

IMPACT OF EDUCATIONAL TRAINING ON THE FAMILY CAREGIVERS OF ELDERLY LIVING WITH DEMENTIA IN OWO ONDO-STATE NIGERIA

Ayeni Adebisola Raphael¹, Fajemilehin B.R² and Ajibade B.L³

¹Achievers University, Department of Nursing Science, Owo

²Obafemi Awolowo University, College of Health Sciences, Faculty of Basic Medical Sciences, Department of Nursing Science, Ile-Ife

³Ladoke Akintola University of Technology, College of Health Sciences, Faculty of Clinical Sciences, Department of Nursing Science, Osogbo

ABSTRACT: *Introduction: Caring for elderly by family caregivers are becoming cumbersome due to increase in degenerative disorders such as dementia which interfere with both cognitive and behavioural domains of the affected person, therefore this study was with a view to explore the impact of educational intervention on the family caregivers of elderly living with dementia. Methodology: A quasi-experimental pre and post-test design was adopted. 56 participants were purposively selected and 28 were assigned to experimental and control groups in dyad. Two instruments were used to collect data, which were Caregiver Assessment Questionnaire with two sections adapted to the study and Self Care Assistance Intervention Scale. Result: it showed that the mean age of family caregivers were 47 ± 15.6 with 91.1% female and 39.3% were spouses. The mean score for pre, post¹, and post² for experimental group were 58.8 ± 10 , 70.9 ± 9.3 and 85.2 ± 8.4 while control group were 59.5 ± 10.2 , 64.5 ± 14.0 and 58.1 ± 10.1 respectively. Conclusion: The study concludes that the educational intervention promote home-based care delivery by family caregivers of elderly with dementia.*

KEYWORDS: Family Caregivers, Home-Based Care, Elderly and Dementia

INTRODUCTION

Background

Dementia in its many forms is a leading cause of functional limitation among older adults worldwide and will continue to ascend in global health importance as populations continue to age and effective cures remain elusive (Mathers & Loncar, 2006). It is a common condition among the elderly, affecting an estimated 6.4% of all persons aged 65 years and older, based on a major study of prevalence of dementia undertaken in eight European countries (Lobo, Launer, Fratiglioni, Andersen, Di Carlo & Breteler, 2000; Berr, Wancata & Ritchie, 2005). In Nigeria community-based studies, the prevalence put at 2.29% to 2.79 % with Alzheimer's disease (AD) accounting for 1.41 %-1.86%, being the most common type (Yusuf, Baiyewu, Sheikh & Shehu, 2010). Although, dementia was initially thought to be rare in developing countries including Nigeria (Osuntokun & Ogunniyi, 1994; Ogunniyi & Akinyemi, 2010), however, there has been recent estimation in 2007 which suggested that about 33 million people worldwide are suffering from this hard to treat ailment, of which 60-70% are presently residing in developing countries including Africa. Though the burden of dementia is currently low in sub-Saharan Africa, population ageing, lifestyle changes, increasing vascular factors, poverty, malnutrition, wars and the HIV pandemic may cause future increments (Kalara, Maestre, Arizaga, Friedland, Galasko, Hall et al., Antuono, 2008). This can be supported by

demographic report that the number of demented individual will increase spectacularly with the rapid increase in Nigeria population and the percentage number of 65years elderly and above (Olarenwaju, Saheed & Sunkanmi, 2011). The Nigeria total population from the last population census was about 140 million; out of this about 76 million constitute the dependent population which made up of both the children below age 18 and the elderly above age 60 (National Bureau Statistics, 2007). This figure shows that about 54% of Nigeria's total population is dependent population and the proportion of the elderly population out of this is about 25% and this is expected to increase over the year going by the population transition demographic theory (Olarenwaju et al, 2011). It can be foreseen that, despite mortality due to communicable diseases, poverty and human conflicts, incidence of dementia is destined to increase in the developing world because of increase in the number of ageing population (Kalaria, et.al, 2008). According to the Alzheimer's disease International (ADI) Delphi consensus study 2005, by 2040, 71% of all people with dementia will be living in developing countries.

There are various types of dementia (Alzheimer's and Vascular being the common one), but there are several underlying principles of treatment that can be applied to all patients. Non-medication interventions are the cornerstone in the treatment of dementia (Kaplan & Sadock's, 2009), this was supported by evidence that psychosocial intervention yield positive result by focusing on care recipients and caregivers on how to cope and adapt to dementia (Vernooij-Dassen, Leatherman & Rikkert, 2011) It was also reported that, it is preferable to delay institutionalization as long as this is feasible and within the caregiver's capacity to do so, since patients with dementias diseases enjoy a longer life expectancy when not institutionalized (South Africa Family practice, 2012). Supportive home-based care prolong the life of person with dementia and the family caregivers. Dementia is not merely a problem of memory. It reduces the ability to learn, reason, retain or recall past experience and there is also loss of patterns of thoughts, feelings and performance of activities of daily living. Additionally, mental and behavioral problems often affect people who have dementia (Burn, Jacoby & Levy, 1990), which may influence their well-being and family caregivers (Alzheimer's disease international, 2008). The need for organizing an intervention care assistance that will help people living with dementias and their family caregivers is very important (Pinquart & Sorensen, 2006).

Home-based care is proven to deliver better outcomes for patients, yield lower costs and reduce admissions to hospital. Some studies have reported positive effects of home care services including reductions in functional decline (Beswisk, Reesk, Dieppe, Ayis, Gooberman-Hill, et al, 2008). Research has shown that certain core social and emotional needs tend to be neglected for people with dementia when they are in long term care setting. Newbronner, Chamberlain, Borthwick, Baxter & Glendinning (2013) found that family caregiver in UK reported that hospitalization resulted in dehydration, sores and a lack of nutrition because the impact of the dementia had not been taken into account by staff. The new approach is to plan for each person with dementia individually, to have the best possible outcome by meeting their needs (Department of Health and Family Services, 2009.) This is because as dementia worsens individuals may neglect themselves and may become disinhibited and may become incontinent. Incontinence, hearing impairment, and mobility impairment are consistently associated with dementia in developing countries (Prince, et al, 2011).

In Nigeria, the thrust of health care is towards preventive care, especially for children and pregnant women, rather than the care of the aged. The multigenerational living system in Africa helps in the care of elderly (Yusuf et al, 2011), but socialization, acculturation, education,

urbanization, high level of poverty and unemployment ravaging the nation at large, have led to degeneration of family ties. "This scenario has spatially torn families apart, made life uneasy for all, promoted brain drain and left elderly ones in a state of abject poverty and isolation" (Fajemilehin, 2010). But the traditionally strong social support systems seem to be under strain due to the rapid social restructuring (nuclear family system) and economic change sweeping the developing countries (Shaji, 2006). The government has not initiated plan for their senior citizen, except the elderly bill of care sent to national assembly in year 2011 which is yet to be treated nor approved in order to better the life of the elderly citizen in the country. Contributory pension and national Health insurance scheme are only available for the pensioner who has served in government establishment, this served as indicator that most elderly people are being cared for by their family members without government support. The report from UK (the colonial master) emphasized support for people living with dementia, saying that there should be ways of supporting people with early to moderate dementia so that they can continue to live at home but not be confined indoors permanently (Department of Health, 2010). But uncommonly, some of elderly in developing countries are kept indoor due to stigma associated with dementia without adequate care and attention to the required activities of daily living, leading to untimely death. This is recognized in a recent policy document for older adults with mental health problems in the UK, which states that 'While people are choosing to remain living at home they should be offered support to enable them to live as full lives as possible' (Department of Health, 2005). Most families cannot afford institutional care, which in any case is unavailable and not accessible in most parts of the developing world like Nigeria. Family caregivers may be motivated by the interventions from formal caregivers in terms of support and training provided that, it will enhance quality of life of the carers and the recipient of care. Caregivers who identify more beneficial components of their role experience less burden, better health and relationships, and greater social support (Cohen, Colantonio & Vernich, 2002). A home care program that used nurses and occupational therapists to aid people with Alzheimer's in their homes brought benefits to patients as well as those caring for a loved one with the disease, researchers reported (Gitlin, Winter, Dennis, Hodgson & Hauck, 2010). The benefits of such a program, which does not involve drugs or medications, could have a sizeable effect on the millions of men and women with dementias who live at home. It could also help in reducing the stress of family members and others who care for them.

Sanders (2005) reported that between 55% and 90% of family caregivers experienced positive experiences such as enjoying togetherness, sharing activities, feeling a reciprocal bond, spiritual and personal growth, increased faith, and feelings of accomplishments and mastery. Gender, age, education, and ethnicity can also influence the way caregivers view their role. Feeling more positively towards caregiving has been associated with low educational level, greater social resources, satisfaction with social participation and better physical health status, and being older (Rapp & Chao, 2000).

The inadequacy of home-based care in low income countries like in Nigeria might be as a result of non-availability of formal caregiver to guide them, lack of adequate resources and level of education. Women are associated to family caregiving than men (Barbare & Sheel, 2002). However populations are becoming increasingly mobile in low income countries. More women are taking up employment outside their homes to supplement the family income. Consequently the responsibilities of the traditional housewife at home will have to be shared by all family members. Hence, caring for older people is no more the exclusive responsibility of the traditional housewife alone, but people that supposed to complement the care have migrated to

urban area due to decayed social amenities in the local communities leaving the older people with disabilities with little or no care.

Many developed countries have comprehensive health and social care systems, but even in such settings families do play a vital role in looking after older adults (Prince, Livingston & Katona, 2007). Assisted living facilities or institutions which provide long-term care are few in low income countries, but they are not culturally and traditionally inclined in Africa. This puts enormous pressure on the families and caregivers as home based care is the only available option to most people with chronic ailment including HIV/AIDS, which will enhance good outcome if supportive intervention is initiated.

Objectives: The objectives of the study were to:

- a) Determine the socio demographic profile of the family caregivers.
- b) Assessing the family caregivers' skills and training.
- c) Determine the effect of educational intervention on the performance of home based care by family caregivers.

Research Questions:

- a) What are the sociodemographic profile of the family caregivers?
- b) What are the family caregivers' skills and training needs?
- c) What are the effects of educational intervention on the performance of home-based care by the family caregivers?

Hypothesis: Only one hypothesis was tested. There is no no significant difference between the Self Care Assistance provided by trained family caregivers and untrained family caregivers in the performance of home-based care.

METHODOLOGY

Design: This study employed a quasi-experimental pre and post-test design to examine the impact of educational intervention on the family caregivers of elderly with dementia. This design was adopted because the researcher interested in measuring the changes associated with the intervention.

Setting: The study was conducted in Owo Local Government, Ondo State, Nigeria. It is the seat of Owo local government. This was with a view that the ancient town had many elderly people and vastly populated. It has primary, secondary and tertiary health institutions where the participants were voluntarily and purposively selected for the study based on personal readiness and approved consent. Culturally, Owo has the largest Palace in Africa which was declared a national monumental terrain by the government of Nigeria.

Study Population: the study population was family caregivers (wife, Children, family members whose age are not less than 18years, having an elderly age 65years and above which has been medically diagnosed in accordance with DSM-IV as having dementia.

Sample Size and Sampling Size Determination: The sample size was purposively selected according to the participants' readiness and acceptance to participate in the study. Hence, fifty six (56) participants formed the study population. Having purposely determine the sample size, the participants were divided into experimental and control group without manipulation, but using simple randomization.

Inclusion Criteria: The family caregivers must

1. Be 18years and above
2. Not be paid for the role of caregiving
3. Be responsible for home-based care of the elderly with dementia
4. Have an elderly who has been diagnosed of dementia.

Exclusion Criterion: Those family caregivers with acutely ill and or with medical conditions co-morbid with delirium are excluded and family caregivers who are less than 18years of age.

Instrumentation: Two (2) instruments were used for the study one of which is a standardized instrument while the second was designed by the researcher. Caregiver assessment questionnaire (a Texas standardized caregiver assessment questionnaire) with about four sections but two (2) section were adapted for this study.

Section A: This discussed the demographic profile of the participants, including some socioeconomic participants' indexes.

Section B: explored the family caregiver (participants) skills and training assessment.

The second tool was self developed and structured 20 items likert scale called Self-care Assistance Nursing Intervention Scale. The scale was scored on a five (5) points ranges from:

1. Never demonstrated
2. Rarely demonstrated
3. Sometimes demonstrated
4. Often demonstrated
5. Consistently demonstrated

This self structured questionnaire was designed based on nursing outcomes classifications for measuring an intervention in nursing intervention classification (NANDA-I, 2014). The questionnaire was developed to observe and evaluate the caregiving by the family caregivers (as related to the nursing outcome classification to measure the intervention) before and after the care assistance intervention education and training. Responses from all the items were summed to create an overall family caregivers' performance of caregiving at home. The total score for responses on the scale ranges from 1-100, with 20-39 mean poor performance of home based care, 40-59 score mean fair performance of caregiving, 60-79 score mean average performance of caregiving, while 80-100 score mean excellent performance of caregiving. This rating was done by the researcher.

Determination of Validity and Reliability: Test re-test method was used during the pilot study to assess the reliability of the instrument after which the items were re-modified. The result showed a positive correlation between the first and second testing (correlation coefficient $r=0.791, 0.789$) for the two (2) sections Caregivers Assessment questionnaire and intraclass correlation coefficient r was 0.844 for Self-Care Assistance Intervention Scale. This revealed that the instruments were reliable. The face and content validity of the instruments were assessed by scholars in the field of nursing, mental health/psychiatry and psychology.

Procedure: The data collection span over 16weeks. Initially, the family caregivers and their respective care recipients were visited in their home with appropriate permission, all socio-demographic profile of the respondents were collected using modified caregivers assessment questionnaire.

Pre-test: The investigator used the self-developed Self-Care Assistance Nursing intervention Scale to assess the level of caregiving to maintain care recipients' well-being at home.

Training: The training and education was organized for the experimental group of caregivers in two different stages. First training of experimental group was done in one week with each day lasted for six hour and post- test one were conducted after eight weeks. Then, second training was conducted and lasted for another one week and after another eight weeks post-test two were conducted. Training was withheld from the control group. After 8weeks first post-test was conducted with self-care assistance intervention scale to observe the routine care for the care recipients and observation of care recipients' well-being was done. Then, a repeated 1week training was conducted for the experimental group and after another 8weeks second post-test was conducted with the same tool. Same post-test were conducted for control group at intervals of eight weeks, each visitation of the participants lasted one to two hours. Informed consent were obtained from the participants and reason and the need for the study were made known to them. The first visit stands for pre-test, at 8weeks post-test¹ was conducted and post-test² was conducted at the end of second 8weeks. Minimum of 2hours was spent with the participants on each visit.

Analysis: Data collected were coded and entered into SPSS (Statistical Package for Social Science, Version 20) software. Both descriptive statistics such as frequency, percentage, mean and standard deviation and student t-test (mean comparison) for testing of study hypotheses.

RESULTS

Table 1: Distribution of Family Caregivers' Socio-Demographic Characteristics

| VARIABLES (n=56) | | FREQUENCY | PERCENTAGE (%) |
|------------------------|------------------|-----------|----------------|
| Family caregivers' age | 18-28 | 14 | 25.0 |
| | 29-39 | 5 | 8.9 |
| | 40-50 | 10 | 17.9 |
| | 51-61 | 11 | 19.6 |
| | 62-72 | 16 | 28.6 |
| | TOTAL | 56 | 100.0 |
| | Mean (SD) | | 47±15.6 |
| Caregivers' sex | Male | 5 | 8.9 |

| | | | |
|--|-------------------------|-----------|------------|
| | female | 51 | 91.1 |
| | TOTAL | 56 | 100 |
| Caregivers' level of education | No Formal Education | 2 | 3.6 |
| | Primary School Cert | 8 | 14.3 |
| | Secondary School Cert. | 16 | 28.6 |
| | Vocational Education | 21 | 37.5 |
| | Tertiary/University Ed. | 9 | 16.1 |
| | Total | 56 | 100 |
| Caregivers' relationship to care recipients | Son/Daughter | 17 | 30.4 |
| | Grand Child | 5 | 8.9 |
| | Spouse | 22 | 39.3 |
| | Other Relative | 12 | 21.4 |
| | Total | 56 | 100 |
| Caregivers' place of residence | With care recipients | 56 | 100 |
| Caregivers' ethnicity | Yoruba | 56 | 100 |
| Caregivers' religion | Christianity | 43 | 76.8 |
| | Muslim | 13 | 23.2 |
| | Total | 56 | 100 |
| Caregivers' marital Status. | Single | 15 | 26.8 |
| | Married | 38 | 67.9 |
| | Widowed | 1 | 1.8 |
| | Divorced | 2 | 3.6 |
| | Total | 56 | 100 |
| Family caregivers' monthly income | 1000-10,000 | 19 | 33.9 |
| | 11,000-20,000 | 15 | 26.8 |
| | 21,000-30,000 | 6 | 10.7 |
| | 31,000-Above | 16 | 28.6 |
| | Total | 56 | 100 |

Table 1 presents the socio-demographic characteristics of the family caregivers in this study. As reflected on the Table, a total of n=56 family caregiver participated in the study and their ages range from 18-72years and the mean (\bar{x}) age was 47 ± 15.6 . The majority of family caregiver (28.6%) were between the age ranges of 62-72years while the early productive/adulthood age were the second (25%) largest on the family caregiver's age ranking. There was an overwhelming of females (91.1%) over males (8.9%). While, it could be said that majority had formal education only (16.1%) of the Family Caregivers had tertiary education, a larger proportion (37%) had vocational education and (28.8%) had only secondary education. The caregiver relationship to care recipients shows that majority (39.2%) were spouses while the (30.4%) were sons/daughters. The respondents were all dominantly Yoruba and all the family caregivers were living with the care recipients. More than 2/3 (76.8%) were Christians and only (23.2%) were Muslims. As depicted on the Table, (67%) were married while (26.8%) were single. The largest proportion (33.9%) were low income earners, (28.6%) were those that earn more than ₦31, 000 and above and (26.8%) earn between ₦11,000 and ₦20,000 while (10.7%) were nearest to the largest income earner

Table 2: Distribution of participants' skill and training assessment

| Variables (n=56) | Responses | Frequency | Percentage (%) |
|---|-----------|-----------|----------------|
| Personal care tasks (ADLs) | Yes | 56 | 100 |
| Homemaker Chore (IADLs) | Yes | 43 | 76.8 |
| | No | 13 | 23.2 |
| | Total | 56 | 100 |
| Transportation | Yes | 56 | 100 |
| Managing Finances | Yes | 42 | 75 |
| | No | 14 | 25 |
| | Total | 56 | 100 |
| Health Care (Hosp. Visit, Medication Monitoring) | Yes | 56 | 100 |
| Supervision (prevent of wandering) | Yes | 56 | 100 |
| Emotional Support | Yes | 56 | 100 |
| Will you accept formal support training on Dementia care? | Yes | 56 | 100 |
| Areas of Needs of Education, helping hand on caregiving, information and training. (Check all that apply) | | 56 | 100 |
| 1. How to care for yourself while caring for others | | | |
| 2. How to provide care to an aging individual | | | |
| 3. More information about care recipients' disease | | | |
| 4. Home/Environmental safety. | | | |
| 5. In-home support services | | | |
| 6. Individual counselling | | | |
| 7. Hand on skills training for personal care tasks (ADLs and IADLs) | | | |

Table 2, presents the family caregivers' perception of caregiving roles and care recipients unmet needs and state of wellbeing. All the family caregivers agreed of performing activities of daily livings for the care recipient, but an obvious number (76.8%) performed Instrumental activities of daily livings for care recipients. Large percentage (75%) were managing finances of the care recipients. All family caregivers were performing the role of transporting where necessary, health care, supervision and emotional support. Family Caregivers, (100%) accepted formal support training on how to care for person living with dementia. All the family caregivers also agreed that they and care recipients needed support on self-care assistance, education, information, counselling and training.

Table 3: the Pre-Post Test Result of Efficacy Intervention for Family Caregivers.

| VARIABLES | | EXPERIMENTAL GROUP (n=28) Frequency and percentage | | | CONTROL GROUP (n=28) Frequency and percentage | | |
|---|-------|--|------------------------|------------------------|---|------------------------|------------------------|
| | | PRE-TEST | POST-TEST ¹ | POST-TEST ² | PRE-TEST | POST-TEST ¹ | POST-TEST ² |
| | | | | | | | |
| Poor performance of self-care assistance | 20-39 | - | - | - | - | - | - |
| Fair performance of self-care assistance | 40-59 | 15 (53.6) | 2 (7.1) | - | 14 (50.0) | 11 (39.3) | 16 (57.1) |
| Average performance of self-care assistance | 60-79 | 13 (46.4) | 22 (78.6) | 6 (21.4) | 14 (50.0) | 13 (46.4) | 12 (42.9) |
| Excellent performance of self-care assistance | 80-99 | - | 4 (14.3) | 22 (78.6) | - | 4 (14.3) | - |
| Mean score | | 58.8 | 70.9 | 85.2 | 59.5 | 64.5 | 58.1 |
| Standard deviation | | 10 | 9.3 | 8.4 | 10.2 | 14.0 | 10.1 |
| Total score | Total | 28 (100) | 28 (100) | 28 (100) | 28 (100) | 28 (100) | 28 (100) |

Table 3, revealed that at Pre-test the experimental group had score range from 40-79 with mean score of 58.8 ± 10 , and highest performance of home caregiving at score range 40-59 (53.6%) of fair performance of home caregiving. The control group score range from 40-79 with mean score of 59.5 ± 10.2 , having (50%) all-over the score range of 40-59 fair performance and 60-79 average performance of home-based care.

At Post-test¹, the experimental group had score range from 40-100 with mean score of 70.9 ± 9.3 , with least score range of 40-59 (7.1%), (78.6%) at 60-79 score range and (14.3%) at range of 80-100 while the control group score range from 40-100 with mean score of 64.5 ± 14.0 .

At Post-test², the experimental group had score range from 60-100 with mean score of 85.2 ± 8.4 , and (21.4%) represent 60-79 score while (78.6%) represent 80-100 score which stand for excellent performance of home-based care. The control group had score range of 40-79 with mean score of 58.1 ± 10.1 with still at the level of average performance of home caregiving.

Table 4: Comparison of Pre and Post Test Result of Experimental and Controls Groups

| Total Variable n=56 | | Experimental Group N=28 | Control Group n=28 | df | t-value | P-value |
|------------------------|------------|-------------------------|--------------------|----|---------|---------|
| PRE-TEST | Mean SD | 58.8 10.0 | 59.5 10.2 | 27 | -0.25 | .802 |
| Post-Test ¹ | Mean SD | 70.9 9.3 | 64.5 14.0 | 27 | 2.54 | .017 |
| Post-Test ² | Mean SD | 85.2 8.4 | 58.1 10.1 | 27 | 12.85 | .0001 |

Table 4: The Hypothesis that states that there is no significant difference between the Self Care Assistance provided by trained family caregivers and untrained family caregivers in the performance of home-based care for maintenance of care recipients' well-being. Using the t-test to assess if there is any significant between experimental and control mean scores t-value for pre-test comparison = 0.017 and level of significant = 0.802 at $P < 0.05$. Hence, the null hypothesis was accepted for pre-test mean scores. But Post-Test¹ and Post-Test² comparison of mean scores of experimental and control groups, t-test values = 2.01 and 12.90 and P-value = 0.01 and 0.0001. At $P < 0.05$, there was very significant difference in the scores. Thus, the training programme was very effective because it significantly increased the performance of self-care assistance and improved well-being of the care recipient. Hence, the null hypothesis is rejected for post test^{1&2} and alternative hypothesis that states there is significant difference between the self-care assistance provided by trained family caregivers and untrained family caregivers in the performance of home-based care for maintenance of care recipients' well-being is accepted.

DISCUSSION OF FINDINGS

The study revealed that the family caregivers' age range were between 18-72 years. The majority of the family caregivers were between the age ranges of 62-72 years (28.6%). The mean age of family caregivers was 47 years and SD was 15.6. The majority of family caregiver in this study were females (91.1%), which was in tandem with the study of informal caregivers in Taiwan by Huang, Lotus Shyu, Chen, Chen, and Lin (2003). It was also found that family caregivers are of different ages and quite often of female gender (McClure Cassie & Sanders 2008). The spouses had 39.2 percent and sons/daughters, grandchildren and other relatives constituted the rest percentage unit. This was supported by the study conducted by Sijuwade (2007) that the care of elderly in Nigeria is the sole responsibility of the family members. While the report from this study further showed that other relatives (73.3%) and religion support groups (12.5%) were those contributed financially for the caring of care recipient. All family caregivers were unpaid primary caregivers and resident with care recipients despite the degeneration of family ties due to poverty and seeking for white collar jobs among women and children, but the tradition of Nigerian still remain. The family caregivers and care recipients fall in the same percentage as far as religions are concerned. Only (26.8%) were unmarried caregivers and (37.5%) had vocational education, same was reported in Hanninan (2002) among USA that family caregivers had less than college degree.

The socioeconomic value of the family caregivers in the study was very poor where the largest proportion earned between ₦ 1,000 to ₦10,000 as monthly income. Though this was due to massive unemployment/corruption ravaging the country and low wage payment. This was related to the OECD (2011) findings that low income is economic cost associated with unpaid care, but other factors such as education and marital status are important predictors of income.

The study revealed that the self-care assistance nursing intervention scale was developed for the purpose of assessing the performance of home-based care by the family caregivers both pre and post-test of experimental and control groups. The mean pre-test for both experimental and control groups are 58.8 and 59.5. Comparing pre-test of experimental and control groups showed the acceptance of null hypothesis with $p = 0.802$ at $p < 0.05$ significant level. Comparison of post-test¹ and post-test² mean in experimental and control groups differently, it

showed a very significant difference in mean value where $p = 0.01$ and <0.0001 . Hence, the null hypothesis for post-test¹ and post-test² rejected.

Thompson and colleagues (2007) found statistically significant evidence that group-based supportive interventions impacted positively on the psychological morbidity of carers of people with dementia (but they did not find any evidence for positive impact of any other form of intervention) (Thompson et al, 2007). Huang and colleagues (2003) found that among the Taiwan family caregivers and care recipients, home-based caregiver training programme improved family caregiver self-efficacy and decreased the behavioural problems of elderly person living with dementia. Empirical studies have suggested that use of formal services can offset the negative effects of care recipients' impairment on the psychosocial well-being of caregivers (Bass, Noelker, & Rechlin, 1996) and delay the need for institutional care of older persons with dementia (Shapiro & Taylor, 2002; Gaugler, Kane, Kane, & Newcomer, 2005). The control group did not yield any positive improvement on the wellbeing of care recipients because no intervention was utilized. This was supported by the Yeandle and Wigfield (2011) that programme for caregivers (not just carers of people with dementia) help them to gained confidence. Also participants in Blackstock and Colleagues (2006) research praised service providers for giving emotional and practical support and peace of mind to family caregivers.

Implication for nursing practice

This study has revealed that the care recipients (elderly) had received home-based care through family caregivers but the caregiving was not adequate enough to maintain their needs and to enhance their wellbeing within the home setting. The finding therefore challenged the nurses in the area of future research in designing more home-based care intervention that will improved the home-based caregiving, which will equally enhanced the wellbeing of the elderly with disabilities who are home-bound to prevent neglect of the senior citizens. There is need also to identify traditional and cultural values that will enhanced the acceptance of such model for home-based care.

CONCLUSION

The study has revealed that the Self-Care Assistance Nursing Intervention education and training of family caregivers has improved the home-based caregiving and wellbeing of elderly with cognitive impairment. And also impacted positively on the family caregivers' caregiving process and enhances their knowledge about home-based care. Hence, this study threw a lot of challenges in the area of training of community mental health nurses and incorporation of geriatric/gerontology courses into health care training of undergraduate and post-graduate programmes order than restricted elective only.

Limitation of the study: The group of respondents and elderly with dementia were not randomly sample and may not accurately reflect the responses of respondents.

Recommendation: There is need for more research on home based care intervention that will simultaneously help the care family caregivers such intervention should be tailored to include variety of activities with aim of support the family caregivers in managing a short or long term spell of caregiving. This will helps in prolonging the life and quality of living among elderly with chronic illnesses.

Recommendation for further study: This study was conducted with small population of respondents. It is recommended that the future study should expand the sample size and the scope of the study.

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