Original Research

Journal of Behavioral Health
www.scopemed.org
DOI: 10.5455/jbh.20170402070352

Mentally ill caregivers: Reverse burden of care and its relationship with medication adherence among women in India - An exploratory study

Dushad Ram[1], Arun Kumar[1], Sudharani Naik[1], Bhanu Kumar[2], Basavana Gowdappa[2]

[1]Department of Psychiatry, JSS Medical College, Mysore, Karnataka, India, [2]Department of Medicine, JSS Medical College, Mysore, Karnataka, India

Address for correspondence:
Dushad Ram, Department of Psychiatry, JSS Medical College, Mysore, Karnataka, India.
E-mail: akashji1972@gmail.com

Received: December 05, 2016
Accepted: March 18, 2017
Published: April 11, 2017

ABSTRACT

Background: Caregivers (CGs) are often less adherent to medication due to the burden of caregiving. Women are often the main CGs in the family. The level of burden of care and medication adherence in mentally ill women CGs is unexplored. **Aims:** This study aimed to find out the levels of burden of care and its relationship with medication adherence in remitted mentally ill women CGs. **Materials and Methods:** Cross-sectional study, 100 remitted mentally ill women were recruited as per the selection criteria and assessed with sociodemographic pro forma, Zarit CG Burden Interview, and Morisky Medication Adherence Scale. **Results:** More than half of the participants experienced significant burden (27% with mild-moderate burden, 19% with moderate to severe burden, and 7% with severe burden). 39% of the participants had high adherence, while the rest had medium to low adherence (36% medium and 25% low). Caregiving burden was more among employed ($P = 0.005$), married ($P = 0.035$), rural residence ($P = 0.050$), living with spouse ($P = 0.050$), and poor knowledge of treatment options ($P = 0.000$). In multiple linear regression analysis, role strain had a significant association with medication adherence ($P = 0.002$). **Conclusions:** Significant caregiving burden and low medication adherence are common in remitted mentally ill women CGs. Role strains are positively associated with medication adherence.

KEY WORDS: Caregiving burden, medication adherence, women with mental illness

INTRODUCTION

Caregiving is an act of providing concrete assistance, care and support to an individual, such as help with personal care, medication management, activities of daily living, or financial management [1]. Caregiving often brings burden on the caregiver (CG) [2]. The burden of care is the discomfort experienced during caregiving by the CG in the domains of physical health, psychological well-being, finances, and social life - all these factors affect the life of CG [3,4]. The burden was initially conceptualized as unidimensional but later understood to be a multidimensional construct [5]. Over the years, research on caregiving burden has shifted to the domains of strain. Two major domains that attracted the interest of researchers are personal strain (how personally stressful the experience is) and role strain (the stress due to role conflict or overload) [6,7]. Strains are determined by several factors such as level of education, socio-cultural background, employment status, and negative appraisals of care giving [8,9]. In India, due to socio-cultural factors, the women are the main CG in a family [10,11]. They often continue a role of CG even after they suffer from illness and face burden [12]. Burden may influence the adherence behavior and interaction with health-care providers in CG [13,14]. Adherence is "the extent to which a patient's behavior coincides with medical or prescribed health advice" [15]. CG is often less adherent to their medication (as they often forget their own medication, sacrifice their own medication during financial restrictions) and pays less attention to their own health needs [16]. More caregiving duties bring greater mental health risk, which may multiply with inadequate adherence to medication [17]. Health and well-being of CG with a history of mental illness is important as it may directly affect the quality of care they provide [18]. Their caregiving quality may be hampered due to associated financial difficulty (unemployment, disadvantage of socioeconomic status), psychosocial difficulty (role disability, lower educational attainment, impaired psychological functioning), and poor physical health [19,20].

Over a few decades, this topic has attracted the attention of researchers. However, researchers have conducted more research among the mentally healthy CG. Burden of mentally ill women CG is yet to be examined. Reports reveal that mentally ill women may experience psychosocial burden even after an episode of mental illness particularly if they are unemployed,

married and living in a joint family, and facing more psychosocial adversity [21-23].

Assessment of burden is challenging due to cultural, ethical, religious, and other personal values. There is little agreement about the definition of burden, and no unified approach has been devised for its measurement [24]. We have used Zarit CG Burden Interview (ZBI) and Morisky Medication Adherence Scale (MMAS) in this study, as these tools have been previously used in Indian population [25,26].

This study aimed to know the levels of caregiving burden and its relationship with medication adherence, in South Indian remitted mentally ill women CGs. We hypothesized that burden of caregiving (both personal and role strain) is negatively associated with medication adherence.

MATERIALS AND METHODS

The study was conducted in JSS Hospital, Mysore, over a period of 6 months (November 2014-April 2015), after approval from the Institute's Ethical Committee. 100 consecutive female patients with mental illness in remission, who were living in the community after an episode of illness and coming for follow-up in the Department of Psychiatry, were consecutively recruited in this study, after obtaining an informed consent. The inclusion criteria included females aged 18-65 years, having mental illness and in remission for at least 2 or more months (as per the treating psychiatrist) and currently living with the family. Patients with chronic physical illness or physical disability, intellectual disabilities, and dementia were excluded from this study, as these conditions are known to interfere with caregiving due to the inherent nature of the illness. Psychiatric evaluation was done by a qualified psychiatrist and diagnosis was made as per the 10th revision of the International Statistical Classification of Diseases and Related Health Problems. Those who met selection criteria were further evaluated with assessment tools in the following order:

Sociodemographic-clinical Pro Forma

Pro forma included demographic and clinical details such as age at onset, illness duration, diagnosis, currently living with, family history of substance use, number of cohabiting family members, supporting persons, attitudes of other family members, prior treatment, treatment knowledge, knowledge of cause of illness, and family history of mental illness.

ZBI

A number of studies have used this scale to assess the CG burden and it is available in different versions. CG responds to a series of 22 questions about the impact of the care burden on their life and frequency of occurrence (never, rarely, sometimes, quite frequently, or nearly always). Studies have shown Cronbach's alpha ranging from 0.88 to 0.92 and test-retest reliability to be 0.71. ZBI includes two domains: Personal strain and role strain [25].

MMAS

The MMAS-8 is a commonly used self-reporting tool to determine medication adherence. It contains eight questions with yes or no answers. Each item measures specific adherence behavior. Score of <6 indicates low adherence, 6-<8 score indicates medium adherence, and a score of ≥8 indicates high adherence. Sensitivity and specificity are 93% and 53%, respectively, and Cronbach's alpha value of 0.83 [26].

Statistical Analysis

Data analysis was performed with SPSS version 16. Demographic and clinical characteristics were expressed with descriptive statistics. Since analysis of data distribution revealed skewedness, Kruskal–Wallis H test was used to know the group difference between three or more variables while Mann–Whitney test was used for comparison of two groups. After normalizing the data, score on personal and role strain were analyzed using multiple linear regression analysis, to find out its association with MMAS score. The level of statistical significance was kept at $P < 0.05$ for all tests.

RESULTS

Demographic and Clinical Characteristics

Most of the patients were from the Hindu community, lower socioeconomic status, nuclear family, with a diagnosis of mood disorder, living with spouse, and had no prior treatment. The spouse/spouse's relatives were the main support, relied on psychosocial factors as the cause of mental illness, and had poor knowledge of treatment options [Table 1].

Severity of Burden and Medication Adherence

The mean score of the duration of illness was 4.8 years, the number of family members cohabiting was 4.0 and score on ZBI was 28.34. More than half of the participants experienced burden (47% little or no burden, 27% mild-moderate burden, 19% moderate to severe burden, and 7% severe burden). 39% of the participants had high medication adherence, while the rest had medium (36%) and low (25%) adherence [Table 2].

CG's burden and its relationship with sociodemographic and clinical variables: In Mann–Whitney test [Table 3], ZBI score

Table 1: Sociodemographic and clinical characteristics (n=100)

Characteristics	Minimum	Maximum	Mean±standard deviation
Age	20.00	61.00	37.35±8.91
Age at onset	14.00	54.00	32.62±8.77
Duration of illness	1.00	25.00	4.89±5.09
Distance from hospital	1.00	100.00	26.18±22.37
Number of family members	1.00	13.00	4.07±1.73
Personal strain	0.00	15.00	5.11±3.90
Role strain	0.00	26.00	9.80±6.67
Burden score	0.00	79.00	28.34±19.83

had a statistically significant association with domicile status (rural vs. urban; $U = 823.0$, $Z = -1.959$, $r = -0.19$, $P < 0.05$), marital status (single vs. married; $U = 234.5$, $Z = -2.108$, $r = -0.21$, $P < 0.05$), and attitude of others (sympathetic vs. neutral; $U = 630.5$, $Z = -4.008$, $r = -0.40$, $P < 0.001$).

In Kruskal–Wallis H test [Table 4], ZBI score had a statistically significant association with occupation (unemployed vs. self-employed; $\chi^2 = 35.461$, $\eta^2 = 0.35$, df = 1, significant = $P < 0.001$; unemployed vs. employed; $\chi^2 = 7.822$, $\eta^2 = 0.07$, df = 1, significant = $P < 0.01$), diagnosis (F 30 vs. F 40; $\chi^2 = 6.466$, $\eta^2 = 0.06$, df = 1, significant = $P < 0.01$), who the patient was living with (with parent vs. with husband; $\chi^2 = 3.837$, $\eta^2 = 0.03$, df = 1, significant = $P < 0.05$), and knowledge of available treatment options (medication + psychotherapy vs. medication only; $\chi^2 = 13.898$, $\eta^2 = 0.14$, df = 1, significant = $P < 0.001$).

Relationship of CG burden and medication adherence: In a multiple linear regression analysis [Table 5], the role strain had a statistically significant positive association with the MMAS ($R^2 = 0.121$, $F = 4.409$, $P = 0.002$).

Table 2: Severity of burden and medication adherence

Level of burden (ZBI score)	*n* (%)	Level of adherence (MAS score)	*n* (%)
Little or no burden	47 (47.0)	High	39 (39.0)
Mild-moderate	27 (27.0)	Medium	36 (36.0)
Moderate-severe	19 (19.0)	Low	25 (25.0)
Severe	07 (07.0)		

ZBI: Zarit Caregiver Burden Interview, MAS: Medication Adherence Scale

DISCUSSION

In this study, the majority of the participants had characteristics of a traditional Hindu family [27]. Similar to other reports, there was a long mean duration of illness, no prior treatment, psychosocial factors were reported as the cause of illness, and poor knowledge of treatment options [22]. This sociodemographic characteristic may have a bearing on the other finding of this study, that more than half of the participants had experienced significant burden. Other contributory factors of more burden level could be – (1) gender role of females in Indian society and (2) psychosocial consequences of mental illness in women with mental illness. Due to socio-cultural reasons, the women in India are the main caregivers in the family and more likely to experience caregiving stress, particularly when they have a role of daughter-in-law, spouse, and daughter [28-31]. If a woman has a mental illness, they lose social support due to associated stigma, poor knowledge about the illness in family members, and attitude changes of relatives [32]. Odd or violent behavior during active illness may further reduce the social support [33]. Burden (monetary and nonmonetary) of the illness and conflict that arise during illness may persist as interpersonal difficulties even after the episode of illness [34].

In this study, married status was associated with more caregiving burden. This finding was contrary to the reports that married status ensures social support and burden. In India, arranged marriage is highly prevalent, in which the guardian decides the groom. After marriage, a woman often faces high social restrictions and gender stereotypy that accompanies the higher marital and familial responsibility and household. All these

Table 3: Burden and its relationship with sociodemographic and clinical variables (Mann–Whitney test)

Variables	*n*	Mean rank	Sum of ranks	Mann–Whitney *U*	*Z*	*r*	*P*
Education*ZBI score							
Uneducated	41	50.44	2068.00	1.207	−0.018	−0.0018	0.986
Educated	59	50.54	2982.00				
Socioeconomic status*ZBI score							
Low	63	54.78	3451.00	896.000	−1.925	−0.1925	0.054
Middle	37	43.22	1599.00				
Religion*ZBI score							
Hindu	88	51.52	4533.50	438.500	−0.950	−0.095	0.342
Muslim	12	43.04	516.50				
Marital status*ZBI score							
Single	9	31.06	279.50	234.500	−2.108	−0.2108	0.035
Married	91	52.42	4770.50				
Residence*ZBI score							
Rural	68	54.40	3699.00	823.000	−1.959	−0.1959	0.050
Urban	32	42.22	1351.00				
Family type*ZBI score							
Nuclear	86	51.81	4456.00	489.000	−1.123	−0.1123	0.261
Joint/	14	42.43	594.00				
Family substance use in the*ZBI score							
Present	10	53.00	530.00	425.000	−0.287	−0.0287	0.774
Abcent	90	50.22	4520.00				
Housing*ZBI score							
Kaccha	18	59.22	1066.00	581.000	−1.409	−0.1409	0.159
Pakka	82	48.59	3984.00				
Attitude of others*ZBI score							
Sympathetic	60	59.99	3599.50	630.500	−4.008	−0.4008	0.001
Neutral	40	36.26	1450.50				

Absolute (*r*): Small size=0.1, medium size=0.3, large size=0.5, ZBI: Zarit Caregiver Burden Interview

Table 4: Burden and its relationship with sociodemographic and clinical variables (Kruskal–Wallis test)

Variables	*n*	Mean rank	Chi-square	η^2	df	*P*
Occupation*ZBI score						
1						
Unemployed	38	25.28	35.461	0.35	1	0.001
Self-employed	47	57.33				
2						
Self-employed	47	33.80	3.154	0.03	1	0.076
Employed	15	24.30				
3						
Unemployed	38	23.28	7.822	0.07	1	0.005
Employed	15	36.43				
Diagnosis*ZBI score						
1						
Organic mental disorder (F10)	3	4.33	0.640	0.00	1	0.424
Schizophrenia (F20)	7	6.00				
2						
Schizophrenia (F20)	7	39.79	0.259	0.00	1	0.611
Depressive disorder (F30)	81	44.91				
3						
Depressive disorder (F30)	81	47.83	6.466	0.06	1	0.011
Anxiety disorder (F40)	9	24.50				
4						
Organic mental disorder (F10)	3	27.33	1.204	0.01	1	0.273
Depressive disorder (F30)	81	43.06				
5						
Organic mental disorder (F10)	3	5.50	0.320	0.00	1	0.572
Anxiety disorder (F40)	9	6.83				
6						
Schizophrenia (F20)	7	10.71	2.716	0.02	1	0.099
Anxiety disorder (F40)	9	6.78				
Living with*ZBI score						
1						
With parents	6	66.67	2.152	0.02	1	0.142
With in-laws	93	48.92				
2						
With in-laws	7	37.71	0.242	0.00	1	0.623
With husband	76	42.39				
3						
Parent	17	35.41	3.837	0.03	1	0.050
With husband	76	49.59				
Treatment sought before*ZBI score						
1						
No treatment	90	47.58	1.579	0.01	1	0.209
Magico-religious	6	62.33				
2						
Magico-religious	6	6.83	2.909	0.02	1	0.088
Allopathic	4	3.50				
3						
No treatment	90	47.96	0.605	0.00	1	0.437
Allopathic	4	37.12				
Help in trouble*ZBI score						
1						
Parent or siblings	37	47.15	0.259	0.00	1	0.611
Spouse or his relative	60	50.14				
2						
Spouse or his relative	60	31.10	3.040	0.03	1	0.081
Neighbors or others	3	50.00				
3						
Parent or siblings	37	19.59	2.969	0.02	1	0.085
Neighbors or others	3	31.67				
Knowledge of available treatment*ZBI score						
1						
Medication only	64	35.29	0.183	0.00	1	0.668
Psychotherapy	5	31.30				
2						
Psychotherapy	5	26.20	3.108	0.03	1	0.078
Medication+psychotherapy	31	17.26				
3						
Medication only	64	55.34	13.898	0.14	1	0.001
Medication+psychotherapy	31	32.85				
Knowledge of cause of illness*ZBI score						
1						
Physical	13	52.42	0.388	0.00	1	0.533
Psychosocial	82	47.30				
2						
Psychosocial	82	44.25	0.140	0.00	1	0.708
Bio-psychosocial	5	39.90				
3						
Physical	13	10.08	0.547	0.00	1	0.459
Bio-psychosocial	5	8.00				

ZBI: Zarit Caregiver Burden Interview

increase the chance of more psychosocial adversity in a male dominated society [35]. These social stereotypes are more common in rural areas due to the joint family system, social Orthodox, and low education [10,28,30].

Another observation in this study was more burden associated with sympathetic attitude from other family members. Sympathy is the perception, understanding, and reaction to the distress. Excessive positive expressed emotion may result in more perceived burden. Families with high emotional involvement may adopt a strategy of taking control and doing things for the patients and high intrusiveness that may make patients anxious and frustrated [36]. The relatives may perceive that the patient can no longer live with stress [37]. Families with high expressed emotion appear to be poor communicators with their ill relative, as they might talk more and listen less effectively [38].

We found unemployment status in about 40% of participants, and this variable was associated with more burden. In India, women often prefer to be unemployed, to look after the family, while those who wish may not get employed due to issues related with mental illness such as discrimination and stigma. [35]. Unemployment makes a woman dependent on other family members, and greater familial responsibility. Nagaraj has argued that high women unemployment in India is due to constraints in "skill utilization" (not accepting employment) [39]. Educated women have distinct job preferences that may not be easily available if they had a mental illness [35,40-42]. Single women are twice more likely to work than married women [43]. In India, women use their education in the interests of marriage to be accomplished wives and better mothers [44]. It is argued that, with marriage still being a social imperative, perpetuated gendered interest and identity and even the newly emerging norms of femininity too dictated that women use their education in the interests of the family.

Table 5: Multiple linear regression analysis

Model	Unstandardized coefficients		Standardized coefficients	*t*	*P*
	B	Standard error	Beta		
1					
(Constant)	3.696	0.306		12.075	0.001
ZBI score	−0.073	0.040	−0.809	−1.835	0.070
Personal strain	−0.126	0.144	−0.273	−0.871	0.386
Role strain	0.263	0.083	0.980	3.171	0.002

Dependent variable: MAS score. R^2=0.121, F=4.409, P=0.006

We observed more burden associated with a diagnosis of depression. Caregiving is often associated with depression [45]. Depressive status may be both the cause and consequences of burden. Burden may have a direct impact on CG health and causes a sense of entrapment [46]. Family dysfunction and depression are often interrelated [47]. Low levels of family functioning or social connectedness, poor support from family and friends have been associated with depression [48].

Poor knowledge of treatment options was associated with more CG burden in this study. It may indicate inadequate health education (including mental health) that is often associated with poor health promoting activity [49]. On the other hand, the burden can be reduced with improved knowledge about illness and treatment [50].

In this study, we did not observe any significant association between the total score of burden and adherence. Ennis and Corry had a similar observation though their study had methodological limitation [51]. However, in our study, role strain domain of caregiving burden had a significant positive association with medication adherence. Patients with mental illness have higher scores of role strains leading to better medication adherence that is different from studies by western countries [16]. Good compliance in Indian female patients may be due to family pressure and social disapproval of psychiatric morbidity [52,53]. Majority of Indian families follow a traditional gender role, and women generally play a role of family CG. Suboptimal health status can result in failure to play a gender role that brings negative expressed emotion and other psychosocial consequences. Good medication adherence can avoid these consequences to improve the mental health of these women that may help them resume their family role.

CONCLUSIONS

With the finding of this study, it can be concluded that significant burden and low medication adherence is common in remitted mentally ill women CGs. Role strains are positively associated with medication adherence. Limitations of our study were a cross-sectional study design, small sample size, and no comparison group.

ACKNOWLEDGMENT

The authors would like to thank Yahosha, Shamaya, Hagai, Asther, Yasuas, Marias, Ashish, Akash and Mini (Divine Retreat Centre, Chalakudy, Kerala, India) for their moral support.

REFERENCES

1. Carers UK. What Is Caring; 2012. Available from: http://www.carersuk.org/about-us/what-is-caring. [Last accessed on 2015 May 22].
2. Szmukler G. From family burden to care giving. Editorial review. Psychiatry Bull 1996;20:449-51.
3. Thara R, Padmavati R, Kumar S, Srinivasan L. Instrument to assess burden on caregivers of chronic mentally ill. Indian J Psychiatry 1998;40:21-9.
4. Zarit SH, Reever KE, Bach-Peterson J. Relatives of the impaired elderly: Correlates of feelings of burden. Gerontologist 1980;20:649-55.
5. Novak M, Guest C. Application of a multidimensional caregiver burden inventory. Gerontologist 1989;29:798-803.
6. Kumamoto K, Arai Y. Validation of 'personal strain' and 'role strain': Subscales of the short version of the Japanese version of the Zarit Burden Interview (J-ZBI_8). Psychiatry Clin Neurosci 2004;58:606-10.
7. Brinda EM, Rajkumar AP, Enemark U, Attermann J, Jacob KS. Cost and burden of informal caregiving of dependent older people in a rural Indian community. BMC Health Serv Res 2014;14:207.
8. Dyk L, Aht P. Care giving experience for Chinese caregivers of persons suffering from severe mental disorders. Hong Kong J Psychiatry 2007;17:75-80.
9. Onwumere J, Kuipers E, Bebbington P, Dunn G, Fowler D, Freeman D, *et al*. Care giving and illness beliefs in the course of psychotic illness. Can J Psychiatry 2008;53:460-8.
10. Prasad BD, Rani NI. Older persons, and caregiver burden and satisfaction in rural family context. Indian J Gerontol 2007;21:216-32.
11. Gupta R, Pillai VK, Levy EF. Relationship quality and elder caregiver burden in India. J Soc Interv Theory Pract 2012;21:39-62.
12. World Health Organisation. Mental Health: A Call for Action by World Health Ministers, Gender Disparities in Mental Health. Geneva: World Health Organisation; 2001.
13. DiMatteo MR, Haskard-Zolnierek KB, Martin LR. Improving patient adherence: A three factor model to guide practice. Health Psychol Rev 2012;6:74-91.
14. AlGhurair SA, Hughes CA, Simpson SH, Guirguis LM. A systematic review of patient self-reported barriers to adherence to antihypertensive medications using the world health organization multidimensional adherence model. J Clin Hypertension (Greenwich) 2012;14:877-86.
15. Burkhart PV, Sabaté E. Adherence to long-term therapies: Evidence for action. J Nurs Scholarsh 2003;35:207.
16. Shrank WH, Liberman JN, Fischer MA, Kilabuk E, Girdish C, Cutrona S, *et al*. Are caregivers adherent to their own medications? J Am Pharm Assoc 2011;51:492-8.
17. Gonzalez EW, Polansky M, Lippa CF, Walker D, Feng D. Family caregivers at risk: Who are they? Issues Ment Health Nurs 2011;32:528-36.
18. Smith GR, Williamson GM, Miller LS, Schulz R. Depression and quality of informal care: A longitudinal investigation of caregiving stressors. Psychol Aging 2011;26:584-91.
19. World Health Organization. Investing in Mental Health. Geneva: World Health Organization; 2003.
20. Gomm R. Mental health and inequality. In: Heller T, Reynolds J, Gomm R, Muston R, Pattison S, editors. Mental Health Matters. Buckingham: Open University Press; 1996. p. 110-20.
21. Vathsala JK, Ram D, Rao TS. Females with severe mental illness in remission: Psychosocial and human rights issues. Indian J Psychiatry 2013;55:S57-8.
22. Ram D, Vathsala JK. Psychosocial and human rights issues in females with a severe mental illness in remission. Minerva Psichiatr 2015;56:71-8.
23. Poreddi VR, Reddemma K, Math SB. People with mental illness and human rights: A developing countries perspective. Indian J Psychiatry 2013;55:117-24.
24. Schene AH, Tessler RC, Gamache GM. Instruments measuring family or caregiver burden in severe mental illness. Soc Psychiatry Psychiatr Epidemiol 1994;29:228-40.
25. Bédard MD, Molloy W, Squire L, Dubois S, Lever JA, O'Donnell M. The Zarit Burden Interview: A new short version and screening version. Gerontologist 2001;41:652-7.
26. Morisky DE, Ang A, Krousel-Wood M, Ward HJ. Predictive validity of a medication adherence measure in an outpatient setting. J Clin Hypertension (Greenwich) 2008;10:348-54.
27. Chowdhury A, Patnaik MM. Understanding Indian family life: The

gender perspectives. Int J Multidiscip Manage Stud 2013;3:58-67.
28. Jamuna D. Stress dimensions among caregivers of the elderly. Indian J Med Res 1997;106:381-8.
29. Prakash IJ. On being old and female: Some issues in quality of life of elderly women in India. Indian J Gerontol 2001;15:333-41.
30. Sharma KL. Health status and caregivers of elderly rural women. Indian J Gerontol 2003;17:157-66.
31. Hirst M. Carer distress: A prospective, population based study. Soc Sci Med 2005;61:697-708.
32. Ram D, Gowdappa BH. Trust and expectation on psychiatrist and its relationship with satisfaction and adherence in patients with mental illness. Arch Clin Psychiatry 2015;42:13-7.
33. Martin JK, Pescosolido BA, Tuch SA. Of fear and loathing: The role of disturbing behaviour, labels, and causal attribution in shaping public attitudes toward people with mental illness. J Health Soc Behav 2000;41:208-23.
34. Breier A, Strauss JS. The role of social relationships in the recovery from psychotic disorders. Am J Psychiatry 1984;141:949-55.
35. Medhi K. Women's rights in India: A socio-religious perspective. In: Nagel SS, editor. India's Development and Public Policy. Aldfershot, Brookfield, VT: Ashgate; 2000. p. 31-6.
36. Barrowclough C, Haddock G, Lowens I, Connor A, Pidliswyj J, Tracey N. Staff expressed emotion and causal attributions for client problems on a low security unit: An exploratory study. Schizophr Bull 2001;27:517-26.
37. López SR, Nelson Hipke K, Polo AJ, Jenkins JH, Karno M, Vaughn C, *et al*. Ethnicity, expressed emotion, attributions, and course of schizophrenia: Family warmth matters. J Abnorm Psychol 2004;113:428-39.
38. Barrowclough C, Parle M. Appraisal, psychological adjustment and expressed emotion in relatives of patients suffering from schizophrenia. Br J Psychiatry 1997;171:26-30.
39. Nagaraj K. Labour market characteristics and employment generation programmes in India. In: Harriss-White B, Subramanian S, editors. Ill-fare in India. New Delhi: Sage Publications; 1999.
40. Mathew ET. Employment and Unemployment in Kerala Some Neglected Aspects. New Delhi: Sage Publications; 1997.
41. Devi L. Education, Employment and Job Preference of Women in Kerala: A Micro-Level Case Study, Discussion Paper No. 42, KRPLLD; 2001.
42. Mukherjee C, Issac TM. A Review of the Self Employment Programmes for Educated Unemployment in Kerala-Some Neglected Aspects. New Delhi: Sage Publications; 1994.
43. Sebastian A, Navaneetham K. Gender, Education and Work: Determinants of Women's Employment in Kerala; 2005. Available from: http://www.isical.ac.in/~wemp/papers/paper alice sebastian andknavanitham.doc. [Last accessed on 2015 May 22].
44. Filippo O, Osella C. Social Mobility in Kerala: Modernity and Identity in Conflict. London: Pluto Press; 2000.
45. Majerovitz SD. Predictors of burden and depression among nursing home family caregivers. Aging Ment Health 2007;11:323-9.
46. Yoon H. Factors associated with family caregivers' burden and depression in Korea. Int J Aging Hum Dev 2003;57:291-311.
47. Salary RS. Comparison of Family Functioning in Depressed and Normal Adolescents. Unpublished Master's Degree Thesis, Welfare and Rehabilitation Sciences University; 2001.
48. Sun J, Buys N, Wang X. Depressive symptoms, family functioning, university environment, and social support: A population based study in university students in Beijing China. Int J Psychol Behav Sci 2011;1:41-7.
49. Sisk RJ. Caregiver burden and health promotion. Int J Nurs Stud 2000;37:37-43.
50. Nasr T, Kausar R. Psychoeducation and the family burden in schizophrenia: A randomized controlled trial. Ann Gen Psychiatry 2009;8:17.
51. Ennis E, Corry C. Caregiving, family burden and medication adherence. Open J Med Psychol 2014;3:70-8.
52. Srinivasamurthy R, Ghosh A, Wig NN. Treatment acceptance patterns in a psychiatric outpatient clinic: A study of demographic variable and clinical variables. Indian J Psychiatry 1974;16:323-4.
53. Baby RS, Gupta S, Sagar R. Attitudes and subjective reasons of medication compliance and non-compliance among outpatients with schizophrenia in India. Internet J Epidemiol 2008;l7:1.

Source of Support: Nil, Conflict of Interest: None declared.