East African Medical Journal Vol 79 No. 6 June 2002
INFORMAL CARERS OF MENTALLY INFIRM ELDERLY IN LANCASHIRE

Y.M. Mafullul, MMedSc, FWACP(Psych), DPM Director/Consultant, Psychological Healthcare Services Ltd, C\O 17 Rutland Road, Retford, Notts, England, DN22 7HF

INFORMAL CARERS OF MENTALLY INFIRM ELDERLY IN LANCASHIRE

Y.M. MAFULLUL

ABSTRACT

Objectives: To investigate the determinants of satisfaction in caregiving and to compare satisfaction in care-giving amongst carers of demented and non-demented mentally infirm elders; and, assess carer attitudes and concerns, and their implications on care in the community.

Design: Cross-sectional study of informal carers of the elderly referred to a psychogeriatric service, using a questionnaire investigating carer satisfaction (CASI), care-recipient dependency needs, carer burden (CADI), carer concerns and attitudes in relation to caregiving, and the 28-item GHQ.

Setting: Lancashire communities of Fleetwood, Thornton-Cleveleys, Poulton-Le-Fylde, and Over-Wyre.

Results: Carers achieved significant degrees of satisfaction in their role as care-givers; there was no significant difference in the degree of satisfaction gained by carers of the demented and non-demented. The mean CASI score, for carers of the demented and non-demented was 23(5.5) and 24.4 (5.7) respectively (mean difference -2.9; CI -4.6, 0.1; p=0.058). Dissatisfaction in care giving was determined by total burden (CADI) scores, and younger carer age. Emotional distress in carers was weakly inversely correlated with CASI scores (r=-0.21, p=0.042). Concerns expressed by carers, included desire for information on care recipient disability (39.5%) and fear of nursing/residential home placements (43%). Most carers had a generally positive attitude to care giving, inspite of significant degrees of burden to which they were subjected.

Conclusions: Carer-related factors, particularly younger age, rather than dependency factors, were determinant of care giving satisfaction. Greater involvement of older persons in care giving should be encouraged, with younger persons assisting if care giving becomes overbearing. Carers require education on care-recipient disabilities and the benefits of care in formal care institutions.

INTRODUCTION

Care giving has tended to be conceptualised in negative terms, focusing mainly on care giver burden(1). Care giving involves complex dynamics, which are influenced by the satisfaction which the carers experience. Inspite of the phenomenal growth in caregiver research, insufficient attention has been paid on the satisfaction derived by carers(2-3); the resultant of which is a gap in our understanding of the care giving role.

Inspite of the psycho-social, and, physical health problems associated with care giving, there are indications that carers do obtain satisfaction in their roles(4-5). The term satisfaction refers to the positive appraisals of the care giving experience, the positive affect or the practical returns that carers experience as a direct result of care giving(6). Numerous factors have been associated with care giver satisfaction, particularly where a good carer-dependant relationship exists(7), reciprocity and commitment(8).

Emotional burden in carers is largely a function of satisfaction in care giving; carers experiencing greater satisfaction in care giving were emotionally well off, than those who *did not*(9-10). Satisfaction in the care-giving role is a most important determinant of the quality of and desire to continue with care giving(11); lack of satisfaction in care giving resulted in carers demanding the institutionalisation of the patient(6).

Previous studies have tended to determine satisfaction in care giving in frail patients or the demented. Even fewer studies have explored the factors associated with satisfaction in care giving(8). Investigation of the positive aspects of care giving has theoretical and pragmatic significance; empirical evidence shows that care giver satisfaction is associated with improved emotional health, increased personal commitment to care giving and reduced likelihood of institutional placement of the dependant(8,10-11). Also, knowledge on the predictors of satisfaction in care giving may form effective working relationship between formal and informal carers by identifying carers in less need of intervention.

The carer's attitude to care giving, including their concerns regarding the care giving situation have significant bearing on the success or otherwise of community care. Carers experiencing a negative attitude to care giving may demand early institutionalisation of the care-recipient than otherwise(12). A study of the concerns of caregivers may result in the appropriate provision of formal support services. For example, Graham *et al*(13) had observed that carers who had limited understanding of the care-recipients disability experienced greater degree of emotional difficulties than those who did not.

The specific hypotheses in this study tested were; emotional well-being in carers of the elderly mentally infirm is directly related to the degree of satisfaction in care giving and the degree of satisfaction in care giving is inversely related to care-recipient dependency needs.

MATERIALS AND METHODS

The Department of Old Age Psychiatry at the Fleetwood Hospital, Fleetwood, England, provides service to the elderly in the Lancashire communities (towns) of Cleveleys, Fleetwood, Thornton, Poulton-le-Fylde and the district of Over-wyre. Subjects for the study were informal carers of the elderly mentally infirm receiving psychiatric care at the Fleetwood Hospital. Subjects were recruited from three-years (1996-1998) consecutive referrals to the unit. Informal carers were defined as assisting patients, with activities such as shopping, domestic chores, supervision/provision of personal care and the facilitation/supervision of the patients' compliance with recommended care plan. Community nursing staff assisted in identifying informal carers.

One hundred and ninety six patients were in the care of the community psychiatric nurses, of whom 127 were confirmed as having informal carers. There were 58 demented patients and 69 functionally ill patients. Seven carers of demented patients declined participation in the study, three carers of demented patients could not be contacted. Regarding carers of functionally ill patients, 15 declined participation, while 11 were out of reach. Thus, 91 (72%) patients' carers were interviewed. The Blackpool, Wyre and Fylde Research Ethics Committee granted approval for the conduct of the study.

Instruments: Interview responses were recorded on a proforma divided into three sections:

Section 1 assessed carer socio-demography: age, sex, marital status, occupation, relationship to the patient, living situation co-residency or otherwise. Carers' subjective appraisal of their physical and emotional health was investigated, particularly, if they perceived care giving as adversely affecting these variables. The duration of care giving and attitude to the care situation (i.e if carers viewed the carer-dependent relationship as likely to improve or worsen over time or not) were examined. Carers' opinion on the adequacy or otherwise of formal elderly care services were assessed.

Section 2 evaluated care-recipients' dependency using the Nolan and Grant's (6) Dependency Profile Scale (maximum score=58 points) which assesses:

i) the frequency of care/supervision required by the patient
ii) how much help the patient required (no help, help needed with part of activity, help needed with all of activity) with activities of daily living: washing, dressing, feeding, toileting, walking, bathing and household tasks;
iii) the presence or otherwise of faecal and/or urinary incontinence in the patient;
iv) the patients' psychomotor activity (history of wandering behaviour, confusion, socially unacceptable behaviour, agitation, unco-operativeness and difficulty holding normal conversation.

Section 3 assessed the satisfaction and difficulties associated with care giving, using the Carers' Assessment of Satisfactions Index (CASI), and, the Carers' Assessment of Difficulties Index (CADI) respectively (6). Pilot study showed that carers had difficulty responding to the CASI and the CADI in their original formats, hence they were modified to a "yes" (=1 point) or "no" (=0 point) response format. The modified CASI and CADI questionnaires had total scores of 30 and 32 respectively. Emotional distress in carers was determined using the 28-item GHQ (14); a cut-off score of 4/5 was adopted in determining 'caseness'(13,15).

Care-recipients' diagnoses were determined on the basis of the tenth edition of the International Classification of Diseases(16).

Data were analysed using the SPSS for windows, version 6. 1. Normally distributed data in demented and non-demented groups were assessed with the student's t-test, non-normally distributed data with the Man-Whitney U-test and categorical data with the Chi-square test. Spearman correlation was used to determine association between relevant variables. The normally distributed total CASI score was the dependent variable for multiple regression analysis. Variables which have been associated with caregiver satisfaction were entered as independent variables in a multiple linear regression analysis. The independent variables were assessed for multicollinearity before entry into the step wise (forward $p<0.05$, backward $p<0.10$) multiple linear regression analysis. The variable predicting the greatest percentage of the overall variance was retained in the multiple regression analysis. Multiple regression was continued until an equation was found that predicted the maximum overall degree of variance.

RESULTS

Carer socio-demographic profile: Ninety-one carers (72%) participated in the study. There were 47 (52%) male and 44 (48%) female carers. Carers' mean (s.d) age was 66.2 (11.7) years (range=34-88). Carers' age group was: 21-40 years, 3%; 41-60 years, 8%; 61-70 years, 22%; 71-80 years, 46%; and, 81-95 years, 3%. Sixty four (70%) carers were patients' spouses (husbands=36, wives=28); 23 (25%) carers patients' off-springs - sons (nine), daughters(fourteen); the remaining four carers were: one daughter-in-law, one brother, one sister and one neighbour. Twenty seven (30%) carers were not patients' spouses, of which 20 were married-seventeen (85%) expressed satisfaction with support provided by their partners.

Seventy five (82%) carers were co-resident, 16 lived away (≤ 1 mile =12; ≥ 1 mile = 4) from the care-recipient. The mean care giving (s.d) duration was 82.4

(59.5) months (range 6-540 months; median=36 months, mode=60 months).

Eighty two (90.1%) carers reported satisfactory relationship with the patient before care giving. However, with commencement of care giving, 61(67%) reported the relationship as remaining satisfactory, 6(7%) reported an improvement and 24(26%) reported a worsening in relationship with the care-recipient. Amongst spouses of the patients, 37(58%) reported satisfactory marital relationship and 27(42%) reported unsatisfactory marital relationship. Lack of family support was reported by 31 carers (dementia, 18 (38%) non-dementia, 13 (20%).

Seventy two (79%) of carers expressed satisfaction with the support provided by the formal services. However, 19(21%) carers expressed wish for more input from the following services: social services 14(15%), community mental health team 3(3.5%) and from both social services and community mental health team 2(2%). Thirty six (39.5%) expressed desire for more information on the nature of their relatives' illness.

Twelve (25%) carers wished care-recipient admitted into formal care [nursing home (7); residential home (4); or, hospital, (1)]; one (1%) demented patient carer was ambivalent about formal placement. Sixty six (79%) carers felt able to continue with care giving unless the situation deteriorated beyond their ability to cope. Thirty (43%) carers expressed negative view of nursing or residential home placement, fearing that admission of patients in such institutions would be adversive to their overall well being.

Statistical analysis: There was some statistical trend for satisfaction in caregiving to be worse in carers of the demented compared with carers of the non-demented (p=0.058). There was no correlation between duration of care in years and total CASI score (Spearman r=0.02,p=0.823). There was some inverse correlation between total CASI score and patient dependency (Spearman r=0.31, p=0.03). The mean CASI score for carers of the demented and non-demented was 23 (5.5) and 24.4 (5.7) respectively (mean difference -2.9; Cl -4.6, 0.1; t=1.92, df=89.0, p=0.058, Not Statistically significant).

Carers emotional well being (determined by total GHQ score) was weakly inversely correlated with total CASI score (Spearman r=0.21, p=0.042). For all carers, there was no association between psychiatric 'caseness' (determined by the GHQ) and total CASI score (median 1QR) CASI score in GHQ-28 cases 25 (18.5-28) vs GHQ-28 non-cases 25 (20-28) Mann-Whitney U=897, p=0.37). Carer subjective satisfaction with emotional health was significantly associated with the total CASI score (median 1QR) score in satisfied carers 25.5 (21-28) versus dis-satisfied carers 20(15.5-26), Mann-Whitney U=541, p=0.002). Dissatisfaction among carers with their physical health was not significantly associated with total CASI score (median 1QR score in dissatisfied carers 23.5(18-28) versus non-dissatisfied carers 25(20-28), U=796, p=0.31).

Table 1

Demographic and clinical variables of carers and patients

Variable	Dementia (n=48)	Non-dementia (n=43)	T-test or Chi-square
Age of carer, mean (s.d) years	67(12)	66(12)	T=0.29, p=0.78
Age of patient, mean (s.d) years	76(9)	75(5)	T=0.41,p=0.68
No(%) female carer	28(58)	16(37)	X^2=4.1, p=0.044
No(%) female patient	25(52)	30(70)	X^2=3.0, p=0.085
No(%) cohabiting	42(88)	34(79)	X^2= 1.2, p=0.28
No (%) spouse	38(79)	27(63)	X^2=3.0, p=0.084
Mean (s.d) CASI	23(5.5)	24.4(5.7)	T=1.92, p=0.058
Mean (s.d) CADI	16.4(6.3)	9.0(7.2)	T=5.21, p=0.001
Mean (s.d) dependency	51.9(15.4)	28.8(12.5)	T=7.78, p<0.001
Mean (s.d) likert	24.6(12.3)	17.3(9.9)	T=3.13, P=0.002
GHQ-28			
GHQ-28cases, n(%)	27(56%)	11(26%)	X^2=8.77,p=0.003
Carer Subjective Dissatisfaction with:			
Physical health	17(35%)	13(30%)	X^2=0.28, p=0.60
Emotional health	20(42%)	9(21%)	X^2 =4.49, p=0.034

CASI=Modified Carer's Assessment of Satisfactions Index.
CADI=Modified Carers Assessment of Difficulties Index.
GHQ-28=28-item General Health Questionnaire

Test of hypotheses

Hypothesis 1: Emotional well-being in carers of mentally infirm elders, is directly proportional to the degree of satisfaction in care-giving.

All carers:

1. GHQ score versus CASI score, Spearman rank correlation r=0.21, p=0.042 (n=91).
2. GHQ caseness versus CASI score, Mann-Whitney U-test:

GHQ-28 cases

	Yes (n=38)	No (n=53)	Statistics
CASI score Median (IQR)	25 (18.5, 28)	25(20,28) z=0.89, p=0.37	U=897, W=163

3. Subjective emotional health dissatisfaction versus CASI score, Mann-Whitney U-test:

CASI score	Yes (n=29)	N°(n=62)	Statistics
Median (IQR)	20(15.5,26)	25.5(21,28) Z=3.06, p=0.0022	U=541, W=976

Dementia carers:

1. GHQ score versus CASI score, Spearman rank correlation: r=0.07, p=0.65 (n=48)
2. GHQ 'caseness' versus CASI score, Mann-Whitney U-test:

GHQ-28 cases

	Yes (n=27)	No (n=20)	Statistics
CASI score Median (IQR)	24(19,28)	21(20,26)	U=166, W=376, Z=2.39, p=0.017

3. Subjective emotional health dissatisfaction versus CASI score Mann-Whitney U test

	Yes (n=20)	No (n=28)	Statistic
CASI score Median QQR)	20 (15.3, 24.8)	24.5 (21, 28)	U= 166, W376, Z=-2.3 9, p=0.017

Non-Dementia carers:

1. GHQ score versus CASI, Spearman rank Correlation: r=018, p=0.24 (n=43)

2. GHQ 'caseness' versus CASI, Mann-Whitney U-test:

GHQ case	Yes(n=11)	No(n=32)	Stastistics
Median (IQR)	27(13, 29)	26.9 (22.3, 28) 0.43,	U=161, W=227,Z= - p=0.66

3. Subjective emotional health dissatisfaction versus CASI, Mann-Whitney U-test:

	Yes (n=9	No (n=34)	Statistics
CASI score Median (IQR)	21 (17, 28.3)	27 (23.8, 28.3)	U=108,W=153, Z=1.35, p=0. 18

Carer dissatisfaction with emotional health is associated with less satisfaction in care giving in all carers and in dementia patients' supporters, but not in non-dementia patient supporters. In all carers, emotional distress shows a weak but significant inverse relationship with satisfaction in care giving. Caregivers' dissatisfaction with physical health was not associated with lower satisfaction in care giving.

Hypothesis 2: The degree of satisfaction in care giving is inversely related to the dependency needs of the mentally infirm elderly.

Overall: CASI versus dependency rate, Spearman rank correlation: r= -0.31, p=0.003 (n=91). Dementia: r=-0.21, p=0.15 (n=48). Non-dementia: r=-0.21, p=0.17 (n=43). The degree of satisfaction in care giving is inversely related to the dependency profile in all the mentally infirm elders, although the inverse correlation was not large. The inverse correlation was not significant in the dementia and non-dementia sub-groups.

Determinants of satisfaction in care giving: Multiple linear regression analysis with CASI as the dependent variable determined factors associated with satisfaction in care giving. Dependent variable, CASI score, was transformed to a normal distribution by taking it's square root. Only two variables determined the overall degree of satisfaction with care-the CADI, and, care-giver's age. Together they accounted for 30.6% of the variance (adjusted R^2=0.3060, SE=193. 1, df=2.88, f=20.83, p<0.0001).

Table 2

Multiple linear regression analysis of independent factors associated with carer's satisfaction with care giving

Independent variable	B	S.E of B	Beta	T	Significance of T
CADI	15.39	2.69	0.51	5.77	0.001
Age of carer	-4.39	1.75	-0.27	-2.65	0.014
Constant	-479.3	123.83		-3.87	<0.001

The degree of satisfaction with care giving amongst informal carers, was inversely proportional to the degree of burden or difficulty encountered in care giving and directly related to the age of the carer (the younger the carer, the more he/she was dissatisfied with care-giving).

DISCUSSION

A significant limitation of care giver research has been the tendency to concentrate on the care of the demented, paying little attention on care giving for the non-demented. Adopting a heterogenous sample, comprising carers of the demented and non-demented enabled comparison of care giving across differing clinical circumstances. The small sample size in the study limits generalisation of its findings. In spite of this the sample size could be considered an improvement on previous studies which tended to use smaller, and convenient sample sizes.

It was observed that care givers subjective dissatisfaction with emotional health was associated with less satisfaction with care giving in the group as a whole and particularly in dementia patients' supporters. Also, emotional distress (determined by the GHQ) in carers showed a weak, but significant inverse relationship with carer satisfaction (CASI scores). These findings support Matire *et al*(10) observation that carers who derived greater satisfaction in care giving, had better health than those who did not. Thus, to decipher measures promoting care giver wellbeing, the correlates of satisfaction or otherwise in care giving should be investigated.

Multiple linear regression analysis, with CASI as the dependent variable, identified only two variables-the CADI and carer age, as determinant of carer satisfaction; together, they accounted for 30.6% of the variance. Satisfaction in care giving was inversely related to the degree of difficulties encountered in care giving (hypothesis 2) and directly proportional to the carer age (the younger the carer, the more he/she was dissatisfied with his/her role). Thus, to promote caregivers' satisfaction, efforts should be directed at relieving their burden through support services such as: respite care, sitting in, home help and carer-support groups.

In this study younger carers, unlike older ones, appeared less satisfied with their role as care givers. This may be due to competing demands on their time, such as caring for other family members (spouses and children) and career commitments. On the other hand, older carers due to retirement and absence of family commitments, may find caregiving a useful way of utilising time and avoiding boredom. Because younger subjects tended to be dissatisfied with their role as supporters, there is need to increase the level of support offered to them by members of the psycho-geriatric team. It may be that older persons, especially spouses, should be given support and encouragement to care for their relative, with younger persons assisting, when matters become unbearable.

It is of interest that both carer groups, achieved high scores on the CASI, with no statistically significant difference in their mean CASI scores (mean scores were 23.0 and 24.4 respectively, mean difference =-2.9, CI=-4.6-0.1, t=1.92, df=89, p=0.001). Satisfaction in care giving was unrelated to the clinical state, or the dependency characteristics of the care recipient, supporting findings by Nolan and Grant (6) that satisfaction in care giving was unrelated to care recipient dependency characteristics.

The high CASI scores achieved by all carers may account for the desire by over 90% of them to continue care giving in the community. Indeed, it has been observed that carer satisfaction is positively associated with commitment to the caring relationship, and a reduced likelihood of patient institutionalisation(6,12,17). The finding that the majority of carers were satisfied with their roles, conforms with observations in previous studies, that in spite of the immense difficulties associated with care giving, carers do obtain satisfaction in their roles(4,6).

It is of interest that 36 (39.5%) carers expressed a desire for greater education regarding patients' illnesses. Carers' understanding of patients' illnesses, has significant implication on their coping ability and emotional well being (13,18). Thus, in a study of carer's knowledge of dementia and their coping strategies, Graham *et al* (13) observed that carers with better knowledge on dementia had significantly lower rates of depression and felt more competent/confident in their roles, than those who did not. Carers with limited understanding of patients' disabilities had unrealistic expectations of their abilities. Coppel *et al*(19) and Saad *et al* (20), have observed that carers with unrealistic expectations of a demented/dependent elder, had increased risk of depression than those who did not. In view of these observations, there is need, as a matter of routine, to impart knowledge to carers on the nature of the dependants' disability-a vital part of any successful service delivery.

Assessment of carers' views on the future of care giving indicated that approximately 50% believed that the care giving situation would worsen, as the patients' condition deteriorated. Carers expressing such negative views may become dissatisfied as care giving progressed, thus seeking institutional placement for the dependant. Such carers may need regular follow up by members of the community mental health team to enable prompt support by way of respite care or long-term placement, when care giving becomes over bearing.

It is of interest that despite the difficulties associated with care giving, more than 90% of all carers expressed wish not to place their relative in formal care. Of the reasons given for the desire by care givers to continue with care, 79% felt able to continue with care giving unless the situation deteriorated beyond their ability to cope. Care giving involves a significant degree of filial bonds. Thus, most carers despite difficulties associated with their roles, were reluctant to consider formal placement of their dependant relative, preferring to continue with care at home for as long as possible. Such observation supports findings in previous studies, that is, inspite of the difficulties associated with care-giving, carers generally prefer to care for their relative at home, opting for institutional placement only when care giving became intolerable(4,21).

It is noteworthy that 39 (43%) carers had a negative view of nursing or residential home placements, hence their desire to continue with care at home. Such negative view stemmed from belief that nursing home placement would be adversarial to the patient. The negative perception of institutional care as observed in this study, has been observed in previous studies(22-23). Such negative views may be due to belief by carers that they possessed unique knowledge about the patient, any lack of (by nursing or residential home staff) which would result in poor care for the patient. Also, carers' negative opinion on care in nursing and residential homes may have been generated by occasional adverse reports on patient care in such institutions. Furthermore, it may be that such carers, have not been informed through experience of the benefits of respite care in nursing homes.

From a service provision perspective, it was gratifying that 73 (80%) carers expressed satisfaction with support received from the formal care services. However, the desire by some carers for increased social services input (e.g. increase in time spent with carers and patients, including increase in the number of days they visited), deserves attention. Many home helps in addition to assisting with domestic chores, were also useful companions, especially to lonely carers. Other aspects of improvement desired of the social services included improvement in the quality of meals-on-wheels and easy access to transport (some care givers, due to financial difficulties, could not access private transport) to enable them visit facilities involved in the care of their relative.

A substantial proportion (30%) of carers thought 'professional workers do not seem to appreciate the problems carers face. Such a view has significant implications on the way they discharge their responsibilities, and, relate with professional carers. Carers who believe that professional workers do not understand their difficulties may be unwilling to express their concerns or seek professional help when care giving becomes overbearing. In such circumstance, carers are at risk of emotional difficulties as care burden increases. It is advisable in this regard that professional workers should explore routinely the difficulties experienced by caregivers, so as to enable appropriate intervention when care giving becomes difficult.

Several concluding remarks may be made from the study. Care givers in spite of the burdens to which they are subject, derive satisfaction in their roles. Care recipient clinical characteristics, including dependency needs, were not determinant of satisfaction in caregiving, hence both carers of the demented and non-demented, achieved high levels of satisfaction, with no significant differences in their CASI scores. The finding that CADI scores and younger carer age (both accounting for 30.6% of the variance in CASI scores) were determinant of satisfaction in care giving suggests that measures to improve carer satisfaction should ameliorate their burden. This can be achieved through the provision of education on care-recipient disabilities, increased social services input in patient care and education on the benefits of formal care (respite/long-term) placements-all of which were concerns raised by carers. The finding that younger carers, were dissatisfied with their role as carers, suggest that much older relatives, particularly spouses, with no career commitments should be the main carers, with younger persons assisting, if care giving becomes over bearing. The desire by most carers to continue with care in the community, inspite of their burdens, lends support to the principles of community care.

ACKNOWLEDGMENTS

I am grateful to all patients and their carers whose co-operation enabled this study. I am also grateful to the Blackpool Wyre and Fylde Research ethics committee, Blackpool, England, for granting me permission to conduct this study.

REFERENCES

1 Kahana, E. and, Young, R. Clarifying the Caregiving paradigm: Challenges for the future. In Biegel D.E, and Blum, A. (Eds) *Aging and Caregiving: theory, research and Policy*, Sage, San Francisco,1990.

2. Lawton, M.P., Kleban, M.H., Moss, M. *et al* Measuring caregiving appraisal. *J. Gerontology*. 1989; **44:** 61-71.

3 Kramer, B.J. Differential Predictors of Strain and Gain Among Husbands Caring for Wives with Dementia. *Gerontologist*. 1997; **37:** 239-249.

4 Lawton, M.P., Moss, M., Kleban, I.M., Glicksman, A. and Rovine, M.A. Two-factor model of caregiving appraisal and psychological wellbeing. *J. Gerontology: Psych. Sci.* 1991; **46:** 181-189.

5 Walker, A. J., Martin, S.S. and Jones, L.L. The benefits and costs of caregiving and care-receiving for daughters and mothers. *J. Gerontology*. 1992; **47**: S130-139.

6 Nolan, M.R. and Grant, G. An Evaluation of Hospital Rota Bed Scheme for Elderly People. Age Concern Institute of Gerontology., Research Paper No. 6. 1992.

7. Braithwaite, V. Between stressors and outcomes: Can we simplify caregiving variables? *Gerontologist*. 1996; **36:** 42-53.

8. Motenko, A.K. The Frustrations, Gratifications and Well-Being of Dementia Care-Givers. *Gerontologist*. 1989; **29:** 166-172.

9. Caserta, M.S., Lund, D.A. and Wright, S.D. Exploring the Care-Giver Burden Inventory (CBI). *Inter. J. Ageing and Human Development*. 1996; **43:** 21-34.

10. Martire, L.M; Stephens, W. and Atienza, A.A. The Interplay of Work and CareGiving: Relationships Between Role Satisfaction, Role Involvement and Care-Givers' Well-Being. *Journals of Gerontology Series B-Psychological Sciences and Social Sciences*. 1997; **52:** 279-289.

11. Orbell, S. and Gilles, B. Factors associated with informal carers' preference not to be involved in caring. *The Irish J. Psych*. 1993; **14**: 99-109.

12. Hirschfield, M.J. Home care versus Institutionalisation: Family Care-Giving and Senile Brain Disease. *Inter. J. Nursing Studies*. 1993; **20**: 23-32.

13. Graham, C., Ballard, C. and Sham, P. Carers Knowledge of Dementia, Their Coping Strategies and Morbidity. *Inter. J. of Psych.* 1997; **12:** 931-936.

14. Goldberg, D.P. and, Hillier, V. A scaled version of the General Health Questionnaire. *Psychological Medicine*. 1979; **9:** 139-145

15. Buck, D., Gregson, B.A., Barnford, C.H. *et al.* Psychological distress among informal supporters of frail older people at home and in institutions. The resource implications study group of the MRC Cognitive Function and Aging study. *Inter. J. Geriatric Psych.* 1997; **12:** 737-744.

16. World Health Organization . International classification of diseases, tenth edition. World Health Organization, 1992.

17. Pruchno, R.A., Michaels, J.E. and Potashnik, S.L. Predictors of Institutionalisation Among Alzheimer's disease Victims with Care-Giving Spouses. *J. Gerontology (Social Sciences)*. 1990; **45:** 259-266.

18. Brodaty, H., Roberts, K. and Peters, K. Quasi-experimental evaluation of an educational model for dementia caregivers. *Inter. J. Geriatric Psych.* 1994; **9:** 195-204.

19. Coppel, D.B., Burton, C., Becker, J. and Fiore, J. Relationships of Cognitions Associated with Coping Reactions to Depression in Spousal Care-Givers of Alzheimer's Disease Patients. *Cognitive Therapy and Research*. 1985 **9:** 253-266.

20. Saad, K., Hartman, J., Ballard, C., Kurian, M., Graham, C. and Wilcock, G. Coping by the Carers of Dementia Sufferers. *Age and Ageing*. 1995; **24:** 495-498.

21. Juva, K., Maleka, M., Sulkava, R. and Erkinjuntti, T. One Year Risk of Institutionalisation in Demented Out-Patients with Care-Taking Relatives. *Inter. Psycho-Geriatrics*. 1997; **9:** 175-182.

22. Worchester, M.I. and, Quayhagen, M.P. Correlates of caregiving satisfaction: pre-requisites to elder home care. *Research in Nursing and Health*. 1983; **6:** 61-67.

23. Ungerson, C. Policy is Personal: Sex, Gender and Informal care, Tavistock, London.1987.