

Quality of Life of General and Psychiatric Ward Caregivers: A Comparative Study

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Abstract: Taking care of patients admitted in hospital has usually been as much a responsibility of family caregivers as that of hospital staff in India. Quality of life (QOL) of caregivers of admitted patients has hardly been explored. Providing long term care to the disabled patients is exhausting. Associated physical, emotional, societal and financial stressors can influence the caregivers' QOL. The aim of this study was to compare QOL of the caregivers of patients from general wards and psychiatric ward. The objectives were to study the psychosocial and demographic variables of patient and caregivers, to assess and compare the QOL of caregivers of patient from general wards and psychiatric ward, and to find out the association between QOL and selected demographic variables of these caregivers. This study followed descriptive survey research design and included (n=200) adult caregivers from selected Government Medical Colleges of Nagpur, India after obtaining necessary approval from authorities and informed consent from caregivers between October 2014 and January 2015. The caregivers from general ward were recruited from Medical (n=33), Orthopedic (n=34) and Surgical (n=33) inpatient wards and (n=100) caregivers were recruited from psychiatric ward by non probability purposive sampling. The caregivers recruited were providing care to patients with Stroke, Traumatic Brain Injuries (TBI), Cancer, Fracture, Amputation and patients with Schizophrenia for 1 to 6 months. Socio-demographic data schedule, clinical data sheet from patients, socio-demographic data schedule and WHOQOL-BREF from primary caregivers was used to collect the data. Despite differences in the diagnosis of patients and their caregiver's demographic characteristics, general ward caregivers were better in their WHOQOL-BREF score in all domains as compared to psychiatric ward caregivers, with highly significant t-value and $p < 0.05$. There was moderate to strong positive correlation among different domains of WHOQOL-BREF and no association found between selected demographic characteristics of caregivers and their WHOQOL-BREF score in both groups.

Keywords: General ward caregivers, Psychiatric ward caregivers, Quality of life, WHOQOL-BREF.

I. Introduction

The quality of life (QOL) refers to a subjective evaluation of quality of life in relation to the person's context. "Individuals perceptions of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns" [1] Informal care giving for individuals with chronic diseases and disabilities in United States is quite expensive, with market value of care giving ranging from \$117 to \$292 billion a year [2]. In India total annual cost is estimated to be \$119210.2 per year. [3] Stroke caregivers often experience threats to their QOL as a result of providing care. In the United States, stroke is the foremost cause of disability and one of the leading causes of death [4]. Informal care giving is provided by family members or friends who provide more than normal or expected care. [5]

Patients with fractures and amputation need significant help with activities of daily living, which in turn affects their family members' QOL. Providing long-term care to disabled patients is exhausting and associated physical, emotional, societal and financial stressors can influence the caregivers' QOL. Many individuals have no option other than to rely on a family member for daily assistance (bathing, dressing, transportation, bladder management etc.) [6-9]

Traumatic Brain injuries (TBI) are predicted to be one of the leading global causes of morbidity and mortality by the year 2020. Approximately 1.5 to 2 million people are injured and 1 million people succumb to death every year in India. [9]

An estimated 75%-90% of patients with Schizophrenia live with or have a regular contact with family caregivers. In India the great majority of patients with schizophrenia stay with their families. [10] This study aims to assess and compare the QOL of the caregivers from general wards and psychiatric ward by using the WHOQOL-BREF scale and to find any association between selected demographic characteristics of these caregivers and their QOL score.

1.1 Need of the study

Informal care giving typically requires substantial amount of invaluable time and energy for months, even years and is physically, mentally, financially, and socially taxing to caregivers of patients in general and psychiatric wards. Family caregivers are an indispensable resource for the mental health services system and the pillars on which the system currently rests. Addressing the need of these caregivers is therefore crucial for the survival of the system. [10] Research on caregivers' QOL is thus of importance both for the caregivers themselves and indirectly for patients' health as well as the cost of health care for the country.

II. Method

In a descriptive, comparative cross-sectional study 200 caregivers from selected government hospitals of Nagpur, India were invited to participate. The study was conducted at Government Medical College and Hospital between October 2014 and January 2015. General ward caregivers (n=100) were from three departments, Medical, Orthopedic and Surgical. Majority of them included Stroke survivors' caregivers (n= 33) from Medical wards, (n= 34) from Orthopedic wards of patients with fractures and amputations, (n=33) from Surgical ward with Traumatic Brain injuries (TBI) and Cancer from selected hospitals of Nagpur. They were compared with caregivers of patients with Schizophrenia (n=100) from the Psychiatric ward. Caregivers are defined as family members actively providing day-to-day care for a person with medical, orthopedic, surgical and psychiatric ailments and those who are familiar with the patients' medical and social status.

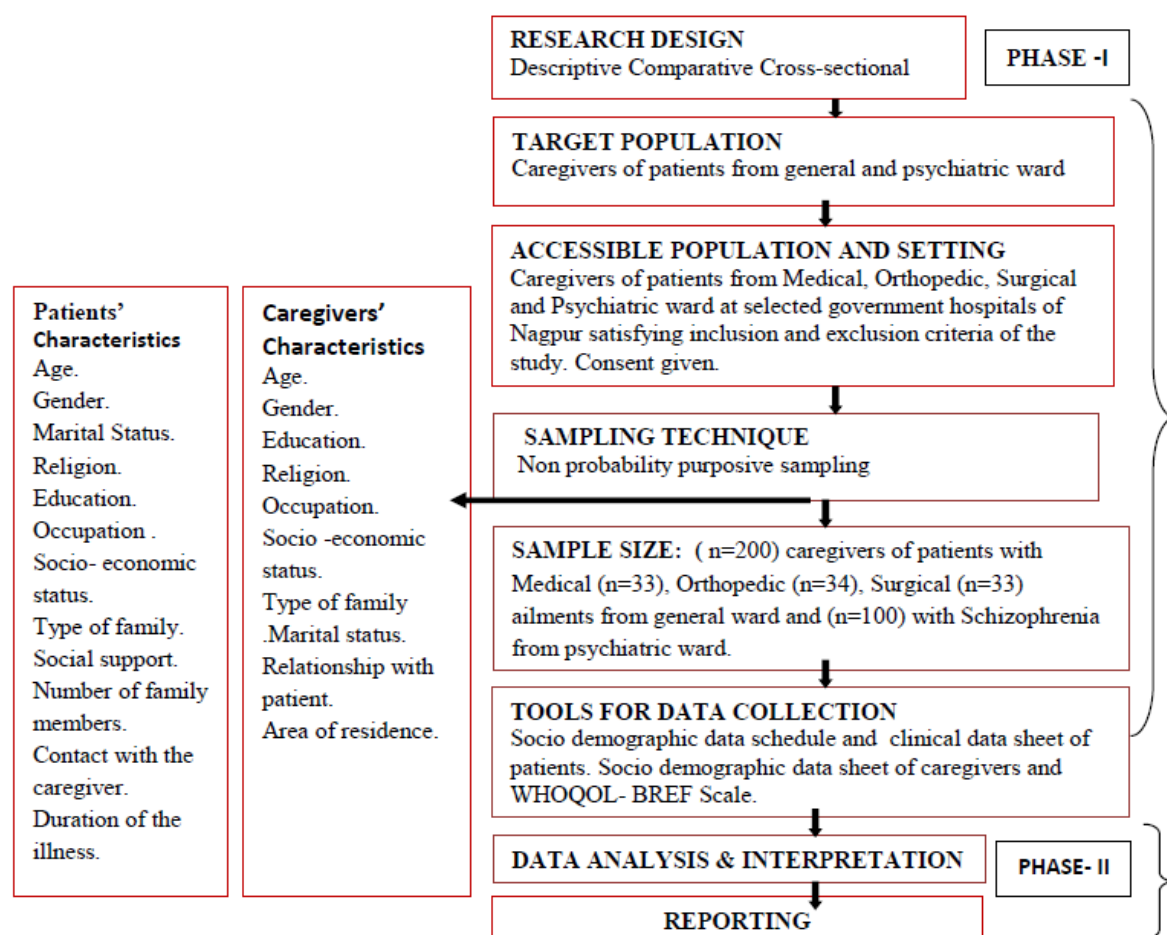


Figure 1 flow chart of research methodology

2.1 Participants

The inclusion criteria for the caregivers were as follows: The inclusion and exclusion criteria stated that participant must be identified by the researcher as the main caregiver of a patient, and have no personal history of physical, psychological, or neurological problems. Have been providing care to the patient for a minimum of 1 to 6 months. Caregivers of patients with medical, surgical and orthopedic ailments of duration from 1 month to 6 months, caregivers of patients with the diagnosis of psychiatric illness according to the DSM-IV criteria from psychiatric ward of duration from 1 month to 6 months. Spending maximum hours of the day with the patient. All above the age of 18 years, ready to participate in the study and having language compatibility.

2.2 Procedure

After seeking informed consent to participate in the study, caregivers were assessed individually in a private booth via a self-report questionnaire and an interview in selected government hospitals of Nagpur. In general wards 140 caregivers were approached and 100 agreed to participate. (Acceptance rate 71.43 %) In psychiatric ward 150 caregivers were approached and 100 agreed to participate. (Acceptance rate =66.67 %)

2.3 Data collection instruments

1. Socio-demographic data schedule to collect socio demographic characteristics of the patients with medical, surgical, orthopedic ailments and schizophrenia: age, gender, marital status, religion, education, occupation, socio economic status, type of family, social support, number of family members, and contact with caregiver, duration of the illness.
2. Socio-demographic data schedule to collect socio-demographic characteristics of the caregivers: age, gender, occupation, socio economic status, area of residence, education, type of family, marital status, relationship with patient.
3. Instrument for assessment of QOL: The WHOQOL-BREF is self-administered or interviewer-administered Field Trial Version with total 26 questions. It is available in 19 different languages. It has four domains; two items from the overall QOL and over all perception of health have been included. The mean questionnaire completion time was 20 minutes SD \pm 5 minutes).[11]

2.3.1 Frame of reference and time

A time frame of two weeks is indicated in the assessment. In chronic conditions, such as Schizophrenia, a longer time frame such as four weeks was preferable.

2.3.2 Scoring the WHOQOL-BREF

The first transformation method converts scores to range between 4 to 20, comparable with the WHOQOL-100. The second transformation method converts domain scores to a 0-100 scale. [12]

2.3.3 Calculation of Domain Scores

All analyses presented here were done using SPSS syntax given in the WHOQOL- user manual and domain scores were calculated accordingly, using the formulae given. Transformation of domain score to 0–100 scale.

2.3.4 Internal Consistency & Validity

Cronbach's Alpha scores assess the internal consistency of each domain score based on the correlations between all responses to each of the questions comprising the domain. Alpha scores greater than or equal to 0.7 are considered to denote adequate internal consistency. Using this criterion, all domains were found to have adequate internal consistency. The validity of domain structure was also assessed by calculating Pearson's Correlation Coefficients for the relationship between each of the facet (question/item) scores and each of the four domain scores. All 26 items were found to be most correlated to the domain to which they are assigned, with all correlations greater than, or equal to, 0.60. This value is significantly higher than the 0.40 [12]

2.3.5 Acceptability and Comprehensibility

QOL questionnaire: WHOQOL-BREF is a generic, self-administered, and worldwide used questionnaire consisting of 26 items describing 6 dimensions.

2.4 Ethical consideration

Prior permission from the university ethics committee, institutional review board and the administrative authority of the hospital was taken. An informed consent from the caregivers of the patients in general and psychiatric wards was taken. Assurance of confidentiality and freedom to dropout from the study was given.

III. Statistical analysis

Data entry and statistical analysis of 200 completed forms was performed using the Epi infoTM 7 Statistical software. Further statistical analysis was done by using Chi-square test to see the association between QOL and selected demographic variables of caregivers. Levine's test for equality and unpaired t-test for comparing the two group's score was applied. Z test was applied to determine the correlation between different WHOQOL-BREF domains of the caregivers. The WHOQOL-BREF scores were categorized as low, moderate and high as those, below, within, and above mean $SD \pm 2 SD$ on each of the four domains derived from normative data. All p values < 0.05 were regarded as being statistically significant.

IV. Findings

The demographic details of 200 patients are presented in TABLE 1.

Table 1 Demographic characteristic of patients of general and psychiatric ward

Variables		General ward patients (n=100)	%	Psychiatric ward patients (n=100)	%
Education	Non Literate	14	14%	0	0%
	Primary	50	50%	99	99%
	Secondary	31	31%	1	1%
	Graduate	2	2%	0	0%
Religion	Above	3	3%	0	0%
	Hindu	84	84%	82	82%
	Boudha	14	14%	12	12%
	Christian	0	0%	1	1%
SES	Muslim	2	2%	5	5%
	Upper	4	4%	5	5%
	Upper Middle	13	13%	13	13%
	Middle	1	1%	1	1%
	Lower Middle	44	44%	45	45%
	Upper Lower	36	36%	36	36%
Occupation	Lower	2	2%	0	0%
	Profession	8	8%	5	5%
	Semi-Profession	6	6%	0	0%
	Clerk, Shop-owner	11	11%	19	19%
	Skilled worker	3	3%	6	6%
	Semi-skilled worker	0	0%	6	6%
	Unskilled worker	36	36%	9	9%
	Unemployed	13	13%	0	0
	Homemaker	23	23%	55	55%
	Duration of illness	1 to 6 months	100	100%	0
7 to 12 months		0	0%	100	100%
Diagnosis	Medical Ailments	33	33%		
	Orthopedic Ailments	34	34%	0	0%
	Surgical Ailments	33	33%	0	0%
	Schizophrenia	-	-	100	100%
Social support	Primary Caregivers	100	100%	100	100%
	Secondary caregivers	0	0%	0	0%
Frequency of contact with caregivers	Daily	100	100%	100	100%
	Weekly 3-4 times	0	0%	0	0%
	Monthly	0	0%	0	0%

4.1 Major Findings of Table 1

The demographic details of 200 patients: The general ward patients (n=100) composed of (n=33) Medical ward patients, (n=34) Orthopedic ward patients, (n=33) Surgery ward patients and (n=100) Psychiatric ward patients are presented in TABLE 1. Majority of the patients from general ward (67%) were male, where as majority of the patients from psychiatric ward (51%) were female. Majority of patients from general ward (75%) and from psychiatric ward (56%) were married. Majority of the patients from general ward (52%) and psychiatric ward (60%) were from nuclear family. Majority of the patients from general ward (73%) and psychiatric ward (52%) were from urban area. Majority of the patients from general ward (50%) and psychiatric ward (99%) had primary level of education. Majority of the patients from general ward (84%) and psychiatric ward (82%) were Hindu. Majority of the caregivers from general ward (44%) and psychiatric ward (45%) were from lower middle income group. Majority of the patients from general ward (87%) were employed, where as majority of patients from psychiatric ward (55%) were unemployed and homemakers. Mean age of general ward patients was 42.68 (SD±15.16) with maximum age of 82 years and minimum age of 15 years. The mean age of psychiatric ward patients was 33.29 (SD±10.69), with maximum age of 70 years and minimum age of 17 years. Duration of illness in both groups was ranging from 1 to 6 months. Majority of the patients (100 %) received social support by their primary caregivers. Daily contact of patient with the caregivers was 100%.

The demographic characteristics of 200 caregivers of general and psychiatric ward are shown in TABLE 2

Table 2 Demographic characteristics of general and psychiatric ward caregivers

Variables		General ward caregivers (n=100)	%	Psychiatric ward caregivers (n=100)	%
Age (Mean) SD		41.04 (13)		42.07 (12.99)	
Gender	Female	61	61 %	65	65%
	Male	39	39%	35	35%
Marital Status	Married	83	83%	81	81%
	Unmarried	14	14%	12	12%
	Widow	3	3%	7	7%
Family Type	Nuclear	56	56 %	54	54%
	Joint	44	44%	46	46 %
Area of residence	Urban	69	69%	52	52%
	Rural	31	31%	48	48%
Education	Non Literate	21	21%	15	15%
	Primary	46	46%	43	43%
	Secondary	30	30%	15	15%
	Graduate	2	2%	25	25%
SES	Above	1	1%	2	2 %
	Upper	4	4%	5	5%
	Upper Middle	13	13%	13	13%
	Middle	1	1%	1	1%
	Lower Middle	44	44%	45	45%
Occupation	Upper lower	36	36%	36	36%
	Lower	2	2%	0	0%
	Employed	48	48%	45	45%
	Unemployed	52	52%	55	55%

4.2 Major Findings of Table 2

The demographic details of 200 caregivers: The general ward caregivers (n=100) composed of (n=33) Medical ward, (n=34) Orthopedic ward, (n=33) Surgery ward caregivers and (n=100) Psychiatric ward caregivers are presented in TABLE 2. Majority of the caregivers in general ward (61%) and psychiatric ward (65%) were females. Majority of caregivers in general ward (83%) and in psychiatric ward (81%) were married. Majority of the caregivers in general ward (56%) and psychiatric ward (56%) were from nuclear family. Majority of the caregivers from general ward (69%) and psychiatric ward (52%) were from urban area. Majority of the caregivers in general ward (46%) and psychiatric ward (43%) had primary level of education. Majority of the caregivers from general ward (84%) and psychiatric ward (82%) were Hindu. Majority of the caregivers in general ward (44%) and psychiatric ward (45%) were from lower middle income group. Majority of the caregivers from general ward (52%) and psychiatric ward (55%) were unemployed and homemakers. Mean age of caregivers of general ward patients was 41.04 (SD±13), with maximum age of 82 yrs and minimum age of 18 years. The mean age of psychiatric ward caregivers was 42.07 (SD±12.99), with maximum age of 70 years and minimum age of 20 years.

The WHOQOL-BREF scale correlations of different domains, OAQOL, and OAPOH of general ward caregivers are shown in TABLE 3. Domain 1 is Physical Domain, Domain -2 is Psychological Domain, Domain 3 is Social Relationship Domain, Domain - 4 Environmental Domain. OAQOL- overall quality of life, OAPOH- overall perception of health. The correlation between Domains scale: .04 Weak, 0.4-0.7 Moderate, more than 0.7 Strong.

Table 3 Correlations of different domains of WHOQOL-BREF scale in general ward caregivers`

	Domain 2	Domain 3	Domain 4	OAQOL	OAPOH
Domain 1	0.744	0.227	0.675	0.668	0.714
Domain 2		0.444	0.738	0.692	0.679
Domain 3			0.296	0.223	0.279
Domain 4				0.615	0.572
OAQOL					0.714
Z-Values					
	Domain 2	Domain 3	Domain 4	OAQOL	OAPH
Domain 1	11.07891703	2.319163814	9.102743054	8.93155331	10.14676
Domain 2		4.930370713	10.8817421	9.537799	9.202578
Domain 3			3.08333333	2.276139	2.890806
Domain 4				7.760256656	6.938498
OAQOL					10.14676

4.3 Z- test was applied. Since all Z values were greater than 1.96 the tabulated value of Z, we conclude that all the criteria are significantly correlated. This study also explored high correlation between social relationship domain and moderate correlations with environmental domain. Environmental domain is moderately correlated with overall quality of life (OAQOL) and weakly correlated with overall perception of health (OAPOH). Environmental domain and overall quality of life (OAQOL) has strong correlations with overall perception of health (OAPOH).

The WHOQOL-BREF scale correlations of different domains, OAQOL, and OAPOH of psychiatric ward caregivers are shown in TABLE 4

Table 4 Correlation of different domains of WHOQOL–BREF scale of psychiatric ward caregivers

	Domain 2	Domain 3	Domain 4	OAQOL	OAPOH
Domain 1	0.684039772	0.463573409	0.600776	0.426655	0.196396
Domain 2		0.672330221	0.761605	0.440015	0.374716
Domain 3			0.618504	0.231069	0.216727
Domain 4				0.484195	0.261041
OAQOL					.385628
Z-Values					
	Domain 2	Domain 3	Domain 4	OAQOL	OAPOH
Domain 1	9.28329199	5.17927713	7.439647	4.670061	1.982836
Domain 2		8.991175159	11.63428	4.850747	4.001018
Domain 3			7.792076	2.351091	2.197727
Domain 4				5.478288	2.676986
OAQOL					4.13755

Since all Z values are greater than 1.96 the tabulated value of Z, we conclude that all the criteria are significantly correlated.

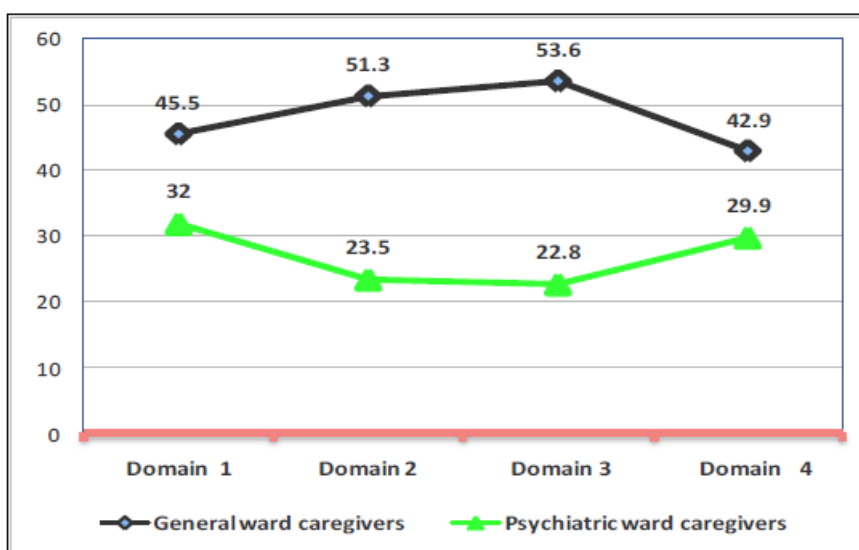


Figure 2 Line graph showing comparative mean score of general and psychiatric ward caregivers.

Mean score on WHOQOL-BREF scale shows significantly higher score in general ward caregivers as compared to psychiatric ward caregivers in all four domains in Fig. 2.

WHOQOL-BREF Scale comparative statement of transformed score of general ward caregivers and psychiatric ward caregivers is shown in TABLE 5

4.4 TABLE 5 shows p-values for all t-scores is <0.05, there was significant difference between the mean values of different domains of WHOQOL-BREF score of general ward caregivers and psychiatric ward caregivers i.e. WHOQOL-BREF score of general ward caregivers was significantly higher as compared to WHOQOL-BREF score of psychiatric ward caregivers

Table 5 WHOQOL-BREF Scale comparative score of general and psychiatric ward caregivers

WHOQOL-BREF domains	n	Mean	S.D.	SE Mean	T-Value	DF	Conclusion
Physical Domain	100	45.5	18.4	1.8	5.87	1.98	Highly Significant.
General ward caregivers							
Psychiatric ward caregivers							
Psychological Domain	100	51.3	17.7	1.8	13.12	1.71	Highly Significant.
General ward caregivers							
Psychiatric ward caregivers							
Social Relationship Domain	100	53.6	14.3	1.4	14.92	1.98	Highly Significant.
General ward caregivers							
Psychiatric ward caregivers							
Environmental domain	100	42.9	16.2	1.6	6.10	1.98	Highly Significant.
General ward caregivers							
Psychiatric ward caregivers							

4.5 Association between demographic factors and QOL

Various demographic factors and their association to QOL in general and psychiatric ward caregivers were calculated by Chi square test. For all the demographic factor results the calculated value is less than tabulated value, so there is no association between selected demographic variables and QOL of caregivers.

V. Discussion

The WHOQOL-BREF score of general ward caregivers was significantly higher than that of the psychiatric ward caregivers in all domains. Physical domain t- value was 5.87 and psychological domain t- value was 13.12. Social relationship domain t-value 14.92 and the environmental domain t- value 6.10. All p values were < 0.05. The OAQOL of the general ward caregivers was significantly better than that of the psychiatric ward caregivers. These findings confirm previous studies on the significant influence of being a caregiver of patient with mental disorder. A cross-sectional study conducted on OPD patients attending department of Psychiatry at Sawai Mansingh Medical College Jaipur, India showed lowest Quality of life scores in social relationship domain. [14]

First caregivers of patients with schizophrenia experienced particularly low QOL levels in Chile and France across multiple domains of QOL including physical and psychological dimensions. [15] According to a study conducted in Greece by Sapountzi-Krepia et.al. (1998) health education interventions should be provided both in rehabilitation centers and home settings by health visitors and community nurses to improve patients' self care and to alleviate informal caregivers' burden.

VI. Conclusion

In conclusion in the present study there is significant difference in the QOL score in all domains of general ward caregivers and psychiatric ward caregivers. In spite of mental health services and economic support, psychiatric ward caregivers' QOL level remain particularly low. The psychiatric ward caregivers had comparably lower QOL on WHOQOL-BREF score in all domains as compared to the general ward caregivers irrespective of the disease conditions. The Z test shows high correlation between all the domains in both groups.

There is no association between QOL of caregivers and their selected demographic variables in both groups. It is likely that resources such as respite services, adult day-care, outpatient rehabilitation, psycho educational program and support groups would increase health-related quality of life for these caregivers. Future support programs should address the specific needs of psychiatric ward caregivers with effective communication through psycho education. This study will provide vital information to the health managers and clinicians about the education, counseling, and therapeutic interventions that are needed to prepare psychiatric ward caregivers prior to the discharge of these patients.

6.1 Implications for future research and practice

The study has implications in enhancing the coping ability of caregivers of patients with psychiatric illness and reducing their stress by various ways like offering care giving classes and forming caregivers' support group. It has implications in assisting the caregivers to effectively use the available social, economic and health resources. Further research is required into identifying the people at risk and exploring effective intervention strategies.

6.2 Limitations and perspectives

This was a cross sectional study. Longitudinal studies would give better perspective of the QOL of caregivers. The sample was limited to only selected Government Medical Colleges of Nagpur city which may not be the true representative of the entire population of caregivers. Confirmation is therefore needed on more diverse and large group of caregivers.

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Conflict of interest : None

References

- [1] S. Saxena, J. Orley on behalf of the WHOQOL Group. Quality of life assessment The World Health organization perspective, *European Psychiatry* 1997, Vol.12:263s,doi:10.1016/S0924-9338
- [2] Marieke Van Puymbroeck, Maude R. Rittman, Quality-of-life predictors for caregivers at 1 and 6 months poststroke: Results of path analyses, *Journal of Rehabilitation Research & Development* 2005, Volume 42, Number 6, Pages 747–760
- [3] Brinda et al. *BMC Health Services Research* 2014, 14:207 Page 5 of 9 <http://www.biomedcentral.com/1472-6963/14/207>
- [4] Han B, Haley WE. Family care giving for patients with stroke. Review and analysis. *Stroke*. 1999; 30(7):1478–85
- [5] *International Journal of Caring Sciences* 2012 September-December Vol 5 Issue 349 www.inernationaljournalofcaringsciences.org
- [6] Mathers C, Loncar D. Updated projections of global mortality and burden of disease, 2002-2030: data sources, methods and results. Geneva, World Health Organization, 2005.
- [7] Peden M et al. World report on road traffic injury prevention. Geneva, World Health
- [8] World population prospects: the 2002 revision. Volume 1: Comprehensive tables. New York, United Nations, 2003.
- [9] Gururaj G. Epidemiology of traumatic brain injuries: Indian scenario. *National medical journal of India*. 2002;24(1):24-8.
- [10] Janki Shankar & Senthil Sonai Muthuswamy Support Needs of Family Caregivers of People Who Experience Mental Illness and the Role of Mental Health Services Families in Society: Volume 88, No. 2 *The Journal of Contemporary Social Services* 2007 Alliance for Children and Families
- [11] Saxena, S., Carlson, D., Billington, R., Orley, J., Skevington, S.M. and the WHOQOL Group, [N.V.], 2001 The WHO quality of life assessment instrument (WHOQOL-Bref); the importance of its items for cross cultural research, 10(8), pp.711-721.
- [12] S.Saxena, K Chandiramani, R.Bhargava. WHOQOL-Hindi: A questionnaire for assessing quality of life in health care settings in India. *The National Medical Journal of India*. Vol.11, No.4, 1998.
- [13] Nedjat, S., Montazeri, A., Holakouie, K., Mohammad, K., & Majdzadeh, R. (2008) Psychometric properties of Iranian interview-administered version of the World Health Organization 's Quality of life Questionnaire (WHOQOL-BREF): a population based study. *BMC Health services Research*, 8(61)
- [14] R.K.Solanki, A.Midha, P.Singh, K.Chug, Schizophrenia: Impact on quality of life. *Indian Journal of Psychiatry*, 50, 2008, 181-6.
- [15] Boyer et al. Quality of life among caregivers of patients with Schizophrenia: a cross-cultural comparison of Chilean and French families *BMC Family Practice* 2012, 13:42 <http://www.biomedcentral.com/1471-2296/13/42>