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Original Research Paper

Effectiveness of Psycho-Education on Quality of Care among Female Primary Caregivers of Alzheimer's Patients

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ABSTRACT

In the present paper the researchers have attempted to study the effect of psycho-education as an intervention in increasing clarity among Female Primary Caregivers in handling the Alzheimer's disease patients and in improving the Quality of care rendered by Female Primary Caregivers for their Alzheimer's patients. The participants were 10 Female Primary Caregivers of Alzheimer's disease who resided at home. The Female Primary Caregivers were provided with psycho-education intervention for 10 days. The Alzheimer's disease Clarity Test [ADCT] was administered to measure Clarity on Theoretical issues of Alzheimer's disease and Capacity building of female primary caregivers. The Quality of Care Check list was used to observe and measure the presence or absence of care and also record the extent of care in physical and psychological areas received by the patients. The results revealed that the 10 days psycho-education has significantly enhanced the clarity levels among the Female Primary Caregivers after the intervention while, one month psycho-education intervention has to be something continued constantly over a period of time regularly to sustain or retain the effect on caregivers. Therefore, it implies that more the intervention gap then less will be the beneficial effect among the caregivers.

Keywords: *Alzheimer's disease, Psycho-education*

The word 'dementia' is derived from the Latin word 'de' meaning "apart" and 'men' from the genitive, mentis meaning "mind". Dementia is also known as "senility."The most common type of dementia is "Alzheimer's" (Zec, 1993). Around 70% of all patients with dementia have AD (Jonkers, Slaets & Verhet, 2009). Alzheimer's Disease (AD) is a chronic, progressive, fatal, degenerative disease of the brain that causes the deterioration of cognitive abilities such as memory, language, communication, reasoning and judgment that ultimately results in dementia (Alzheimer's Association, 2005).

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AD is defined as an irreversible progressive disorder that causes the gradual loss of brain cells (Alzheimer's Association, 2005). Alzheimer's disease is characterized by a progressive decline in cognitive and functional abilities, demanding a growing need of care as the person's clinical condition worsens (Hazzan, *et.al* 2014). AD is associated with functional and structural alterations in a distributed network of brain regions supporting memory and other cognitive domains. Hippocampus atrophy and ventricular enlargement have been highly associated with AD patients and these levels are the lowest for people who age "normally" (Apostolova, *et al* 2012).

During care giving, the caregiver needs to face Alzheimer's disease patient with special challenge each day because the changes in personality like loss of judgment, orientation etc, among patient is the utmost challenge where there is no possibility of reversibility or restructure. Hence, disseminating knowledge about AD, raising awareness about measures to handle the AD patient with information like dos and don'ts during care giving among the caregivers is the need of the hour to tackle the AD in India. Measuring some of the physical and psychological domains of care in terms of quality rendered by caregivers is again a challenge.

There exists a "strong" recommendation by WHO (2014), that "Psycho-educational interventions should be offered to family and other informal caregivers of people with dementia at the time when diagnosis is made.
(http://www.who.int/mental_health/mhgap/evidence/dementia/q9/en/).

In the present study, one of the attempts taken by the researchers was to study the effect of Psycho-education in enhancing clarity among female primary caregivers in knowing and handling the patients of Alzheimer's disease and also evaluate how it could improve the quality of care.

REVIEW OF LITERATURE

Currently, as there is no known cure, the trends of application of interventions are consistent. The term intervention refers to specific application of techniques intended to change knowledge, attitudes, beliefs or behaviors (Eprevco, 2005).

Intervention Strategies: Psycho-education: Psycho-education is an educative method aimed to provide necessary information and training to families with mental health illness as a part of overall treatment plan for their family members. To brief, it is an educative and therapeutic strategy to improve the quality of life for the family. Psycho-education as systematic, structural, didactic information on the illness and its treatment; and includes integrated emotional aspects in order to enable patient as well as family members - to cope with the illness" (Bamul, *et al*, 2006).

Dimensions of Psycho-education content: Some of the dimensions include mode, materials, location, schedule, scripting, and sensitivity to participant characteristics, interventionist characteristics, adaptability, treatment implementation, treatment content strategies, and mechanism of action. Mode includes the method of contact between interventions and participants like e.g. face to face, video mode, telephone, and internet etc. Materials are those used in the delivery of the content e.g. Manuals, information sheets, pamphlets, audio tapes, CD/DVD, internet, assisted devices. Location is the place where the intervention is executed e.g. classroom, home, clinic, hospital etc. Schedules are duration and intensity of the intervention e.g. number of sessions, minutes of contacts per session, distribution of session over time. Scripting is the level of details guiding interaction between the intervention and the participants e.g. protocol, goal, language etc. Sensitivity of the participant characteristics includes the extent to which participant's background, experience and abilities are incorporated in the delivery of the intervention e.g. language, written materials visual supplements, augmentative communication devices, oral supplements etc.

Related to interventionist characteristics means qualification and training, concordance with participants e.g. eligibility, minimum disciplinary or professional experience, type and quantity of training, license, proficiency test and to some extent may need race, knowledge, culture, staff recruitment etc. Adaptability means extent to which, on what basis, and when intervention can be modified. Treatment implementation includes treatment delivery, receipt and enactment. Treatment delivery which is compliance to the intended intervention and modification treatment content strategies, and mechanism of action, Treatment Receipt is extent to which goals of the treatment is met. Treatment Enactment is extent to which knowledge and skills acquired during treatment are applied in real world setting outside of treatment. Treatment content strategies is specific strategies used to improve the outcome which includes provision of feedback to participants, provision of information, didactic instructions, skill building, stress management techniques surgery, social support, therapeutic communication, therapeutic touch, environment modification like use of light, sound. Mechanism of action is processes, mediators of treatment outcomes which includes knowledge, attitude, practice, empathy, behavioral, problem solving skills, motivation, self-efficacy, social support, assessment, change in policy, protocol, and biological pathway (Victoria, 2014).

Schedule of psycho-education intervention: There are studies revealing the use of structured schedules on days, weeks, months and also year's using measurements at immediate and follow-up time period among the Alzheimer's disease patients and their caregivers.

A study was found that the psycho-education intervention was executed for Partners in Care giving program (PIC) for impact of dementia among 430 caregivers for six weekly 2 hours session was held over consecutive weeks as duration of treatment ,(Hepburn, *et al*, 2005), Coping with Care giving class (CWC) Cognitive behavioral mood management skill worked with weekly 2 hours session for 10 weeks, monthly sessions for 8 months as duration of

treatment, (Rabinowltz, *et. al*, 2006), Career Education sessions between caregiver and the patient to increase competence and enable caregiver formal help worked with 8 weekly sessions as the length of treatment (Perren, *et al*, 2005). The intervention on the booklet "At the crossroads: A guide to Alzheimer's disease, Dementia & Driving the duration of treatment includes four 2 hour group educational sessions ranging from 4 to 10 caregivers per class across a total of 6 different sites and each session was videotaped and had incorporated interactive teaching methods and motivational interview practices. The course had session I, Session II, and session III including video case study .The caregivers who participated in the four –week group intervention were more certain (Stern et.al, 2008). A Structured Support group was implemented for 12 week programme and 16 week follow-up among 60 caregivers. (Chu, *et al* 2011), Cognitive Conduct- for 8 weekly sessions on Laughter was for 8 weekly sessions, Cognitive Conduct and Laughter (CC-L) was for 8 weekly sessions among 46 caregivers the results were high for attitude (Villareal-Reyna, *et al*, 2010), in Couple Counseling worked with the duration of treatment was 6 couple counseling sessions undertaken over a period of 2 months through brief telephone counseling (Auclair, *et al*, 2009). A Psycho-educational programme about dementia had the duration of one -three hour education programme, 6 two hours group sessions and ad hoc counseling (Ulstein, *et al*, 2007).

Research Questions:

The following research questions are raised and answered in the present study.

1. Can psycho- education increase clarity among female primary caregivers in handling the patients of Alzheimer's disease?
2. Can Psycho education improve the Quality of Care among female primary caregivers during care giving?

Objectives:

The following objectives are set and achieved in the present study.

1. To study the effect of Psycho-education in enhancing clarity among female primary caregivers in handling the patients of Alzheimer's disease.
2. To study the effect of Psycho education in improving the Quality of Care among female primary caregivers during care giving.

Hypotheses:

In order to achieve the above objectives the following hypotheses are developed and tested.

1: Psycho education significantly increases the clarity among female primary caregivers in knowing and handling the patients of Alzheimer's disease.

2: Quality of Care significantly improves as a result of psycho education intervention among female primary caregivers during care giving.

Population and Sample:

The population comprised 100 Female Primary Caregivers (FPG) of Alzheimer's disease patients. After obtaining the permission, ensuring from the medical records and confirming the diagnosis, the Alzheimer's patients were identified. The female primary caregivers of the Alzheimer's patients were selected from the list and randomly assigned to treatment group using the lottery method. 10 Female Primary Caregivers of Alzheimer's disease patients living in home set up were selected. The female primary caregivers were individually contacted for providing the data, answering the test and participating in the intervention.

Method:

The researcher has attempted to study the effect of Psycho-education intervention on quality of care giving among the female primary caregivers of Alzheimer's patients using the Pre-test-Post-test Experimental Design.

Tools and Techniques:

The following tools and techniques were used in the study.

Sl.No	Tool	Developer
1	Personal data sheet of Female Primary Caregiver and Clinical Data Sheet of Alzheimer's patient	Researchers
2	Quality of Care Checklist	Researchers
3	Alzheimer's Disease Clarity Test [ADCT]	Researchers

Intervention:

The researchers used the day -1 for pre-test, day -10 for post-test immediate and day-40 for post-test follow-up-of one month interval. The psycho-education intervention was executed for 10 successive continuous days to all 10 female primary caregivers of Alzheimer's patients. The Alzheimer's disease Clarity Test [ADCT] was used to measure clarity of female primary caregivers during the home visit. The Quality of Care Checklist was used on day -1 before the intervention and on day -40 after the intervention i.e one month interval post test (follow-up) to record for the presence or absence of care and the extent of the care received by the patient in different contexts provided by the caregiver for Alzheimer's patient .

RESULTS AND DISCUSSION

The data that was collected were scored, tabulated, and subjected to non- parametric test Wilcoxon's Z value analyses as the sample size was only 10 Female Primary Caregivers. Results are discussed as follows.

1: *Psycho education significantly increases the clarity among female primary caregivers in handling the patients of Alzheimer's disease.*

Table: 1, Mean scores of Alzheimer's Disease Clarity Test of Female Primary Caregivers on pre-test, post-test (Immediate) and post-test (Follow-up) sessions on psycho-education intervention and results of Wilcoxon's signed rank tests.

Sl.No	Parts of ADCT	Pairs of ADCT	Mean	S. D.	-ve mean ranks	+ve mean ranks	Wilcoxon's Z Value	P value
1	I: Theoretical Issues Of Alzheimer's disease & II: Capacity Building of Female primary caregivers	Total Pre- test	19.70	2.16	.00	5.50	-2.814	.005 (S)
		Total Post-test Immediate	36.40	3.20				
2		Total Pre- test	19.70	2.16	.00	5.50	-2.814	.005 (S)
		Total Post-test Follow-up	35.70	3.27				
3		Total Post-test Immediate	36.40	3.20	6.25	4.38	-1.034	.301 (NS)
		Total Post-test Follow-up	35.70	3.27				

***** Significant at .005 level

The analysis of the above table indicates the following.

Pre test and post test immediate Total Alzheimer's Disease Clarity scores: The mean pre-test Total Alzheimer's Disease Clarity test scores of the Female Primary Caregivers who underwent Psycho-education were found to be 19.70, which increased to 36.40 during post test immediate measurement. Wilcoxon's Z value of -2.814 was found to be significant at .005 levels, having 5.50 mean positive and .00 mean negative ranks. This indicates that there is significant improvement in the Total Alzheimer's Disease Clarity scores of the Female Primary Caregivers from pre to post immediate session.

Pre test and post test follow up Total Alzheimer's disease Clarity scores: The mean pre-test Total Alzheimer's Disease Clarity test scores was found to be 19.70, which increased to 35.70 during post test Follow up measurement. Wilcoxon's Z value of -2.814 was found to be significant at .005 levels, having 5.50 mean positive and .00 mean negative ranks. This indicates that there was significant improvement in the Total Alzheimer's disease Clarity scores of the Female Primary Caregivers from pre-test to post follow up session.

Post test immediate and post test follow up Total Alzheimer's disease Clarity scores: The mean post-test immediate Alzheimer's disease Clarity test scores was found to be 36.40, which decreased to 35.70 during post test Follow up measurement. Wilcoxon's Z value of -1.034 was not found to be significant having 4.38 mean positive and 6.25 mean negative ranks. This indicates that there is a no difference in the Total Alzheimer's disease Clarity

scores of the Female Primary Caregivers from Post immediate to Post Follow up session. Further, the scores are tending towards reverse direction.

Therefore, the results of present study about psycho-education interventions showed that there was significant improvement in the Alzheimer's disease Clarity scores of the Caregivers of AD from pre to Post immediate session and also in pre to post follow up session. But did not show significant improvement in the Total Alzheimer's Disease Clarity scores of the Female Primary Caregivers from post test immediate to Post test Follow up session.

Since, it was found that there was significant improvement in the clarity scores from pre to post immediate, post follow up and there was no significant improvement in the clarity score from post test immediate to post follow-up as a result of psycho-education intervention, this implies that psycho-education could produce effects but has not been able to sufficiently develop sustained clarity about the Alzheimer's disease among the Female Primary Caregivers in the post follow-up period.

With regard to Alzheimer's disease care giving, previous similar studies findings conducted by other researchers supported the present study findings which found that psycho-education interventions are effective in enhancing clarity (Knowledge) about Alzheimer's disease among the Female Primary Caregivers are mentioned below: Carmen & Marina, (2001), Wendy, et al (2012), Fortinsky, (2009, 207, Perren et al (2005), Stern, *et.al* (2008), Lavina & Thereza (2016) and Sindhu, Erna & Daisy, (2015).

Carmen & Marina (2001) found that the Caregivers demonstrated significant improvement on the knowledge, increased awareness of community based services, Wendy, et al (2012) in a study assessed the knowledge and the results were found that the knowledge was higher for those who underwent training with series of relevant workshops. The results of another study by Stern, *et.al*, (2008) showed psycho-education for the caregivers who participated in the four –week group intervention felt more certain. Lavina & Thereza, (2016) found that the planned teaching program on knowledge regarding AD was effective and the findings revealed that there was significant difference and concluded that the strategy was effective to improve the knowledge. Perren, *et al*, (2005) designed an intervention at imparting knowledge regarding symptoms of dementia and enabled caregiver to social support and the results showed positive results on caregivers well being. Sindhu, Erna & Daisy, (2015) studied about caregivers Burden in Kerala concluded that the booklet on "They are valuable for us" was effective.

However, the findings of present study did not match with previous study findings where psycho-education was used as intervention on development of knowledge among caregivers and had no effectiveness in the intervention and did not support the present study findings. Few researchers and their findings are presented here. Chu, *et al* (2011) developed a structured support group with the coverage of topics like emotions of carers, problematic

behaviors, self care, communication, and information on local services and showed non-significance on caregivers' burden. Ulstein, *et al*, (2007) found that an educational program had no significant difference between intervention and control groups. Fortinsky, (2009, 207) worked with a package of educational material related to dementia symptom management and showed no significant improvement in the results related to their knowledge on depression and burden.

2: *Quality of Care significantly improves as a result of psycho education intervention among female primary caregivers during care giving.*

The researchers have calculated the mean as a measure of central tendency, standard deviation as a measure of variability and the mean ranks as a part of Wilcoxon's Z value test and found out the significance level about the pre-test and post- test interventions which has been presented in the following table.

Table: 2: Mean pre, post immediate and post follow up scores on Total Quality of Care of the Female Primary Caregivers undergone psycho-education programme and results of Wilcoxon's Z test

Sl.No Pairs	Quality of Care	Mean	S. D	-ve mean ranks	+ve mean ranks	Wilcoxon's Z Value	P value
1	Pre-test-Total	108.50	30.52	1.50	6.50	-2.499	.01
	Post-test-Total Follow-up-one month	131.50	24.89				

Pre-test and post-test (Follow up) Total Quality of care scores: The mean pre test- score of the Quality of Care was found to be 108.50, and in the post test Quality of Care it was increased to 131.50. Wilcoxon's Z value of -2.499 was found to significant at .01 levels with mean positive ranks of 6.50 and mean negative ranks of 1.50. The analysis clearly indicates that there was a significant increase in the Total Quality of Care scores from pre-test to post-test session, and reveals effectiveness of Psycho-education intervention. Therefore, the 10 days psycho-education intervention has improved the quality of care among female primary caregivers.

With regard to Quality of Care including "physical care", the following researchers who had worked had found significant results and were presented as follows: Heyn, Abreu, Ottenbacher (2004), Lazowaski, *et al* (1999), Ostwald, *et al*, (1999), Losada (2010) and Mariott (2000) found the caregiver identified physical function as an important component of QOL for their care recipient with dementia. Sindhu, Erna & Daisy (2015) concluded that the caregiver had inability to meet the physical needs such as toileting, bathing and eating.

Likewise, with regard to Quality of Care including "psychological care" the following researchers Marriot, *et al.,* (2000), Burns, *et al.,* (2003), Gallagher-Thompson, *et al.* (2003), Gallagher-Thompson, *et al.,* (2007), Finkel, *et al*., (2007), Márquez-González, *et al.,* (2007) and Losada, *et al.*, (2011) found statistically significant results in Psycho-education intervention on the behavioral and psychological concepts of care with depression.

With regard to the concepts on burden in Psycho-education intervention the researchers like Martín-Carrasco, *et al*., (2009), Ostwald *et al*., (1999), Davis *et al*., (2004), Chien & Lee, (2008), Gitlin, *et al.*, (2010) and Chien & Lee, (2011) found statistically significant results. Sindhu, Erna & Daisy (2015) studied on psychological areas of care about caregivers Burden in Kerala among 40 samples and concluded that the caregiver had inability to manage the behavioral problems like anger, wandering, vigilance, endurance, depression, fear of social isolation, reaching the truth, physical distress and dependency. Akkerman & Ostwald, (2004) found statistically significant results in Psycho-education intervention on the concepts with anxiety. Another study by Sindhu, Erna, & Daisy, (2015) concluded that the psycho-education was effective in reducing the care burden. Teri, *et al* (2003) showed significant improvement in reduction of depression in caregivers and maintained over a 6-month follow-up period with 72 caregiver care recipient dyad by developing strategies to increase meaningful activities through exercise for the behavioral management with Alzheimer disease patient.

With regard to Quality of Care and Quality of life either related to physical care or psychological care during care giving with the use of intervention like psycho-education the previous study findings coincided with the present study findings that had significant increase are presented below: According to Manuel *et.al* (2008) the results showed that PIP improved the Quality of Life. 97.7% of caregivers had significant improvement at 4 months (immediate) where as at 10 months the estimates were 93.2%. Kate, (2006) found that intervention with series of 12 visits tailored both cognitive and affective resources (PIP) improved the Quality of Life. Francisco & Maria del, (2012) study results supported that preventive and therapeutic actions aimed at improving the Quality of Life for AD patients and their families. Ellen & George, (1999) study results supported that use of standardized psycho therapies typically based on treatment manuals, targets of stressors and reduction of psychopathology which enhanced Quality of Life.

According to Tappen, (1994) the study found that training with verbal prompting, demonstration of ADL, and positive reinforcement for all ADL improved in ADL functioning. Hoeffer, *et.al*, (1997) worked on intervention with interaction during bathing experience and found effective results. Beck, (1998) found that strategies including cognitive intervention, functional performance interventions, environmental interventions, integration of self-interventions and pleasure inducing interventions under psychosocial and behavioral interventions improved the Quality of Life and well-being. Perren, *et al*, (2005) study found that the intervention designed at imparting knowledge regarding symptoms of dementia and

the course of the disease, strengthening self-perception to improve self care, optimizing the relationship between caregiver and the patient and had increased competence to enable caregivers well being. Rabinowltz, *et. al,* (2006) performed an intervention on Coping with Care giving class (CWC) and the results showed that the post test significantly improved in the CWC related to self efficacy.

However, there are studies seen in the review contradicting the finding related to Quality of Care and Quality of Life. They included the following. Knight, Lutzky, & Macofsky, (1993) results from meta-analysis of 18 studies examined the efficacy of psychosocial interventions in alleviating caregiver and family distress. The interventions included psycho-education, support, cognitive-behavioral techniques, self-help and respite care. Both individual and respite programs reduced caregivers' burden, but group interventions were weakly effective. Chu, et al (2011) study on structured support group for 12 week programme and 16 week follow up among 60 caregivers showed non-significance results on caregivers' burden.

Some other studies of non significance results included Cohen-Mansfield, et.al, (1997) and Hawranik, Johnston, & Deatrich, (2008). Cohen-Mansfield, et.al, (1997) results on intervention strategies related AD patients' behavior for wandering showed no significant changes. Hawranik, Johnston, & Deatrich, (2008) another study investigated that there is no significant differences in physically aggressive and verbally agitated behaviors and concluded the evidence for the potential for therapeutic touch in dealing with agitated behaviors.

CONCLUSIONS AND IMPLICATIONS

1. The 10 days psycho-education has significantly enhanced the clarity levels among the Female Primary Caregivers after the intervention. It only means to say that the psycho-education intervention has to be something continued constantly to sustain or retain the effect on caregivers.
2. The more the intervention gap then less will be the beneficial effect among the caregivers. It implies that an activity like psycho-education has to be implemented regularly over a periodic time and has to be continuous to engage the caregivers to produce the beneficial effect and retain the effect among caregivers.
3. The 10 day psycho-education could improve the Quality of Care during Alzheimer's disease care giving. Therefore, the psycho-education intervention is useful in Indian context.

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REFERENCES

Akkerman, R. L., & Ostwald, S. K. (2004). Reducing anxiety in alzheimer's disease family caregivers: The effectiveness of a nine-week cognitive-behavioral intervention. *Am J Alzheimer's Dis Other Demen.; 19* (2), 117-23.

Alzheimer's Association. (2005). What is alzheimer's disease? Retrieved from www.alz.org/aboutAD/whatisad.htm

Apostolova, L.G., et. al. (2012). Hippocampus atrophy and ventricular enlargement in normal aging. *Mild Cognitive Impairment and AD –AD & Associated Disorders, 26* (1), 17-27.

Auclair, U., Epstein, C., & Mittleman, M. (2009).Couples counseling in alzheimer's disease: Additional clinical findings from a novel intervention study. *Clinical Gerontologist, 32* (2), 130-146.

Bauml, et al. (2006). A basic psychotherapeutic intervention for patients with schizophrenia and their families. *Schizophrenia Bulletin, 32* (1), S1-S9.

Beck, C. K. (1998). Psychosocial and behavioral interventions for alzheimer's disease patients and their families. *American Journal of Geriatric Psychiatry* Spring, *6* (2Supp 1) S41-8.

Burns, R., Nichols, L.O., Martindale-Adams, J., Graney, M.J., Lummus, A. (2003). Primary care interventions for dementia caregivers: 2-year outcomes from the REACH study. *Gerontologist. 43*(4), 547-55.

Caregiver: Medline Plus: U.S. National Library of Medicine, National Institutes of Health (NIH). (2010). Retrieved from http://www.nlm.nih.gov/medlineplus/caregivers.html

Carmen, L.M., Marina, B. (2001). A psycho educational model for hispanic alzheimer's disease caregivers. No 1, 122-126.

Chien, W. T., Lee, I. Y. (2011). Randomized controlled trial of a dementia care programme for families of home-resided older people with dementia. *J Adv Nurs, 67*(4), 774-87.

Chu, H., Yang, C. Y., Liao, Y.H., Chang, L.I., Chen, C.H., Lin, C.C., & Chou, K.R. (2011). The effects of the support group on dementia caregivers' burden and depression. *Journal of Aging and Health*, *23*(2), 228-24.

Cohen-Mansfield et.al. (1997). Management of verbally disruptive behaviors in nursing home residents. *Journal of Gerontology A Biological Science Medical Science November, 52.*

Davis LL, Burgio LD, Buckwalter KC, Weaver M. (2004). A comparison of in-home and telephone-based skill training interventions with caregivers of persons with dementia. *Journal of Mental Health and Aging*, *10*(1), 31-44.

Ellen, J. K,. & George, S. A. (1999). The future of psychosocial treatments for elderly patients-klausner and alexopoulas. *Psychiatric Services* (50), 1198-1204.

Eprevco, Electronic community prevention organizer.(2005).Retrieved From www.eprevco.com/supportutorial/document1/glossary.aspe

Francisco, J. M. C., & Maria del, M. M. R. (2012). A review of psychological intervention in alzheimer's disease. *International Journal of Psychology & Psychological Therapy*, *12*(3), 373-388

Finkel, S., Czaja, S.J., Schulz, R., Martinovich, Z., Harris, C., & Pezzuto, D. (2007). E-care: A telecommunication technology intervention for family caregivers of dementia patients. American Journal of geriatric psychiatry, 15(5), 443-448.

Fortinsky, R.H., Kulldorff, M., Kleppinger, A., Kenyon-Pesce, L. (2009). Dementia care consultation for family caregivers: collaborative model linking an Alzheimer's association chapter with primary care physicians. *Aging Ment Health, 13*(2), 162-70.

Gallagher-Thompson, D., & Coon, D.W. (2007). Evidenced-based psychological treatments for distress in family caregivers of older adults". *Psychology and Aging, 22*(1), 37-51.

Gallagher-Thompson D, Gray HL, Tang PC, Pu CY, Leung LY, Wang PC, et al (2007). Impact of in-home behavioral management versus telephone support to reduce depressive symptoms and perceived stress in Chinese caregivers: results of a pilot study. *Am J Geriatr Psychiatry,15*(5), 425-34.

Gitlin LN, Winter L, Dennis MP, Hodgson N, Hauck WW. (2010). A biobehavioral home-based intervention and the well-being of patients with dementia and their caregivers JAMA. 304, 983–91.

Gitlin LN, Winter L, Dennis MP, Hodgson N, Hauck WW. (2010).Targeting and managing behavioral symptoms in individuals with dementia: a randomized trial of a non pharmacological intervention. *J Am Geriatr Soc, 58*(8), 1465-74.

Hawranik, P., Johnston, P., & Deatrich, J. (2008).Therapeutic touch and agitation in individuals with alzheimer's disease. *Western Journal of Nursing Research, 30*(4), 417-34.

Hazzan, A., A. (2014). Association between caregiver quality of life and the care provided to persons with alzheimer's disease: systematic review. *Advances in Alzheimer's disease, 3*, 44-53.

Hepburn.K. W., Lewis. M., Narayan, S., Center.B. Tornaore, J., Bremer. K. L., & Kirk, L. N. (2005). Partners in care giving: A psycho education program affecting dementia family caregiver's distress and Care giving outlook. *Clinical Gerontologist, 29*(1), 53-69.

Heyn, P., Abreu, B. C., & Ottenbacher, K. J. (2004). The effects of exercise training on elderly persons with cognitive impairment and dementia: A meta-analysis. *Archives of Physical Medicine and Rehabilitation, 85*, 1694-1704.

Hoeffer, et.al. (1997). Reducing aggressive behaviour during bathing cognitively impaired nursing home resident. *Journal of Gerentological Nursing, May, 23*(5), 16-23.

Jonkers C, Slaets JPJ & Verhey FRJ. (2009). Handbook Dementie. Houten: Bohn Stafleu van Loghum) P. 9-12

Knight, B. G., Lutzky, S.M., Macofsky-urban, F. (1993). A meta-analytic review of interventions for caregiver's distress: Recommendations for future research. *Gerontologist* 33, 240-248.

Lavina, R., & Thereza, M., (2016). Effectiveness of planned teaching program on knowledge regarding alzheimer's disease among. The family members of elderly in a selected urban community at mangalore. *Indian Journal of Psychiatry (58),* 44-8

Lazowski, D. A., Ecclestone, N. A., Myers, A.M. et.al (1999). A randomized outcome evaluation of group exercise programs in long-term care institutions. J Gerontol. 54, M621–M628

Lincoln, T. M, Wilhelm, K., Nestorius. (2007). Ineffectiveness of psycho education for relapse, symptoms, knowledge, adherence and functioning in psychotic disorders: A meta-analysis. *Schizophrenic Res, 96* (1-3),232- 245.

Losada, A., Marquez-Gonzalez, M., Romero-Moreno, R. (2011). Mechanisms of action of a psychological intervention for dementia caregivers: effects of behavioral activation and modification of dysfunctional thoughts. *Int J Geriatr Psychiatry 26*(11),1119–27. [PubMed]

Manuel, M., et.al. (2008). Effectiveness of a psycho educational intervention program in the reduction of caregiver burden in alzheimer's disease patients caregivers. International *Journal of Geriatric Psychiatry*, 24 (5), 489-499.

Marquez-Gonzalez, M., Losada, A., Izal, M., Perez-Rojo, G., Montorio, I. (2007). Modification of dysfunctional thoughts about care giving in dementia family caregivers: description and outcomes of an intervention programme. *Aging Ment Health.11* (6), 616-25

Marriott, A., Donaldson, C., Terrier, N., Burns, A. (2000). Effectiveness of cognitive-behavioral family intervention in reducing the burden of care in careers of patients with alzheimer's disease. Archives of Gerontology and Geriatrics. *BrJ Psychiatry*; 176 :(5), 57-62.

Martin-Carrasco, M., Martin, M. F., Valero, C.P., Millan, P. R., Garcia, C. I., Montalban, S. R., et al. (2009). Effectiveness of a psycho educational intervention program in the reduction of caregiver burden in alzheimer's disease patients' caregivers. *Int J Geriatr Psychiatry.; 24*(5), 489-99.

Ostwald, S. K., Hepburn, K. W., Caron, W., et al. (1999). Reducing caregiver burden: a randomized psycho educational intervention for caregivers of persons with dementia. *Gerontologist.39* (3):299–309. [PubMed]

Perren, S, Schmid, R, & Wettstein, A. (2005). Caregivers adaptation to change. The impact of increasing impairments of persons suffering from dementia on their caregivers subjective well-being. *Aging & Mental health,12* (4), 207-20.

Rabinowitz, Y. G., Mausbach, B. T., Coon, D. W., Depp, C., Thompson, L. W., Gallagher-Thompson, D. (2006). The moderating effect of self-efficacy on intervention response in women family caregivers of older adults with dementia. *American Journal Geriatric Psychiatry.14* (8), 642-649.

Sindhu, J. V., Erna J. R., & Daisy J. L. (2015). Quality study on lived experience of caregivers of alzheimer's disease clients and The effectiveness of the booklet on caregivers burden at selected alzheimer's care centres in Kerala, *International Journal Of Nursing Education*, 7,14-19.

Stern, R. A. & et.al. (2008). At the crossroads: Development and evaluation of a dementia caregiver group intervention to assist in driving cessation. *Gerontology and Geriatrics education, 29*(4), 363-382. Retrieved From http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2679525/

Tappen, R. M. (1994). The effect of skill training on functional abilities of using home residents with dementia. *Research in Nursing and Health June, 17*(3), 159-165.

Teri, L., Gibbons, L. E., McCurry, S.M., et.al. (2003). Exercise plus behavioral management in patients with alzheimer's disease .*JAMA, 290*, 15.

Ulstein, I.D., Wyller, T.B., & Engedal, K. (2007). The relative stress scale; a useful instrument to identify various aspects of career burden in dementia. *International Journal of Geriatric Psychiatry, 22, 61*-67.

Ulstein, I.D., Sandcik, L., Wyller, T.B., & Engedal, K. (2007). A one year randomized controlled psychosocial intervention study among family careers of dementia patients-effects on patients and carers. *Dementia and Geriatric Cognitive Disorders, 24*,469-475.

Victoria Lacroix. (2014). Usability, e_cacy, and perspectives of an Internet-based psycho-educational program for informal caregivers of persons with alzheimer's disease: the contributions of aniterative user-centered design and a randomized clinical trial. *Psychology. Universities Ren_e.*

Villareal- Reyna, M. A., Salazar-Gonzalez, Cruz-Quevedo , J.E., Carrillo-Carvantes, A.L., & Champion, J.D. (2010). Outcomes of interventions for alzheimer's family caregivers in mexico. *Western Journal of Nursing Research1-18*.Retrived from http://wjn.sagepub.com/content/early/2010/11/20/0193945910387283

Wendy. S, et al., (2012). A survey –based study on knowledge of alzheimer's disease among health care staff. *BMC Geriatrics.*

World Health Organization. (2014). WHO: Interventions for carers of people with dementia. Retrieved from http://www.who.int/mental_health/mhgap/evidence/dementia/q9/en/

Zec, R., F. and Wilson, R.S., Editors. (1993). "Neuropsychology of Alzheimer's Disease And Other Dementias," New York: Oxford University Press, 3-80.951495

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