

Study of Assessment of the Severity of Anxiety, Depression, and Quality of Life in Caregivers of Patients with Cancer

Ananda Reddy E^{1*}, Lakshmi Rajesh Ch², Subahani Shaik³, Venu Gopala Raju SV⁴

^{1,2}Associate professor, Narayana medical College, Nellore, India

³Assistant professor in dept of Psychiatry, ACSR Medical College, Nellore, India

⁴Professor & Head, Department of Physiology, KIMS, Amalapuram, India

***Corresponding Author:** Ananda Reddy E, Associate professor, Narayana medical College, Nellore, India. Email: anandendreddy@gmail.com

Abstract

Background: Caregivers play a role in caring for cancer patients. They may experience psychological problems such as depression, anxiety which in turn results in a decrease in the quality of life. Such people cannot effectively fulfill their role as a caregiver which in turn affects the overall treatment outcome of cancer patients.

Aims: The study was done for the purpose of assessment of the depression and anxiety prevalence in caregivers and to determine the quality of life in caregivers.

Methodology: It was a cross-sectional study conducted in caregivers of cancer patients. A total of 100 subjects were recruited in to the study. They were administered with socio-demographic proforma, MINI neuropsychiatric interview to detect the presence of depression and anxiety. Montgomery asberg depression rating scale to assess the severity of depression, Hamilton anxiety rating scale to assess the severity of anxiety and the caregiver quality of life index –cancer for the assessment of the quality of life in the subjects. Data analysis was done with appropriate tests.

Results: The study subjects showed that the majority of the caregivers had severe depression (41%), followed by moderate depression in 34% and mild depression in 25% of the subjects. The anxiety rating scale showed that 69% of subjects had severe anxiety, followed mild anxiety (18%) and moderate anxiety in 13% of the subjects. High scores on depression and anxiety rating scales decrease the scores on the caregiver quality of life scale.

Conclusions: Majority of the study subjects showed higher rates of anxiety, depression and decreased quality of life.

Keywords: Anxiety, Care giver, Depression, MADRS, HAM-A.

1. INTRODUCTION

It is estimated that more than 15 million adults are currently provide care to cancer patients.⁽¹⁾ With a population that is aging more and more the role of the caregiver is increasingly recognized as important from a functional and economic point of view.⁽²⁾ Cancer patients and their caregivers want to seek the information regarding illness of patient for better understanding or management of the cancer or to provide adequate care to the cancer patient.^(3,4) Caregivers are expected to function, providing direct care, assistance in daily living activities, case management, emotional support, companionship and medical supervision.⁽⁵⁾

Stress perceived by the caregivers often could be due to multiple reasons such as disrupted daily routine, financial problems, lack of family support, loss of physical strength and low self esteem.⁽⁶⁾ Caregivers can help plan treatment, make decisions and implement treatment plans

throughout the different stages of treatment.⁽⁷⁾ Family caregivers perform many tasks that of healthcare providers used to do in the hospital or doctor.⁽⁸⁾ A care giver often neglects his or her own quality of life by prioritizing the patients needs.⁽⁹⁾

Caregiver provides a complex array of support tasks that extend across physical, psychological, spiritual and emotional domains.⁽¹⁰⁾ Caregivers have their own emotional responses to patients diagnoses and prognoses and they may require emotional support separate from that offered to patients.^(11,12) Caregiver burden is considered a multidimensional biopsychosocial response resulting from an imbalance in the demands of attention with respect to personal time, social roles, physical and emotional states together leads to care giver burden as a general distress response of caregivers.⁽¹³⁾

The extensive demands associated with care giving result in a variety of psychological

sequalae among home based palliative care givers, which include anxiety, depression, reduced self esteem, fatigue, feelings of isolation and somatic health problems.⁽¹⁴⁾ Quality of life of the caregiver's quite often influenced by the cancer patients stage of illness and goals of care.⁽¹⁵⁾ Higher levels of spirituality are associated with lower psychological distress and improved well being for caregivers.⁽¹⁶⁾

Depression is the leading cause of disability for both males and females, the burden of depression is 50% higher for females than males.⁽¹⁷⁾ Cancer care giver is also associated with deteriorating quality of life⁽¹⁸⁾, greater psychiatric sequalae and increased risk of mortality of the caregiver.⁽¹⁹⁾ Care givers cognition and their quality of life are commonly determined by patients stage of illness.^(20,21) Caring for cancer patients can increase a risk for depression, anxiety, sleep disruption and finally diminish Quality of life.^(22,23)

The deteriorating quality of life, Depression, Anxiety states among caregivers of cancer patients is significant in that care givers also suffer along with the cancer patients.⁽²⁴⁾ Understanding the variables associated with caregiver anxiety and depression can lead to earlier identification, more specific evaluation, earlier referral and more personalized caregiver interventions.⁽²⁵⁾ Hence this study was sought to address the paucity of research on quality of life of care givers of cancer patients, the level of depression and anxiety they succumbed to during this difficult time.

2. MATERIALS & METHODS

This is a cross-sectional study which was conducted in Jakka Sujatamma cancer center, (Nellore), on patient's caregivers who were screened with MINI neuro psychiatric interview scale; people were identified as having depression and anxiety disorders on MINI scale were considered for the study. The study was conducted between 1st January 2019 to 31st December 2019. Total number of subjects considered for the study was 100. The sampling of the study subjects was by convenient sampling. Caregivers who were aged more than 18 years, of both sexes, willing to give consent and were involved for care giving of cancer patients for 1 month or more. Caregivers who had pre-existing psychiatric disorders were excluded from study.

Study tools included were MINI international neuro-psychiatric interview, Montgomery Asberg depression rating scale. Hamilton

anxiety rating scale. The caregiver quality of life index-cancer.

1. **M.I.N.I. (Mini Neuro Psychiatric Interview):**⁽²⁶⁾ The M.I.N.I. was as a brief structured interview for the diagnosis of major Axis I psychiatric disorders in DSM-IV and ICD-10. The M.I.N.I. has acceptably, high validation and reliability scores; can be administered in a much shorter period of time. M.I.N.I. was designed with precise questions about psychiatric problems. Several studies were conducted by using this scale around the world, to validate its reliability.
2. **Montgomery Asberg Depression Rating Scale (MADRS)**⁽²⁷⁾: this scale is a ten-item questionnaire which psychiatrists use to measure the severity of depressive episodes in patients with mood disorders. MADRS would be more sensitive to the changes brought on by antidepressants and other forms of treatment.
3. **Hamilton Anxiety Rating Scale (HAM-A)**⁽²⁸⁾: It is a psychological questionnaire used by clinicians to rate the severity of a patient's anxiety. This scale is used for clinical rating of the extensiveness of anxiety, and is considered for individuals who are already diagnosed with anxiety neurosis. The scale consists of total 14 items used to assess the severity of a patient's anxiety. All of these scores used to compute final score that indicates a person's anxiety severity.
4. **The Caregiver Quality of Life Index-Cancer (CQOLC)**⁽²⁹⁾: this rating scale was used to measure quality of life of cancer caregivers. This scale consists of 35 statements, which involves 4 domains. Participants were asked to give responses to each statement on a 5-point Likert scale, from 0 to 4.

3. PROCEDURE OF STUDY

Prior approval was taken from institutional ethical committee and informed consent was obtained from the caregivers. Depression and anxiety diagnosed by using MINI scale. They are assessed with the help of MADRS to score on the severity of depression, HAM-A for severity of anxiety and the CQol-C for impairment of quality of life.

Data was coded and entered in MS excel sheet, Analyzed using SPSS version 25. Descriptive

analysis was done. Proportions were expressed in percentage. Mean and standard deviation were considered to calculate continuous variables. Chi – square / fisher exact test was done to look for associations between categorical variables. T test /ANOVA were done to look for association between continuous variables.

4. RESULTS

Female subjects were more in the age group of 51-60 years, the male subjects were more in the age group 21-30 years and there were no male subjects in the age group 18-20 years as well as 31-50 years (Table 1). In our study, spouse was the caregiver in majority (51%), followed by mother (21%), daughter (18%), son (1%) and other relatives in 9% of caregivers (Table 2).

The socio-demographic variables of the caregivers (Table3) shown that most of the subjects belong to lower class in 39%, followed by middle class (35%) and upper class (26%). Three quarters of the subjects belong to unemployed subjects (71%), followed by semiskilled (17%), skilled workers were 9% and professional caregivers (3%). The scores on MADRS scale shown that the majority of the caregivers had severe depression (41%), followed by moderate depression in 34% and mild depression in 25% of the study population. The mean score of study population on MADRS was 28.71 with a standard deviation of ±7.5 (Table 4). The Hamilton anxiety rating scale (HAM-A) scores shown in table 5 and the QOL of the study sample was shown in table 6.

Table1. Age and gender wise distribution

Age groups(years)	Female subjects	Male subjects	Total subjects.
18-20 years	2	0	2
21-30 years	2	7	9
31-40 years	6	0	6
41-50 years	25	0	25
51-60 years	35	3	38
61-70 years	17	3	20
Total	87	13	100

Table2. Caregiver’s relationship to patients

relationship	number	%
Mother	21	21
Spouse	51	51
Son	01	01
Daughter	18	18
Other relative	9	9

Table3. Socio-demographic variables

Socio economic status	N (%)
Low	39 (39.0%)
Middle	35 (35.0%)
Upper	26 (26.0%)
Occupation status	
Un employed.	71 (71.0%)
Semi skilled worker	17 (17.0%)
Skilled worker	09 (9.0%)
Semi professional	03 (3.0%)
Education status	
Illiterate	34 (34.0%)
Primary	18 (18.0%)
Middle school	18 (18.0%)
Highschool	01 (1.0%)
Intermediate	12 (12.0%)
Graduation or more.	17 (17.0%)
Marital status	
Single	23 (23.0%)
Married	77 (77.0%)

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Table4. Categorization of depression basing on MADRS score

Categorization of depression.	N(%)
Mild depression	25 (25%)
Moderate depression	34 (34%)
Severe depression	41 (41%)
total	100 (100%)
Mean MADRS score of study sample 28.71 ± 7.5	

Table5. Categorization of anxiety basing on HAM-A score

Categorization of anxiety.	N (%)
Mild anxiety	18 (18%)
Moderate anxiety	13 (13%)
Severe anxiety	69 (69%)
Total	100 (100%)
Mean caregiver (HAM-A) score of study sample is 23.94 ± 5.1	

Table6. Caregivers quality of life on CQOL-C scale

Care givers QOL	N (%)
Burden	52 (52%)
Disruptive	23 (23%)
Positive adaption	35 (35%)
Financial concerns	35 (35%)
Mean caregivers QOL 107.9±18.5	

The association of caregiver's gender with socio-clinical variables was shown in table 7, the HAM-A anxiety score was higher and statistically significant among female caregivers. The association of quality of life

burden and other variables of that patient were shown in table 8; the age of the patient had a significant correlation with the QOL. Similarly, HAM-A and MADRS scores had a significant correlation with the QOL burden.

Table7. Association of caregiver's gender with socio-clinical factors

Variables	Sex	N	Mean	S.D	t-test	P value
age	Male	13	47.15	18.10	-2.292	0.153
	female	87	53.26	10.33		
Time spent with pt.	Male	13	1.65	.489	7.659	<0.001
	female	87	1.09	.285		
MADRS score	Male	13	27.0500	6.64	-1.192	0.235
	female	87	29.2333	7.88		
Qol cancer score	Male	13	105.95	19.37	-1.095	0.275
	female	87	110.68	18.25		
HAM-A score	Male	13	20.55	4.28	-3.306	0.001
	female	87	24.60	5.29		

Table8. Association of burden with social and clinical variables

Variables	Qol burden	N	Mean	S.D	t-test	P value
patients age	Yes	51	65.72	6.053	8.999	<0.001
	No	49	45.07	22.333		
AGE	Yes	51	52.97	14.818	.404	0.687
	No	49	52.32	6.270		
HAM-A SCORE	Yes	51	26.5392	3.36	7.065	<0.001
	No	49	21.7653	5.89		
TIME SPENT	Yes	51	1.07	.254	-3.193	0.002
	No	49	1.22	.419		
MADRS SCORE	Yes	51	34.4608	3.32	14.426	<0.001
	No	49	23.3469	7.00		

5. DISCUSSION

A hospital based cross sectional study was done on patients caregivers who were screened with MINI neuro psychiatric interview scale and identified as having depression and anxiety were included in the study. A total of 100 subjects were considered for the study.

Montgomery Asberg depression rating scale showed that majority of the subjects had severe depression (41%) followed by moderate in 34% and mild depression in 25%. These findings are consistent with previous studies done by Lee EE and Youn G. they found that care givers were suffered from depression. ^(30, 31).

Studies done by Price MA, Yang X found in addition to depression they also opined that family care givers emotionally vulnerable and that screening for depression were necessary. ⁽³²⁾ Grunfeld et al ⁽³⁴⁾ reported that care givers of both genders shown high levels of anxiety and depression. Our study sample of care givers had reported similar levels of anxiety and depression as reported in the study done by Grunfeld et al. ⁽³⁴⁾

In our present study, scores on HAM-A scale shown that the majority of caregivers had severe anxiety (69%) followed by mild anxiety in 18% and moderate anxiety in 13%. These study findings were in accordance with study done by Price MA who had reported similar level of anxiety percentages in their study population. ⁽³²⁾

In our study, majority (52%) caregivers thought that they had burden on them, financial concerns (35%), positive adaptation (35%) and disruptive (23%). All these findings were similar with the findings observed in the studies done by Rees et al, ⁽³⁵⁾ and Luppannak et al. ⁽³⁶⁾ among the caregivers who had high confidence in the task and had less negative impacts on care giving and QOL. Tang et al, ⁽³⁷⁾ noted that if the family caregivers know what to expect when they provide care at home, their stress levels will decrease subsequently a better QOL.

Caregiver depression was best predicted by lower life satisfaction, lower physical functioning and a lack of tangible socio-support as suggested by Rees et al. ⁽³⁵⁾ Findings in our study were in accordance to the study done by Khalid et al, ⁽³⁶⁾ regarding the negative relationship between the depression and QOL among care givers.

6. CONCLUSIONS

Majority of the care givers had scored in the range of severe depression based on the score of Montgomery Asberg depression rating scale, severe anxiety as rated on Hamilton anxiety rating scale for anxiety disorders and scores suggestive of decreased quality of life. The association of care givers gender with socio-clinical variables showed that time spent with patients is more among female care givers and the Ham - A anxiety score was higher among female subjects.

LIMITATIONS

Study was done on small sample (100) and due to paucity of sample availability all cancer patients care givers included in the study.

FUTURE IMPLICATIONS

Studies can be done with large sample size and comparisons can be done between caregivers of different cancer group will give more precise information.

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