

# Nursing Intervention to Improve the Caregivers' Practices toward Elderly Care at Geriatric Homes

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## Abstract

Population ageing is a global phenomenon with the number of persons 60 years and over estimated to reach two billion by the year 2050; living longer is joined to challenges of disability and being dependent on caregivers who should have the chance to perform their practices by professional way as an integral part of elderly care. **Aim:** To evaluate the nursing intervention program to improve the caregivers' practices of elderly care at geriatric homes. **Design:** Quasi-experimental research design. **Setting:** In geriatric homes at Cairo governorate. **Sample:** A convenient sample of all elderly caregivers working in the previous mentioned settings. **Tool:** Was used an interviewing questionnaire to assess socio-demographic characteristics of elderly caregivers, their knowledge, their practices & factors causing stress to them & their coping with stress. **Conclusion:** The nursing intervention program implementation had statistically significant positive effect on elderly caregivers at geriatric homes regarding to their knowledge, practices & coping with stress.

**Keywords:** Elderly, Elderly Caregivers, Practice, Nursing intervention & Geriatric homes

## Introduction

The trends of ageing in the Arab countries and the increase of life expectation at 60, is accompanied by an increase in disability rates for old age. <sup>1</sup> In Egypt, in 2018, the number of elderly persons reached 6.410 million (3,418 million men, 2.992 million women) by the ratio of elderly, 6.7% (6.9% men, 6.4% women) of the total population, this number increased in 2031 to 11.5%. The total number of geriatric homes are 54 one, where there are 1774 elderly person & 639 caregiver. <sup>2</sup>

As the numbers of elderly people requiring nursing or residential care increase, the professionalism of the elderly caregivers employed in this setting grows in importance. Caregiving is inevitably a demanding and

stressful job in a complex organizational setting and it has been widely regarded as one of the most stressful occupations, associated with high levels of lacking of knowledge, skills & coping with work stress. <sup>3</sup>

The role of the caregiver includes actions that are intended to assist the elderly people prevented physically or mentally from performing the practical tasks of activities of daily living and self-care. A caregiver is defined as being the person that is responsible for caring for a sick or dependent person, facilitating the performance of their daily activities, such as feeding, personal hygiene, providing routine medication and accompanying them to the health services, or carrying out other things required in their daily lives. <sup>4</sup>

Geriatric homes provide a broad range of health-related services for people aged  $\geq 60$  years. The services provided include skilled nursing care, rehabilitation services, and dietary services. Disabling or burdensome disorders, most commonly dementia, incontinence, and immobility may

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trigger consideration of geriatric home placement.<sup>5</sup>

Nursing intervention through the community health nurse (CHN) is involved in primary, secondary, and tertiary prevention efforts for elderly and caregivers. The major areas in which CHN plays a vital role toward elderly are decrease of risk and maintenance of independence; supervision and encouragement of caregivers. CHN should become involved in exploring service options for elderly individuals and in educating the general public in the problems and needs of elderly individuals and their caregivers. These goals can be accomplished by designing and carrying an intervention that educate elderly caregivers and organizations or by advocating for legislation to assist elder independence and elder caregivers when possible.<sup>6</sup>

### Aim of the Study

The aim of this study is to evaluate the nursing intervention program to improve the care givers practices of elderly care at geriatric home through:

- 1- Assessing care givers' knowledge about elderly care.
- 2- Assessing care givers' practices toward elderly care.
- 3- Assessing factors leading to stress to caregivers and influence the pattern of care provided to the elderly.
- 4- Assessing elderly caregivers' coping with stress
- 5- Designing and implementing nursing intervention program to improve the care givers' practices toward elderly care at geriatric homes.
- 6- Evaluating the effectiveness of nursing intervention program to improve the care giver' practices of elderly at geriatric homes.

### Subjects and Methods

#### Research hypotheses:

The educational program will improve quality of life for adult client with a permanent pacemaker at home pre / post program

Subject and methodology:

I-Technical design

II-Administrative and ethical design

III- Operational design

IV-Statistical design

#### I-Technical Design:

The technical design includes; the setting, sample & tools were used in the study

#### B- Setting:

This study will be conducted to half number of districts in Cairo governorate, and select two geriatric homes of each district that more density in the following geriatric homes which located at Cairo governorate and these settings were chosen because they serve the community around Ain Shams University. Where those are; facility of mosenensamanelshikh (Rod el farag), daranwaralmostafa & Dar mosenenalrahman (Almataria), botrosghaly for elderly (Alwaily), darmosenen and mosenat el hadialeslamy (Alsharabia), darMosenenalkhairiaaleslamia (alsaidazainab)..

#### C- Sampling:

A convenient sample was used in this study. The total numbers of elderly caregivers who work in the previous mentioned setting were 73 person and pilot study it was chosen and carried out on 13 person whom & excluded later the study sample . The sample became 60 person for both genders (male & female), 10 persons from each geriatric home, elderly caregiver from 20 to 60 years old. Work at geriatric homes and accepting to participate in the study program.

**C. Tools of data collection:** Four tools were used for data collection.

**I. Interview questionnaire form (Appendix I):** the questionnaire sheet was designed by the investigator and written in simple Arabic language based on scientific

literature review, experts' opinion and personal experience and filled. It is comprised of two parts:

**Part I:** It was used to assess demographic characteristics of elderly caregivers include age, gender, education, marital status, No of elderly people who are caring for and No of caregivers care for (preprogram)

**Part II:** It was used to assess knowledge about elderly care such as concept of aging, factors of elderly wellbeing, health problems related aging, human rights related elderly at geriatric home, normal changes related aging (physical, mental, social and psychological), daily care for elderly (physical exercises, healthy & balanced nutrition, sleeping disturbance, personal hygiene, bed sores, elderly falls) and first aids for common cases (bruises, fracture, fainting, diabetic coma, diarrhea and burn) (pre/post program).

Scoring system for knowledge questions:

The questionnaire of the elderly' caregivers related to knowledge (pre & post program application) was constructed in the form of Multiple Choice Questions. The right answers were scored one and those wrong were scored zero. These scores were summed-up and converted into a percent score and categorized into three levels as:

- § Poor: if the percent score was 70-100%
- § Fair: if the percent score was 50-69%
- § Good: if the percent score was 0-49%

## **II. Reported practice through self-assessment tool (Appendix II):**

It was designed to assess the elderly' caregivers practices and filled by investigator to meet their needs through asking questions regarding role of elderly caregiver to keep legal issues related elderly at geriatric home, meet elderly needs related aging (physically, mentally, socially and psychologically), perform daily care for elderly (physical activity, preparing healthy & balanced nutrition, provide safety during nutrition the elderly, defecating, sleeping & rest pattern), assist elderly according to his ability to do personal hygiene (mouth & teeth, hair, nail, foot care and

bathing), provide safe environment for elderly, take care of unable elderly (mobilization in bed, ambulation (helps the elderly to get up and sit, helps the elderly to stand and walk), lifting from bed to chair & inverse, proper precautions to avoid bed sores, right steps for elderly bed lying bathing and first aids for common cases (nasal bleeding, bruises, fracture, fainting, diabetic coma, diarrhea and burn) (pre & post program application).

### **Scoring system for practices questions:**

§ Score from  $0 < 60$  referred to not competent practices.

§ Score from  $60 \leq 100$  referred to competent practices.

**III. Factors leading to stress to care givers (Appendix III):** The tool was adopted from Leonard & Shirley (1990) and adapted as translated; modified and filled by investigator to assess the factors causing stress to care givers (preprogram application) as follows:

**A-Primary stressors of caregivers** (that are based on the health, behavior and functional capabilities of the elderly):

#### **1-Dependency in Activity of Daily Living.**

It is used to detect dependency in performing activities of daily living (ADLs) and to plan care accordingly. In ADLs each function is scored at two-point scale (independent = 1 and dependent = zero). Summation of items scores yields a total score ranging from "zero to 6". Where score 0 = low (very dependent elderly) and 6 = high (independent elderly).

**2- Cognitive status of elderly:** to measure the range and difficulty of caregiving activities and the ability of caregivers to manage their relationships with their impaired elderly grow out of the elderly's memory loss, communication deficits, and recognition failures. The evaluation of cognitive status, although made by the caregiver, is based on standard tests typically used in the clinic. The questions asking about elderly's cognitive status are 8 questions, presented in five scales placed in: can't do at all = (4), very tough = (3), fairly tough = (2), just a little tough = (1) and not at all tough = (0). A score of 0 to 4

was given to each response, whereby higher scores indicated a stronger intention. The reliability (alpha) of this scale was 0.86.

**3-Problematic Behavior:** to measure the level of elderly's awareness that must be maintained and the "damage control" that must be exercised to ensure that the elderly harms neither himself nor others constitute. It consists of 16 questions, presented in four scales placed in: 5/more days = (4), 3/4 days = (3), 1-2 days = (2) and no days = (1). A score of 1 to 4 was given to each response, whereby higher scores indicated a stronger intention. The reliability (alpha) of this scale was 79.

**4-Overload (burnout felt by caregiver):** the items constituting the measure reveal not only the level of fatigue felt by caregivers but also the relentlessness and rigid nature of its source. It was composed of 4 items and answers were coded according to the following: wholly = (4) score, quite a bit = (3), fairly = (2) and not at all = (1). By means of higher scores indicated a high stress because of overload.

B- Secondary stressors: Role strains and intrapsychic strains

**5-Work colleagues conflict:** to assess the elderly's caregivers stress because of conflict with work colleague. Three dimensions of conflict were identified in issues of seriousness/safety of elderly, attitudes & actions toward elderly and attitudes and actions toward caregiver and composed of 9 questions. Where issues of seriousness / safety of elderly was included in 3 items (Q1- Q3), attitudes and actions toward elderly included was involved in 4 items (Q4 - Q7), and attitudes and actions toward caregiver was comprised in 2 items (Q8 - Q9). Answers were coded as the following: a lot of conflict = (4), some conflict = (3), just a little conflict = (2) and no conflict = (1). Through the higher scores indicated that care givers under high stress because of work colleagues' conflict.

**6- Personal Gain:** the measure of personal gain or enrichment is proof to the fact that many people manage to find some inner growth as they face the severe challenges of caregiving. Competence & gain were included partly out of interest in whether the enhancement of self is negatively related to stress outcomes, the deterioration of self to be positively related to stress. They were also included to

determine if the enhancement of some elements of self-counter balanced or compensated for the deterioration of others. It was composed of 4 items and answers were coded according to response categories as follow: very much = (4), somewhat = (3), just a little = (2) and not at all = (1). By means of lower scores indicated a high stress.

**7-Caregiving Competence:** to measure the adequacy of performance as caregivers, (alpha = 0.74). Competence is measured by a four-item scale that essentially asks caregivers to rate the adequacy of their performance as caregivers and answers were coded as next: very much = (4), somewhat = (3), just a little = (2) and not at all = (1). By means of lower scores indicated a high stress as inability to be adequate at performing caregiving.

**IV: Caregivers Coping with stress (Appendix IV):** the tool was adopted from 7,8&9 and adapted as translated, modified and filled by investigator to assess caregivers coping with stress (pre & post program application) as follows; caregivers coping in response to elderly caregiving problems as having three possible functions: management of the situation giving rise to stress; management of the meaning of the situation such that its threat is reduced; and management of the stress symptoms that result from the situation. Where function of management of the situation was included in 6 items (Q1-Q6), management of the meaning of the situation was involved in 8 items (Q1-Q8), where this item involves three parts, one involves the reduction of expectations (Q1-Q3), a second the use of positive comparisons (Q4-Q5), and the third a search for a larger sense of the illness (Q6-Q8), and management of the stress symptoms was comprised in 6 items (Q1-Q6). Answers were coded according to the following: very often = (4), fairly often = (3), once = (2) and never = (1). Through the higher scores indicated that care givers can represent coping behaviors and practices to manage stressors that lead to from caregiving to the elderly at geriatric homes.

**The Validity:** it was tested through 5 experts, from community health nursing department, faculty of nursing, Ain Shams University.

The **reliability** was done by Cronbach's Alpha coefficient test which revealed that each of the three tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool, where the reliability of them was 0.831

### III. Operation design:

The operational design for this study consisted of three phases, namely preparatory phase, pilot study, and fieldwork.

#### A. Preparatory Phase

This phase included reviewing of literature related to caregivers' knowledge about elderly care at geriatric homes by using books, articles, journals, and internet, in order to get a clear picture of the research problem, as well as, to develop the study tools for data collection. During this phase, the investigator also visited the selected places to be familiar with the personnel and the study settings. Development of the tools was under supervisors' guidance and experts' opinions were considered.

#### B. Pilot Study

A pilot study was conducted on ten of the elderly caregivers in the pre-mentioned settings, in order to test the eligibility, including the suitability and feasibility, availability of the study population. Also, to determine the time required to conduct the constructed research tools. Modification of the tools was done based on the findings of the pilot study, some questions and items were omitted, added, or rephrased, and then the final form was developed. The subjects included in the pilot study were excluded from the study sample

#### C. Fieldwork

After obtaining a permit the investigator started to interview the caregivers. The investigator started with introducing herself and explaining the aim of the study for the subjects. The investigator assured that the data collected will be confidential and would be only used to achieve the purpose of the study. Caregivers were asked to answer the pretest questions to fill the interviewing questionnaire. The

investigator asked the question and recorded the answers and each interview lasted for approximately 30 minutes to answer these questions. The investigator collected the sheets and checks any missed item.

All tools were used to get a baseline assessment for the elderly caregivers prior to the development of the program, and also used after the program implementation, in order to compare between the findings results (pre & post) to determine the level of improvement.

Data collection for this study was carried out within a period of six months, started from the beginning of December 2019 till the end of May 2020. The investigator visited the selected settings (six geriatric homes) as follow; 2 geriatric homes for 2 months, 4 days per week (Friday, Saturday, Sunday and Monday) 2 days for each geriatric home from 9 am to 1 pm.

The investigator had identified an appointment from the subjects for meeting them at the geriatric home which include an assessment for caregivers' knowledge & practices. Also, the assessment was done after program implementation.

The intervention aimed to increase elderly caregivers' knowledge and skills through 8 weeks (two-hour per week). 60 caregivers divided into 6 groups where each geriatric home represents one group, the number of caregivers attended in each session was 10 elderly caregivers. At the end session of program implementation, the investigator reevaluates the caregivers' knowledge & practices to ensure exposure of all elderly caregivers to the same learning experience, each of them received the same program content, using the same teaching strategies, discussion, and correction on the spot and real objects.

#### Program construction:

The educational program was constructed by the investigator and consists of the following stages:

- **Preparatory stage**, which included selection of the specific program, related topics outline, objectives, knowledge which based on the identified needs of caregivers through the data obtained from pre assessment tools. The investigator conducted advanced



search for relevant studies on local and global levels. Search process included libraries of local universities, regional electronic web sites especially those of Egypt, and global electronic web sites including PubMed, Cochrane library, Medscape, and Medline, and the items needed to be included in the educational program were identified. The constructed program was disseminated to a panel of experts to be evaluated. The investigator took all comments of experts into consideration and modified.

- **Planning stage**, which plans for a series of sessions and preparing the suitable media.

- **Implementation stage**, where the program was implemented through application of Communication techniques and teaching-learning strategies. Lecture, discussions and demonstrations of the practical skills were approached as teaching methods. Audiovisual methods such as PPT, Videos, Handouts and Poster were used to facilitate the process of education. The investigator planned to meet the caregivers at the selected geriatric homes. The program was practical in nature, to improve elderly caregivers' practices, based on one-to-one caregiver assessments. Knowledge and practices for each group by the end of the teaching experience were revised. Time was opened for attendance to ask questions and to receive the corresponding answers as well as to express their feedback toward the teaching session.

#### **Program sessions:**

Time allowed: 16 hours has been allocated for health education sessions. Involve theory and practices training. Teaching sessions were conducted at any available hall at each geriatric home were student being 6 grouped and every group included (10) caregiver.

At the beginning of the first session, an orientation about the program and its purposes was given. It was agreed at the time of the break with the elderly caregivers. From the second session and so on each session started by a summary about what was given through the previous sessions and objectives of the new one.

By the end of each session a summary was made

and time allocated for questions and answers & plan for next session were made. Except for the last session a termination of sessions through feedback was done.

Educational media will use the poster, laptop, guidance handout which includes instruction and information for caregivers as a reference during and after program implementation. Teaching material will use Arabic Handout and audiovisual materials.

- **Evaluation of the program**, this stage aimed to evaluate the level of improvement in elderly caregivers' knowledge, practices and their coping with caregiving stress through implementation of program. This was done through giving posttest similar to the pretest, evaluation administered to study subjects after completion of the program in order to estimate the effect of program on elderly caregivers' knowledge and practices related to elderly care.

#### **Program Handout:**

The educational handed was designed by the investigator, including the all content of the program and given to as an educational reference during program implementation and as self-learning reference after program implementation. Its aim was providing accurate knowledge & practices related guideline instructions about obesity, risk factors and its consequences.

#### **Ethical consideration:**

Verbal approval was obtained from the caregivers before inclusion in the study; a clear and simple explanation was given according to their level of understanding, physical and mental readiness. They secured that all the gathered data was confidential and used for research purpose only

*The ethical research considerations include the following:*

§ The research approval was obtained from the faculty ethical committee before starting the study.

§ The investigator clarified the objectives and aim of the study to caregivers before starting

§ The investigator was assuring anonymity and confidentiality of subjects' data included in the study

§ The subjects was informed that they are allowed to participate or not in the study and they have the right to withdraw from the study at any time.

#### Limitation of the Study:

1. Some geriatric homes {Dar mosenataalkarma&Agaezaramelahkarma (Shobra), Mosenen and mosenatakelmaaltaeba&alqswahba (Alsahele)} refused the conduction of any kind of research for fear of transfer of infection of COVID -19.

2. The geriatric homes {Facility of mosenatsaneaelkhairat (Rod el farag), Ever green (Alwaily), Dar Mosenenyomalmostashfiat (alsaidazainab)} were excluded from the sample because there was lack of flow of elderly caregivers, where they terminated from work.

**III- Administrative design:** To carry out this study, a letter was issued to pre- mentioned settings from the dean of Faculty of Nursing, Ain Shams University explaining the aim of the study to obtain permission and help. The necessary approval letter was obtained from the head of geriatric homes in pre- mentioned settings. The title, objectives, study technique and tools were explained to gain their approval in data collection.

**IV. Statistical design:**Data were revised, coded, analyzed and tabulated using the number and percentage distribution and correlations and carried out in the computer. The statistical analysis was performed using the statistical package for social science (SPSS) program, version 20 for Windows Data Editor.

#### The following statistical techniques were used:

Percentage, the arithmetic mean (X), the standard deviation (SD), the chi-square test (X<sup>2</sup>), and proportion probability (P-value).

## Results

**Table (1): Distribution of the elderly caregivers according to their demographic characteristics (No= 60)**

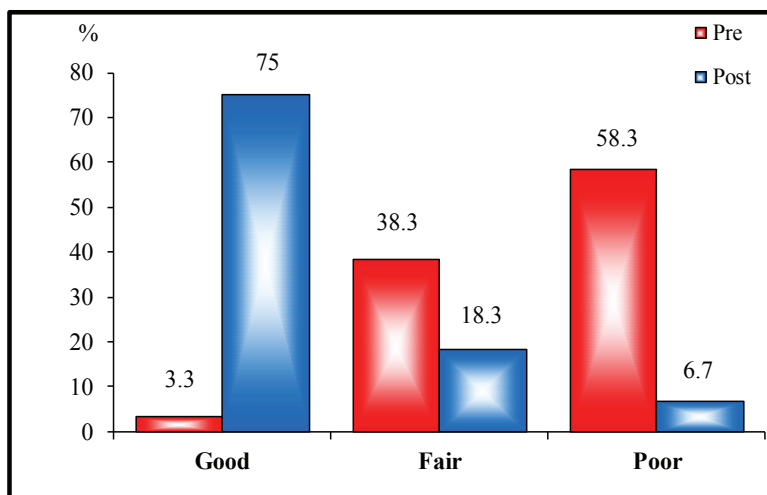
Items	No.	%
<b>Age (in years):</b>		
§ 20- < 30	8	13.3
§ 31- < 40	12	20.0
§ 41- < 50	24	40.0
§ 51- < 60	16	26.7
<b>Mean ± SD</b>	38.53± 9.79	
<b>Gender:</b>		
§ <b>Male</b>	17	28.3
§ Female	43	71.7
<b>Education:</b>		
§ Illiterate	9	15.0
§ Read and write	16	26.7
§ Basic education	35	58.3

**Cont... Table (1): Distribution of the elderly caregivers according to their demographic characteristics (No= 60)**

Marital Status:			
§	Single	13	21.7
§	Married	33	55.0
§	Widow/widower	5	8.3
§	Divorced	9	15.0
No of elderly people who are caring for:			
§	Three	16	26.7
§	More than three	44	73.3
No of caregivers care for:			
§	An able elderly	10	16.7
§	An unable elderly	8	13.3
§	Both	42	70.0

**Table 1** displays that the caregivers' age ranged between 20 to 60 years old. 40 % of them were between age 41 and 50 years. As regard gender, it was found that the 71.7% of caregivers were females. Regarding educational level 58.3 % has basic education. Concerning marital

status, the table shows that 55% of the sample was married. Regarding the number of elderly people who are caring for, it was found that, 73.3 % was caring for more than three elderlies. In relation to the health condition of the elderly person who cares for him the table shows that, 70% of caregivers were caring for both able and unable elderlies.



**Figure (1): Distribution of total knowledge of the elderly caregivers about elderly care at geriatric homes (n= 60).**

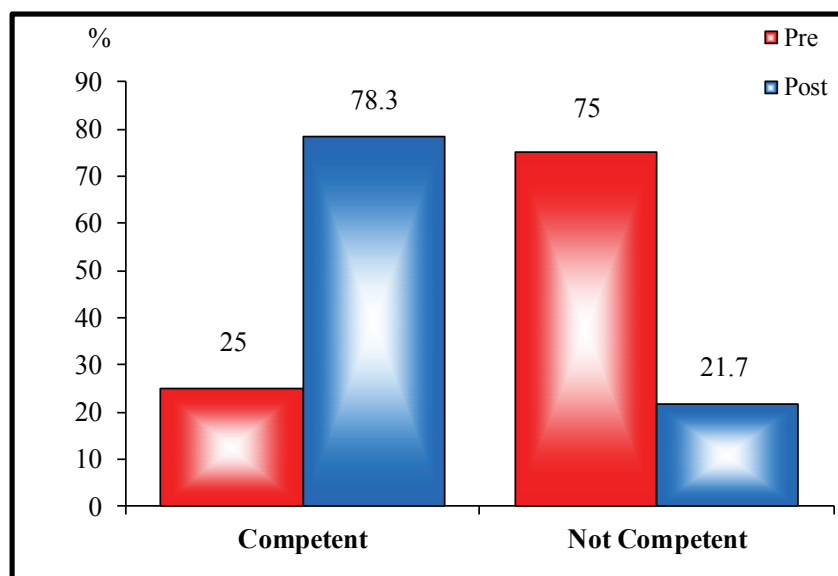
X<sup>2</sup>268.217 at P <0.001\*\*\*

\*\*\* Very highly statistically significant



Figure 1, indicated that, 3.3% of the elderly caregivers had good knowledge preprogram implementation regarding the total knowledge about

elderly care at geriatric home, improved to 75% post program implementation with very highly statistically significant differences at P value < 0.001\*\*\*



X<sup>2</sup> 34.17 at P < 0.001\*\*\*

\*\*\* Very highly statistically significant

For the total practices of the elderly caregivers toward elderly care at geriatric home, the above figure showed that 25% of the elderly caregivers were competent preprogram, while they improved to 78.3% post program implementation with very highly statistical significance at P value < 0.001\*\*\*

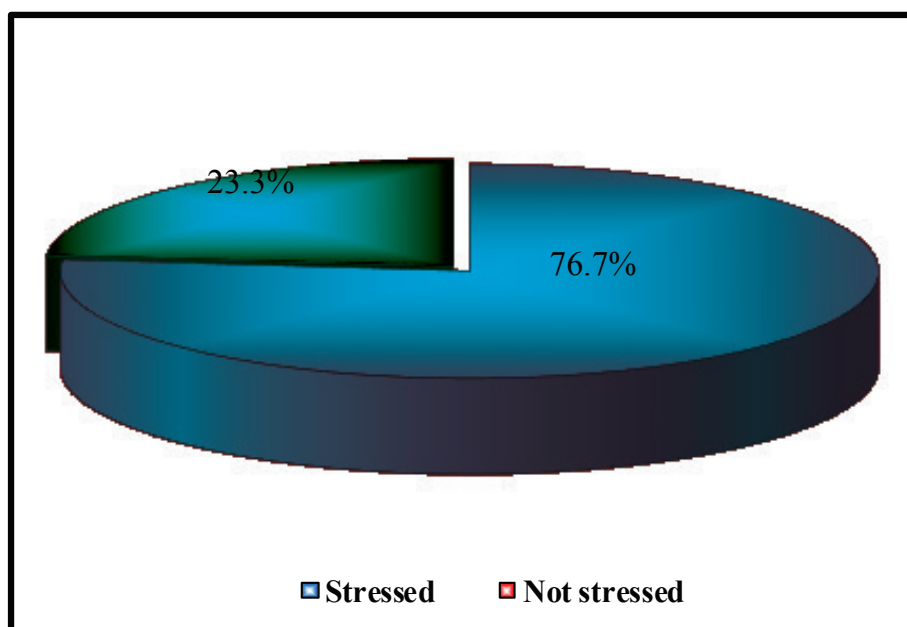
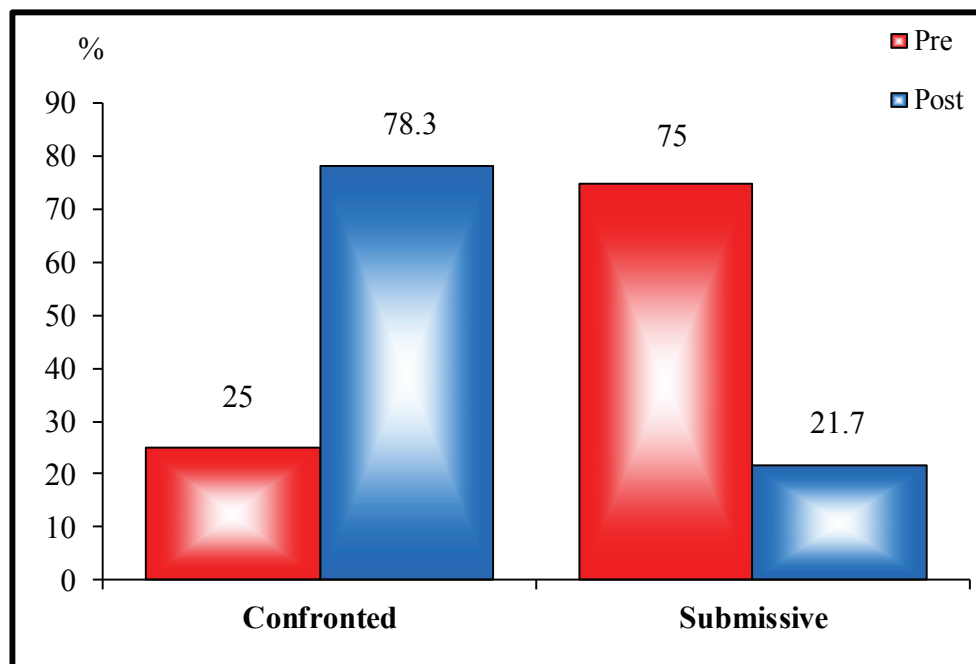


Figure (3): Distribution of the elderly caregivers according to total factors leading to stress to them (pre-program) (n= 60)

The above figure indicates that, total factors leading to stress to the elderly care givers were 76.7 % of them felt stress in caring of their elderlies at geriatric home



**Figure (4): Distribution of the elderly caregivers according to their total coping with stress (pre / post program) (n= 60).**

X<sup>2</sup>34.17 at P < 0.001 \*\*\*

\*\*\* Very highly statistically significant

The above figure, pronounced that total elderly caregivers' coping with stress regarding being confronted were 25 % preprogram changed to 78.3% post program application, there was a very highly significant difference between caregivers' coping with stress regarding being confronted pre, post program application at P < 0.001 \*\*\*

### Discussion

Population ageing is a global phenomenon with the number of persons 60 years and over estimated to reach two billion by the year 2050; for some persons, living longer is accompanied by challenges of disability and being dependent on others to assist with everyday tasks. Already, 101 million people 60 years and over worldwide are estimated to be care-dependent.<sup>3</sup>

Elderly caregivers should have the opportunity to perform their practices by professional way on a day-to-

day basis as an integral part of elderly care. That is why the current study was carried out.

According to demographic characteristics of the elderly caregivers, the present study found that, elderly caregivers' age ranged between 20 to 60 years old with two fifths of them age was ranged from 41 to less than 50 years old with the mean age was  $38.53 \pm 9.79$ . (Table 1). The findings of the present study are consistence with **Van Houtven et al.**<sup>10</sup> who studied essential long-term care workers commonly hold second jobs and double or triple duty caregiving roles in northeastern United States who stated that, the mean age of long-term care workers was 41 years

**Bilal et al.**<sup>11</sup> disagree with the current results, where the previous study about elderly care in the time of coronavirus: perceptions and experiences of care home staff in Pakistan found that, the majority of elderly caregivers were less than 40 years. In this regards **Shi et al.**<sup>12</sup> who studied Perceived stress and social

support influence anxiety symptoms of Chinese family caregivers of community dwelling older adults: a cross-sectional study illustrated that 39.83 % of caregivers were less than 40 years.

Concerning gender, the current study demonstrated that, the dominance of females than males, who were in common married. this finding is in agreement with that of **Moholt et al.**<sup>13</sup> who studied the factors affecting the use of home-based services and out of- home respite care services: A survey of family caregivers for older persons with dementia in Northern Norway who reported that the more than three fifth of elderly caregivers were females . As well, **Fagerström et al.**<sup>14</sup> who found in their study about the analyzing the situation of older family caregivers with a focus on health-related quality of life and pain: cross-sectional cohorts study in Sweden that, the great majority of their studied sample married

This trend was opposite to what was found in a study in China by **Shi et al.**<sup>12</sup> who found that, more than half of the studied sample were married men, in this regards **James et al.**<sup>3</sup> revealed in their study about socio-demographic, health and functional status correlates of caregiver burden among care recipients age 60 Years and older in Jamaica that, more than half of the studied sample were single female. In Egypt, caregiving is a female occupation, and this give a reason why the majority of the study sample were more females than males.

In relation to the level of education, this study revealed that, more than half of them had basic education. This explains why they are not responding easy to the knowledge given to them so most of them feel stress in caring of their elderlies at geriatric home. This finding is in agreement with that of **Ekström et al.**<sup>15</sup> who studied high burden among older family caregivers is associated with high prevalence of symptoms: data from the Swedish Study “Good Aging in Skane (GAS)”. Where they concluded that, more than one third of caregivers were with low educational level. Contradicting with the previous findings, **Kehoe et al.**<sup>16</sup> found in their study about quality of life of caregivers

of older patients with advanced cancer in United States that, more than half of the studied caregivers obtained some college or above.

As regard to total knowledge of the elderly caregivers about elderly care at geriatric homes pre/post program (Figure 1) the present study revealed that, only 3.3% of them had good knowledge preprogram implementation, while changed to three quarters of them post program implementation with very highly statistically significant differences pre/post program for elderly caregivers, this finding agree with a study about training of formal caregivers dealing with Alzheimer diseased patients at Helwan City Cairo Egypt by **El-Kattan et al.**<sup>17</sup> who find that the pre/post tests among formal caregivers revealed that overall knowledge, attitude and practices improved with highly statistically significant differences at  $p < 0.001$  that approved the hypothesis of implementing training program for formal caregivers.

Concerning total practice of the elderly caregivers about elderly care at geriatric homes pre/post program (Figure 4) the present study shown that, one quarter of them were competent preprogram implementation, while improved to more than three quarters of them post program implementation with very highly statistically significant differences pre/post program for elderly caregivers, this finding was in concordance with previous study about the effectiveness of a training program in developing professional performance of social workers with elderly groups in Egypt by 18 who indicated that the results of the research training program succeeded to develop this professional performance.

In relation to the total factors causing stress to care givers preprogram (Figure 5). The current finding denoted that, more than three quarters of them felt stress in caring of their elderlies at geriatric home. These results agreed with those of **Rachel and Francesco**<sup>19</sup> Who studied factors associated with and impact of burnout in nursing and residential home care workers for the elderly which conducted across a range of academic databases and suggested that nursing care aids working within nursing homes have high levels of job efficacy

(a facet of burnout) but also hold a moderate risk for burnout domains of emotional exhaustion and cynicism. This would suggest that although care home workers place value and importance in the work that they do, they also have a risk for developing a distrustful attitude and levels of emotional exhaustion. It is concerning to note that studies have reported how time worked at a nursing home negatively predicts personal accomplishment, a burnout factor. That is, the longer that staff worked at a nursing home, the lower their level of satisfaction and accomplishment around their work

Considering total coping with stress pre/post program (Figure 6) from the data gathered, it appears that, one quarter of them was confronted preprogram implementation, while enhanced to more than three quarters of them post program implementation with very highly statistically significant differences pre/ post program for elderly caregivers. This finding goes in the same line with the study about effect of counseling on burden and coping among caregivers of cancer patients with terminal illness in Kanyakumari District in Asia by Sam et al.<sup>20</sup> who showed that, the pretest mean coping score was  $27.46 \pm 8.02$  and the post test score was  $92.66 \pm 7.15$  and statistically significant. And the counseling program is effective in reducing the level of burden and improving the coping among primary caregivers of terminally ill cancer patients.

### Conclusion

The educational program implementation had statistically significant positive effect on elderly caregivers at geriatric home regarding their knowledge, practices & coping with work stress.

**Recommendation:** Continues of geriatric home program to all elderly caregivers to improve their knowledge and practices regarding elderly care. A further research on a large sample is recommended to achieve more generalization.

**Ethical Clearance:** Taken from ethical committee from faculty of nursing, October 6 University

**Source of Funding:** Self

**Conflict of Interest:** Nil

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