 1.5) and the preference to traditional/complimentary medicine (OR 6.08) was identified as significant risk factors.

Conclusion: A comprehensive treatment plan made with the involvement of the patient and their caregivers, flexible follow up dates and a choice to choose the place and the treating doctor and the usage of newer generation antidepressant drugs can help prevent depression treatment default among the elderly.

Keywords: Elderly, depression, treatment, default, Malaysia.

INTRODUCTION

It is anticipated that in the next 50 years the population of the elderly in the world will increase to almost 21% [1]. In the developing world the population of the elderly will increase from 7% in the year 2000 to 12% by the year 2025. Malaysia's elderly population is expected to increase to 10% by the year 2020 and 14.4% of Malaysia's Chinese population will be 60 years and above, 10.4% among the Indians and almost 8% among the Malays will be 60 years and above [2].

It is estimated that 25% among those aged 65 years and above have some form of psychiatric disorders. The World Health Organization expects that depression will be a major burden in the developing world [3]. Depression can be a serious psychiatric disorder especially when the elderly are inflicted with it. In Malaysia the prevalence of depression ranges from 8 to 67% [4-6].

Depression causes an increased utilization of health resources, increases the burden of the caregiver, can lead to a decreased quality of life and it is a risk factor for suicide

among the elderly [7]. Depression is a silent illness and it is not a consequence of ageing [8]. Geriatric depression can be treated effectively [9] but only 10% of those who need psychiatric help receive it [10, 11] and 40 to 70% of those who receive treatment for depression, are not compliant [12].

Among the risk factors identified with the default of psychiatric treatment are side effects from medication [11], not given a choice to choose the treating doctor and not being happy with the treatment given [13]. Poor hospital services like long waiting time [14] and problems with the place of treatment [15] have also been identified as potential risk factors.

The objective of this study was to determine the treatment related risk factors associated with the default of depression treatment among the elderly.

METHODOLOGY

Background Place of Study

This study was conducted in four major government hospitals located in two northern states in Malaysia, namely Kedah and Penang. These hospitals provide in and out patient psychiatric health services and are staffed with psychiatrists, medical officers and other support staffs.

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Study Design

A case control study was chosen as the study design. Cases were defined as those who were 60 years of age and above and had defaulted follow up for more than a month from the follow up date in the outpatient psychiatric clinics of these four hospitals. Due to the shortage of subjects to fulfill the requirements of the sample size and to enhance the credibility of the study, two control groups were chosen. Control group 'A' comprised of depressed elderly (≥ 60 years old) patients on regular follow up and control group 'B' comprised of non depressed elderly (≥ 60 years old) patients on follow up for any other psychiatric illness in the psychiatric out patient clinics in these four hospitals. The study was conducted from July 2008 to July 2009.

Sampling

The four hospitals were chosen due to the proximity of these hospitals to the researcher's place of occupation. Sample size was calculated using Epi Info version 13.3.2. using data variable from a study by Sirey *et al.* conducted in the United States of America in 2001 [16]. A total of 148 cases and 296 (148 subjects for each control group) controls were required. All cases and controls that fulfilled the inclusion criteria were identified from the hospital records. Subjects were called and appointments were made to interview them at their homes. Cases and controls were matched for sex, age and race.

Inclusion and Exclusion Criteria

All subjects aged ≥ 60 years listed in the psychiatric out patient records of the four hospitals were eligible. The exclusion criteria included those who refused to participate in the study, cannot communicate effectively and those who are dead and those untraceable.

Instruments

The researcher with the help of four trained research assistants collected the data using a questionnaire. Besides the baseline demographic information, the questionnaire included a scale to determine the respondent's satisfaction with the psychiatric service provided in the hospital. Eight questions were asked and if more than half of the answers given were 'yes', then the respondent was considered to be satisfied with the hospitals psychiatric service. The scale used for assessing the respondent's satisfaction with the psychiatric service provided in the hospital had a Cronbach's Alpha reliability score of 0.62.

Analysis

It was done using SPSS version 13. Appropriate statistical tests were used to test the significance of the findings and odds ratio was calculated to determine the risk of defaulting treatment.

Ethics

The research was conducted ethically. All responders were asked to give an informed written consent before starting the interview. The anonymity of the responders was assured. The study had received the approval of the National

University of Malaysia's Ethics Committee before it was commenced.

RESULTS

Out of the total 172 defaulters who were identified and eligible to be included in the study, 148 had agreed to participate, giving the response rate as 86%. There were equal number of female and male non respondents and most of them were on treatment for less than a year and most were unemployed. In addition, each control group had 148 respondents making the total number of respondents as 444. Each group consisted of 58.1% (86) females and 41.9% (62) males. By race, Chinese made up the majority with 60.1% (89) followed by 28.4% (42) Malays and 11.5% (17) Indians. The main reason for non participation in the study was due to death, inability to locate the respondents and the respondent's refusal to participate in the study.

DESCRIPTIVE ANALYSIS

Demographic description of the respondents is shown in Table 1. Most of the respondents were in the age group of 60 to 70 years, had the highest education level up to primary school, were married, unoccupied and had family members as their caregivers.

As shown in Table 2 most of the respondents from the case and control group A had neurosis and psychosis in addition to depression and most of the respondents from the control group B were inflicted with psychosis followed with organic brain disease and neurosis.

Table 3 shows the descriptive analysis of the scale used to assess the respondent's satisfaction to the hospitals psychiatric service. Overall there was an overwhelming satisfaction with the psychiatric service provided by the hospitals among the three groups.

As shown in Table 4 most of the respondents were not given a choice to choose the treating doctor and almost half of the respondents were not given a choice to choose the place of treatment. Given a choice most of the respondents chose modern medicine, but there were more respondents from the case group who chose traditional and complementary medicine compared with the two control groups.

RISK ANALYSIS

As seen in Table 5, there were more respondents who had defaulted treatment among those who were given Tricyclic antidepressants (TCA) and Benzodiazepines as compared to those who were given Selective Serotonin Reuptake Inhibitors (SSRI).

In order to assess the risk of defaulting treatment using odds ratio, control group 'A' was combined with control group 'B' to form a combined control group. As seen in Table 6, there was only one respondent from the control group who was not satisfied with the hospitals psychiatric service. There was an almost two fold risk of defaulting treatment among respondents who were not given a choice of choosing the treating doctor. The risk of defaulting treatment among the respondents who preferred traditional/complementary medicine was six fold compared to the respondents who preferred modern medicine.

Table 1. Demographics of the Respondents

Variable	Cases N=148 n (%)	Control A N=148 n (%)	Control B N=148 n (%)
Age			
60 – 70	106 (71.6%)	120 (81.1%)	97 (65.5%)
71 – 80	36 (24.3%)	25 (16.9%)	42 (28.4%)
=>81	6 (4.1%)	3 (2.0%)	9 (6.1%)
Highest Level of Education			
illiterate	29 (19.6%)	13 (8.8%)	12 (8.1%)
Primary	76 (51.4%)	73 (49.3%)	84 (56.8%)
Secondary	40 (27%)	50 (33.8%)	32 (21.6%)
Tertiary	3 (2%)	12 (8.1%)	20 (13.5%)
Marital Status			
Married	111 (75%)	106 (71.6%)	97 (65.5%)
Divorced	16 (10.8%)	12 (8.1%)	14 (9.5%)
Widow	16 (10.8%)	21 (14.2%)	21 (14.2%)
Bachelor	5 (3.4%)	9 (6.1%)	16 (10.8%)
Occupation			
Unoccupied	134 (90.5%)	103 (69.6%)	129 (87.2%)
Occupied	14 (9.5%)	45 (30.4%)	19 (12.8%)
Caregiver			
Family	124 (83.5%)	125 (84.5%)	129 (87.2%)
Neighbour/friend	6 (4.1%)	17 (11.5%)	2 (1.4%)
Old folks home	18 (12.2%)	6 (4.1%)	17 (11.5%)

Table 2. The Respondent's Types of Psychiatric Illnesses

Variable	Cases N=148 n (%)	Control A N=148 n (%)	Control B N=148 n (%)
Depression	148 (100%)	148 (100%)	0
Neurosis	14 (9.5%)	17 (11.5%)	12 (8.1%)
Organic Brain Disease	2 (1.4%)	4 (2.7%)	37 (25%)
Psychosis	18 (12.1%)	13 (8.8%)	99 (66.9%)

DISCUSSION

As there are only a few studies which have been conducted among the elderly to determine the risk factors involved in the default of depression treatment, the discussion in this segment will compare the finding of this study with other studies which have been carried out on default and non compliance to depression and other psychiatric illness treatment at all age groups.

Side effects of medicine play an important part in the default of treatment. Studies conducted in Britain [17], Nige-

ria [18], Pakistan [19], Unites States of America [20], South Africa [21] and India [22, 23] have shown that the side effects of medicine can be a cause for defaulting treatment among psychiatric patients. In this study, respondents on TCA and Benzodiazepines were more likely to default treatment compared to those on SSRI. In a study in the United Kingdom conducted among 152 patients treated in ten primary health clinics showed a higher compliance to Fluoxetine compared to TCA [24]. Cochrane review has also shown that more patients have stopped using TCA drugs compared to SSRI [25]. For the elderly, drugs in the SSRI

Table 3. Hospital Psychiatric Service Satisfaction Scale

Variable	Cases N=148 n (%)	Control A N=148 n (%)	Control B N=148 n (%)
Satisfied with the service provided in the psychiatric clinic of the hospital	137 (92.6%)	139 (93.9%)	135 (91.2%)
Satisfied with the treating doctor's skills	145 (98%)	145 (98%)	141 (95.3%)
Satisfied with doctors attitude	145 (98%)	146 (98.6%)	141 (95.3%)
Satisfied with doctors explanation	144 (97.3%)	143 (96.6%)	139 (93.9%)
Satisfied with treatment of the support staffs	143 (96.6%)	145 (98%)	145 (98%)
Satisfied with support staffs skills	144 (97.3%)	146 (98.6%)	147 (99.3%)
Satisfied with support staffs attitude	146 (98.6%)	145 (98%)	146 (98.6%)
Satisfied with the equipment in the hospital	123 (83.1%)	120 (81.1%)	121 (81.8%)

Table 4. Given A Choice of Choosing the Treating Doctor and the Place of Treatment

Variable	Cases N=148 n (%)	Control A N=148 n (%)	Control B N=148 n (%)
Given choice of choosing doctor	40 (27%)	55 (37.2%)	53 (35.8%)
Given choice of place of treatment	69 (46.6%)	88 (59.5%)	78 (52.7%)
Choice of treatment			
Traditional and complimentary	14 (9.5%)	1 (0.7%)	4 (2.7%)
Modern	134 (90.5%)	147 (99.3%)	144 (97.3%)

Table 5. Risk of Defaulting Treatment with the Type of Medication Given

Variable	Cases N= 148 n (%)	Control (A) N=148 n (%)	Total	χ^2 and P value
SSRI	103 (47.7%)	113 (52.3%)	216 (100%)	$\chi^2 = 11.46$ p=0.04
TCA	24 (66.7%)	12 (33.3%)	36 (100%)	
Benzodiazepines	14 (66.7%)	7 (33.3%)	21 (100%)	
Others (MAOI, SRNI, NASA)	7 (30.4%)	16 (69.9%)	23 (100%)	

SSRI = Selective serotonin reuptake inhibitor
TCA= Tricyclic antidepressants
MAOI= Monoamine oxidase inhibitor
SNRI= Serotonin-norepinephrine reuptake inhibitor
NASA= Norepinephrine serotonin antagonist

group have been shown to be effective for depression treatment and they are the drug of choice compared to TCA due to their lesser side effects [26].

In this study besides the lone respondent from the control group, all the other respondents were satisfied with the psychiatric services provided in the hospitals. Studies in the United Kingdom [27], Finland and Sweden [28] showed that hospital users were generally satisfied with the services provided in the hospitals. Some studies have showed different findings. A study by Lee *et al.* [29] in Hong Kong showed many schizophrenic patients felt discriminated by the hospital staff. Similar results were obtained among Hispanics in USA who felt they were discriminated because of their race

and because of the language barrier [30]. According to a study in South Africa, psychiatric patients complained that loss of their medical records and difficulty in getting a follow up appointment date was a barrier to their receiving treatment [21].

In this study not having a choice to choose the treating doctor is a risk factor to defaulting treatment. A study in South Africa showed that patients who default treatment or who were not compliant was because they did not receive treatment from the same doctor every time they had a follow up visit [21]. More patients prefer psychiatric treatment from general practitioners rather than a psychiatrist probably because of the stigma attached with these clinics [31]. Distance

Table 6. Risk Analysis for Depression Treatment Default Due to Satisfaction with the Hospital Psychiatric Service, being Given Choice to Choose the Treating Doctor and the Place of Treatment and the Preference of Traditional/Complementary Treatment

Variable	Cases N= 148 n (%)	Control (A+B) N=296 n (%)	P value	OR (95% CI)
Satisfied with hospital services				
No	0	1 (0.2)		
Yes	148 (100)	295 (99.8%)		
Choice of choosing doctor				
No	108 (73%)	186 (63.5%)	0.05	1.55 (1.01;2.39)
yes	40 (27%)	108 (36.5%)		
Choice of place of treatment				
No	79 (53.4%)	130 (43.9%)		
Yes	69 (46.6%)	108 (36.5%)		
Type of treatment				
Traditional / complimentary	14 (9.5%)	5 (1.7%)	0.00	6.08 (2.15;17.23)
Modern	134 (90.5%)	291 (98.3%)		

to the nearest clinic could also be a cause for choosing the treating doctor as was shown in studies conducted in Nigeria [18, 32] and in India [23]. In a developing country like Malaysia, due to the shortage of medical doctors and support staff it is difficult to match a doctor to a patient. Same applies for the choice of place of treatment because most primary care doctors are not adequately trained to treat psychiatric patients.

Although modern medicine has been shown to be more effective [33], traditional and complimentary treatment is still widely used among those with psychiatric illness [34]. In this study the risk of defaulting treatment was higher among those who preferred traditional and complementary medicine. Studies in Nigeria [18], South Africa [21] and Taiwan [35] similarly showed that choosing traditional and complementary medicine can be a risk factor to the default and non compliance with psychiatric treatment. Studies in the United Kingdom [36], Australia [37] and Taiwan [38] showed an increasing trend in the usage of traditional and complimentary treatment but in this study there were not many responders who were using this form of treatment. In Malaysia, the Ministry of Health issues licenses for complementary and traditional medication. These medications are clearly labeled as supplements and the manufacturers are not allowed to claim any therapeutic benefits of these medications. In Singapore stigma was cited as a reason for preferring traditional treatment [39]. Studies in United States of America [16] Hong Kong [29] and Africa [18] have also shown that stigma can be a cause for defaulting psychiatric treatment. In USA [40] and Singapore serious efforts are being taken to control stigma among psychiatric patients.

CONCLUSION

A comprehensive treatment plan detailing the type, place, frequency and time of treatment should be made with the

involvement of the patient and their caregivers. Follow up dates should be more flexible and patients should be given a choice to choose the place and the doctor who treats them. Newer generation antidepressant drugs with lesser side effects should be used. These are all modifiable risk factors that can be overcome with a little commitment.

DECLARATION OF INTEREST

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