

DECREASING CAREGIVER STRESS

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

of Doctor in Nursing Practice

By

Dexter Ramos

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Lynchburg, VA

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Scholarly Project Approval:

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ABSTRACT

Stress is both critical and personal experience and has significant effects on caregivers' physical, mental, and social well-being. The nature of caregiving and the responsibility to work and serve individuals at their illness conditions are very personal encounters that often result in adverse effects on the health and well-being of caregivers (Frederick, 2016). A decrease in stress experience can lead to the satisfaction of caregiver roles and improvement of patient's quality of life (Choi, Jisun & Boyle, Diane, 2013; Yada, Nagata, & Inagaki, 2014). This scholarly project determined that evidence-based stress management interventions have decreased the perceived stress in caregivers. The scholarly project identified low levels of stress among research participants, and how evidence-based interventions decreased caregiver stress by increasing their knowledge and awareness of evidence-based stress management interventions. The results of this scholarly project agree with the literature that caregiver stress experience can be decreased through the implementation of evidence-based stress management interventions (Blom, Zarit, Groot Zwaafink, Cuijpers, & Pot, 2013). It is significant to implement evidence-based stress management interventions to decrease perceived stress among caregivers.

Keywords: caregiver, stress, evidence-based stress management interventions

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List of Abbreviations

American Association of Colleges of Nursing (AACN)

American Psychology Association (APA)

Collaborative Institutional Training Initiative (CITI)

Doctor of Nursing Practice (DNP)

Evidence-Based Practice (EBP)

Institutional Review Board (IRB)

Problem, Intervention, Comparison, Outcome (PICO) Question

Registered Nurse (RN)

Zarit Burden Interview (ZBI) short form (S).

SECTION ONE: CAREGIVER STRESS

The need for professional caregiver services is rising in the United States and other countries (The Joint Commission, 2018). Caregivers can be of any working age and can be from any socioeconomic group (Embracing Carers, 2017). Their role as a caregiver is multidimensional: they help people with everyday activities like dressing, cooking, eating, toileting, medication administration, and going to clinic visits (Embracing Carers, 2017). More importantly, caregivers provided emotional support to people who, due to an illness, disability, or mental health issue, cannot cope without help (Embracing Carers, 2017; Frederick, 2016).

Although caregiving is a rewarding and fulfilling job, professional caregivers were facing stress at work, regardless of age, employment status, or gender (Embracing Carers, 2017). Experiences of stress among caregivers can result in adverse effects on their health and the health of their patients (Frederick, 2016).

In the United States, adverse events on patients are defined as unintended or unintentional injuries that can happen in healthcare institutions, including assisted living facilities or group homes (The Joint Commission, 2015). The Joint Commission indicated that human factors like caregiver stress, miscommunication, lack of competent patient assessment, nonconformities in the established protocol, and unsafe physical environment are among the most common reasons of adverse events (Putnam, 2015). Common consequences of adverse events are severe physical and emotional injuries, reduced quality of life, increased the length of hospital stay, discharge to a long-term care facility, and increased healthcare cost (The Joint Commission, 2018; Anderson, Poster, & Dam, 2016).

Moreover, caregiver stress often leads to adverse effects on their physical, psychosocial, psychological, social, and financial health of caregivers (The Joint Commission, 2015; Yada,

Nagata, & Inagaki, 2014). This stress experience can make them less effective healthcare workers (Yada et al. 2014). It is essential to support professional caregivers to prevent the adverse effects of stress on themselves and to the people who depend on them (Baker, Huxley, Dennis, Islam, & Russell, 2015; Blom, Zarit, Groot Zwaafink, Cuijpers, & Pot, 2013).

Background

Experiences of stress result in anxiety and depression among caregivers and can result in their inability to contend with the role demands of their work (Frederick, 2016). Sentinel events, including patient fall incidents with a severe injury, were associated with human factors that include caregiver stress, and lack of attention and concentration at work, among others (Embracing Carers, 2017; Frederick, 2016). Despite ongoing interventions, training, and increasing awareness on preventative measures, sentinel events among recipients of care remain a challenge.

This scholarly project used valid psychometric tools to effectively implement and evaluate interventions to support professional caregivers and to decrease stress. The healthcare organization where the project was conducted had no evidence-based interventions for decreasing the caregivers' stress experience.

Problem Statement

Experiences of stress among professional caregivers may result in adverse effects on their health, and may also lead to many adverse incidents in several healthcare institutions and facilities in the country (The Joint Commission, 2015; Ramos, 2017). Stress among caregivers is dependent on factors such as family, social network, healthcare providers, and leadership support (Frederick, 2016).

Although caregiving is a rewarding and fulfilling job, professional caregivers are facing stress at work that can impact their health and patient outcomes. There were no evidence-based interventions in decreasing the stress experience for caregivers in the healthcare organization. However, by asking a caregiver to answer a survey and perform evidence-based stress management interventions, stress experience that could impact their health and patient outcomes will be decreased.

Purpose of the Scholarly project

The purpose of the scholarly project was to help caregivers to decrease their stress experience by implementing evidence-based stress management interventions. Participants who consented to participate in the project answered a survey and completed evidence-based stress management interventions. A review of related literature was done to enumerate current evidence-based interventions to decrease caregiver stress. Outcomes of this scholarly project will become part of the support, education, and quality improvement of professional caregivers.

Clinical Questions

Patient/Problem/Population: Stress as experienced by professional caregivers working in assisted living group homes.

Intervention: Implementation of evidence-based stress management interventions.

Comparison: The project manager compared the Zarit Burden Interview (ZBI) short form (S) pretest and posttest scores after intervention.

Outcome: The primary outcome was to decrease caregiver stress based on their ZBI (S) scores.

Problem, Intervention, Comparison, Outcome (PICO) Question: Can implementation of evidence-based stress management interventions decrease caregiver stress?

SECTION TWO: LITERATURE REVIEW

Literature provided several perceptive and meaningful benefits to decrease caregiver stress. This literature review examined research on the adverse effects of stress on caregivers and to their recipients of care based on the PICO Question: Can the implementation of evidence-based stress management interventions decrease caregiver stress?

Search Strategy

The comprehensive literature review about caregiver stress used the journals and databases, including the Journal of Advanced Nursing, The Journal of nursing education, International Journal of Nursing Practice, and the Journal of Applied Gerontology. This scholarly project also used search engines, including PubMed of the National Library of Medicine, CINAHL, and Ovid SP. Keywords used include caregivers, caregivers stress, caregiver burden, measuring caregiver stress, and evidence-based stress management interventions.

Approximately 3,000 articles were retrieved consisting of full-text articles in the English language and research conducted from the year 2013 up to present (within the last five years). The databases were then revisited using the keywords caregiver stress and burnout, sentinel events (patient falls, medication errors), and caregiver support. The literature discussed in this review included articles that were analyzed using the framework of the level of evidence. The literature review included items indicating caregiver interventions to give support for caregiver stress. At the end of the literature review, the theoretical framework for the scholarly project will be discussed.

Caregiver Stress

Caregivers are support persons who give emotional support to people who, due to an illness, disability, or mental health issue, cannot cope without help (Embracing Carers, 2017;

Frederick, 2016). Caregivers were facing many challenges, including stress and burnout. More significant stress experience was affected by the work environment and physical workload, and higher anxiety was affected by caregiver's heavy job responsibilities (Yada et al. 2014). A study by Yada et al. (2014) examined the specificity and structures of job-related stress among psychiatric dementia nurses (PDNs) caring for elderly people living with dementia indicated the importance of reducing job stressors to improve patient health outcomes, and establishing structures for nursing techniques in psychiatric dementia wards to improve the mental health of PDNs.

Two studies revealed that absence of satisfaction and enjoyment at work were found to result in caregiver stress. Nantsupawat, Srisuphan, Kunaviktikul, Wichaikhum, Aunguroch, and Aiken (2016) analyzed the caregiver burnout on self-reported quality of care among healthcare facilities in Thailand. The study utilized a random sampling and survey, comprised of 2,084 out of 2,415 respondents (Nantsupawat et al. 2016). The study showed that most of the respondents experienced high emotional exhaustion, depersonalization from work, and low personal accomplishment as a consequence of stress experience (Nantsupawat et al. 2016).

Moreover, the study correlated the caregiver's stress experience to sentinel events, indicating that caregiver's increased emotional exhaustion was related to a 30% increase in patient falls (Nantsupawat et al. 2016). These findings of caregiver stress were supported by Choi, Jisun & Boyle (2013) in their study that included random 2009 unit-level data from 2,763 units in 576 National Database of Nursing Quality Indicators hospitals. While stress can lead to burnout, it can also result in caregiver job dissatisfaction. Choi et al. (2013) indicated that job satisfaction and decreased level of stress had positive effects in preventing sentinel events, as job

satisfaction had contradicting relationship with patient falls (incident rate ratio, 0.941, 95% confidence interval, 0.911-0.972) (Choi et al. 2013).

Sentinel Events

The sentinel event database of The Joint Commission indicates that human factors like caregiver stress, miscommunication, lack of competent patient assessment, nonconformities in the established protocol, and unsafe physical environment were among the most common reasons of patient adverse events (Putnam, 2015). Stress and caregiver burnout were common among caregivers that often lead to sentinel events. A non- experimental, descriptive survey was conducted involving 117 hospitalized respondents (39 patients with a fall event and 78 patients who did not experience a fall) about their caregivers (Almis, Bucak, Konca, & Turgut, 2017). The study revealed that caregivers' attention, fatigue, sleep conditions, stress level, and anxiety were the most critical factors influencing inpatient patient falls (Almis et al., 2017). This study gives information that caregiver's stress is an important consideration to prevent a sentinel event.

Another study analyzed the impact of caregiver stress on frequent hospitalization of community-dwelling older people. The survey of Donnelly, Hickey, Burns, Murphy, & Doyle (2015) included community-dwelling older people (aged 65 and over) with chronic care needs that were being cared for by caregivers. Their study found that the level of stress experienced by caregivers was essential both of itself and for its potential impact on the patient.

Caregiver Support

Experiences of stress result in anxiety and depression among caregivers and can result in an inability to contend with the role demands of their work (Frederick, 2016). It is critical to support caregivers to help them help the people they care for and to prevent the adverse effects of stress on themselves and to the people who depend on them (Baker, Huxley, Dennis, Islam, &

Russell, 2015; Blom et al. 2013). Different caregiver support was available for use, which included the provision of respite care, interventions to enhance coping skills and well-being with psychological programs, such as web-based resources, counseling or psychotherapy, and effective communication and use of community-based supports (Frederick, 2016). Hersch et al. (2016) evaluated the effectiveness of the web-based “BREATHE: Stress Management” among 104 respondents employed healthcare facilities in Virginia. The program group participants experienced significantly better reductions than the control group, and respondents who used the program more benefitted better (Hersch, Cook, Deitz, Kaplan, Hughes, Friesen, & Vezina, 2016). Another internet-based stress management intervention called “Mindfulness-based stress reduction” (MBSR) online training conducted by Baker et al. (2015) included 134 managers and staff who provided direct care in a group home. Their research specified that MBSR was a valuable, practical, and cost-effective intervention to reduce caregiver stress and enhance their well-being. Internet-based stress management was the most effective method in decreasing caregiver stress and provided positive effects on caregiver’s burden, stress, anxiety, and depression.

Four systematic reviews included in this literature review evaluated the impact of Internet-based intervention programs on caregiver’s stress and mental health outcomes. The studies indicated that computer-mediated psychosocial interventions were beneficial in reducing symptoms of depression, stress, and anxiety, while it increases caregiver’s self-efficacy, stress management, and coping skills (Bijker, Kleiboer, Riper, Cuijpers, Donker, 2018; Kajiyama, Thompson, Eto-Iwase, Yamashita, Di Mario, Marian Tzuang, & Gallagher-Thompson, 2013; McKechnie, Barker, & Stott, 2014; Marziali & Garcia, 2018). Also, the internet-based stress management intervention was perceived as user-friendly by caregivers as it allows them to use

the intervention at their own pace and permits them to use the stress management interventions in their practice immediately (Baker et al. 2015; Bijker, L. et al. 2018; Blom et al. 2013). Blom et al. (2013) added that while internet-based stress management intervention was cost-effective in decreasing the negative psychological consequences of caregiving, the use of Internet-based stress management interventions was still minimal and not often used as an approach to meet the needs of caregivers.

Summary and Synthesis

Caregivers, as support persons, were facing challenges from the work environment and physical workload. Stress and burnout experienced by caregivers need to be considered to promote job satisfaction and improve patient health outcomes (Yada et al. 2014). Increased levels of emotional exhaustion and burnout from work were some of the consequences of stress experience (Nantsupawat et al. 2016). Aside from emotional fatigue and burnout, stress can also lead to depersonalization in the job as a result of dissatisfaction from caregiver roles (Choi et al. 2013).

Decreasing caregiver stress was vital as sentinel events were often results of caregiver stress. Stress and caregiver burnout were common among caregivers that often lead to sentinel events. Attentiveness at work, fatigue, sleep conditions, stress level, and anxiety were the most critical factors influencing sentinel events, including patient falls (Almis et al. 2017). Caregivers were support systems of the people they serve. The level of stress experienced by caregivers was vital both of itself and for its possible effect on their patient's health outcomes (Donnelly et al. 2015).

Awareness in the roles of caregivers and the importance of decreasing caregiver stress can be facilitated through the different interventions ranging from effective communication and

implementation of Internet-based stress management interventions. There were several interventions included in this project displayed in the appendices. It was noteworthy to encourage caregivers to help them help the people they care, to prevent the adverse effects of stress on themselves and to the people who depend on them (Baker, Huxley, Dennis, Islam, & Russell, 2015; Blom et al. 2013). Several internet-based stress management interventions included in the literature review were useful in providing positive effects on caregiver's burden, stress, anxiety, and depression. Internet-Based stress management intervention called "Mindfulness-based stress reduction" (MBSR) online training was a valuable, practical, and cost-effective program to decrease caregiver stress and improve their well-being (Baker et al. 2015). Another internet-based stress management intervention called "BREATHE: Stress Management" shown its efficacy in reducing stress among caregivers who used the program (Hersch et al. 2016). Based on the literature review, evidence-based stress management interventions were effective to decrease caregiver stress.

Conceptual Framework

The scholarly project used the Iowa model of evidence-based practice as a guide during the implementation of this scholarly project. The model was selected to assist the scholarly project during the identification and solving of the PICO question, as it relates to integrating the findings of research evidence into practice. The model was relevant to the scholarly project, as it provided insights about the importance of the formation of a team to collect and conduct evidence appraisals and to determine if the research evidence were sufficient to answer PICO questions.

SECTION THREE: METHODOLOGY

Design

The scholarly project about decreasing caregiver stress was implemented in group homes, managed by a healthcare organization in the Northeastern United States, using the Iowa Model for Evidence-Based Practice. Participation in this scholarly project was voluntary, and those who consented to this scholarly project were asked to complete a pretest survey. The scholarly project was a pretest-posttest design that involved a measure of pretest of the outcome of interest before the intervention, followed by a posttest on the same standard after the intervention.

Measurable Outcomes

The scholarly project concentrated on baseline characteristics, activities, and interventions related to caregiving. Moreover, this scholarly project measured the caregiver stress before and after the implementation of evidence-based stress management interventions using ZBI short form.

Setting

The scholarly project took place in assisted living group homes of a healthcare organization. The Registered Nurses (RNs) visit the residents in their group homes located in the Northeast. These RNs coordinate care with providers and caregivers to render nursing supervision and preventative care. Employed caregivers provided the home care services supervised by RNs in the assisted living group homes. These home care services include medication administration, vital signs assessment, provision of comfort and safety, facilitation of assistance with activities of daily living, and transportation. Some of the most common medical conditions that the residents living in assisted living group homes include intellectual and

developmental disabilities, diabetes, hypertension, and behavioral conditions like obsessive-compulsive disorders, autism, and attention-deficit disorders.

Population

The target population of this scholarly project was the professional caregivers of a healthcare organization in the Northeast, who were above 18 years of age.

Ethical Considerations

The scholarly project used surveys that were distributed among the caregivers of residents living in assisted living group homes. The caregivers, rather than the residents, were the human subjects. The project was submitted to and approved by the lead institution, the Institutional Review Board (IRB). A copy of the IRB approval letter was provided in the appendix. Additional ethical considerations were addressed, including the protection of human subjects, consent, and data confidentiality. A consent form was attached in the recruitment letter and was given to participants at their most convenient time, including their downtime (from 9 in the morning to 3 in the afternoon while patients were attending day programs or coffee breaks).

Participants were asked to write their names and date on the consent form before completing the questionnaire. A blank copy of consent form was provided in the appendix. All of the participants answered the questionnaire in a room where privacy and confidentiality were maintained. The research data were kept in a password locked computer and locked cabinet, located inside the project manager's residence. The project manager and the faculty mentor/chair were the only people who had access to the research data. A copy of the project manager's Collaborative Institutional Training Initiative (CITI) Certificate was provided in the appendix.

This scholarly project followed the Institutional Review Board (IRB) requirements. The only potential risk of this paper was a breach of confidentiality if the data was lost or stolen. The

project manager did not use either practice-associated electronic medical record nor archival data in this scholarly project.

Data Collection

The caregivers who were the participants of the scholarly project answered the questionnaire before and after using evidence-based stress management interventions. The questionnaires were administered and collected by the project manager at the caregiver's most convenient time.

Tools

Caregiver stress was measured with the Zarit Burden Interview (ZBI) short form (S). This model was endorsed by Hérbert, Bravo, and Prévile, who had given the most frequently mentioned data on reliability and validity for the Zarit Burden Inventory (American Psychological Association, 2018). Hérbert, Bravo, and Prévile in 2000 conducted a study that included a sample of 312 caregivers from the Canadian Study of Health and Aging, with results indicating internal consistency reliability containing a Cronbach's alpha coefficient of 0.92, which was not significantly improved by the removal of any of the 22 items (American Psychological Association, 2018). The ZBI-S contains 12 questions about personal feelings of stress brought by the caregiving role (Frederick, 2016; American Psychological Association, 2018):

1. Do you feel that because of the time you spend with your patient that you don't have enough time for yourself?
2. Do you feel stressed between caring for your patient and trying to meet other responsibilities for your family or work?
3. Do you feel angry when you are around the patient?

4. Do you feel that your patient currently affects your relationships with other family members or friends in a negative way?
5. Do you feel strained when you are around your patient?
6. Do you feel that your health has suffered because of your involvement with your patient?
7. Do you feel that you don't have as much privacy as you would like because of your patient?
8. Do you feel that your social life has suffered because you are caring for your patient?
9. Do you feel that you have lost control of your life since your patient's condition?
10. Do you feel uncertain about what to do about your patient?
11. Do you feel you should be doing more for your patient?
12. Do you feel you could do a better job in caring for your patient?

The five-point response scale includes: never (0), rarely (1), sometimes (2), quite frequently (3), nearly always (4). A sum score from 0 to 48 was calculated. The sum score of equal or less than 12 was classified as "low stress," and the scores more than 12 as a "high stress" (Frederick, 2018; Schreiner et al. 2006).

Intervention

The scholarly project was conducted using a home visit to invite caregivers to complete the ZBI-12 Survey. The survey score was calculated to know what the caregiver needs as an implementation plan of action (see Appendices B and C).

The survey scores correspond to the intervention: (0-19) Universal, (20-35) Selective, and (36-48) Indicated. Once the plan of action was known, the selections within these survey scores were analyzed. The scholarly project followed the Caregiver Stress Intervention Flowchart (see Appendix A) to assess the caregiver activities of their knowledge about their

roles, coping and self-efficacy, support seeking, and quantity of caregiving to determine if an additional intervention was required for the caregiver. Information about the scholarly project's findings on caregiver stress, along with the evidence-based interventions based on related literature, was distributed to assisted living group homes for caregiver's use.

Data Analysis

Pretest and posttest information were collected from the participants. Only participants with both pretest and posttest were included in the analysis. The results before and after the intervention were compared for analysis. The difference between the results of pretest and posttest were tested for statistical significance using the paired sample t-test.

SECTION FOUR: RESULTS

This scholarly project was designed to determine if evidenced- based stress management interventions were effective in decreasing perceived levels of stress among caregivers. The scholarly project included thirty participants ($n=30$) who were 18 years old and above and was actively working as a paid caregiver in assisted living group homes. All of the thirty participants ($n=30$) completed and submitted their pretest to the project manager. The pretest scores were analyzed by the project manager to determine the most appropriate level of intervention for the participants. A total of twenty-seven participants ($n= 27$) completed the posttest after the stress management intervention, with a response rate of 90%.

Table 1 displays the number of participants during the pretest and posttest. Among 30 participants, thirty participants answered the pretest while three caregivers declined to answer the posttest.

Table 1

Number of Participants in Pretest and Posttest (N)

| | | Pretest | Posttest |
|---|---------|---------|----------|
| N | Valid | 30 | 27 |
| | Missing | 0 | 3 |

Table 2 displays the frequency table of the pretest scores. Based on the frequency table of pretest scores, five caregivers representing 16.7% of participants had the lowest score of ‘0’. The highest score of the pretest, which was ‘16’ was noted from 3 caregivers, representing 10% of participants. As indicated in table 2, 80% of the participants scored 12 and below in their pretest, which was classified as “low stress,” while the remaining 20% of the participants scored above 12 and were classified as “high stress.” (Frederick, 2018; Schreiner et al. 2006).

Table 2

Frequency of Pretest Scores

| Scores | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-----------|---------|---------------|--------------------|
| .00 | 5 | 16.7 | 16.7 | 16.7 |
| 2.00 | 2 | 6.7 | 6.7 | 23.3 |
| 3.00 | 1 | 3.3 | 3.3 | 26.7 |
| 4.00 | 3 | 10.0 | 10.0 | 36.7 |
| 7.00 | 3 | 10.0 | 10.0 | 46.7 |
| 8.00 | 3 | 10.0 | 10.0 | 56.7 |
| 9.00 | 2 | 6.7 | 6.7 | 63.3 |
| 10.00 | 1 | 3.3 | 3.3 | 66.7 |
| 11.00 | 2 | 6.7 | 6.7 | 73.3 |
| 12.00 | 2 | 6.7 | 6.7 | 80.0 |
| 14.00 | 2 | 6.7 | 6.7 | 86.7 |
| 15.00 | 1 | 3.3 | 3.3 | 90.0 |
| 16.00 | 3 | 10.0 | 10.0 | 100.0 |
| Total | 30 | 100.0 | 100.0 | |

All of the participants’ pretest scores were under 19 (score ranged from 0-16) and corresponded with universal interventions. The participants received information about evidence-

based stress management interventions under universal intervention (Appendices B and C).

Posttest questionnaires were given to the participants after the completion of interventions.

Table 3 displays the frequency of the posttest scores after the completion of stress management interventions. Based on the frequency of the posttest scores of 27 participants, eight caregivers, or 26.7% of participants of the projects obtained the lowest score of '0'. The highest score of posttest, which was '11' was scored by three caregivers, representing 10% of participants. All of 27 caregivers had "low stress" after the completion of evidence-based stress management interventions based on their posttest scores.

Table 3

Frequency of Posttest Scores

| Scores | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| .00 | 8 | 26.7 | 29.6 | 29.6 |
| 2.00 | 2 | 6.7 | 7.4 | 37.0 |
| 4.00 | 3 | 10.0 | 11.1 | 48.1 |
| 5.00 | 1 | 3.3 | 3.7 | 51.9 |
| 6.00 | 3 | 10.0 | 11.1 | 63.0 |
| 7.00 | 2 | 6.7 | 7.4 | 70.4 |
| 8.00 | 1 | 3.3 | 3.7 | 74.1 |
| 9.00 | 3 | 10.0 | 11.1 | 85.2 |
| 10.00 | 1 | 3.3 | 3.7 | 88.9 |
| 11.00 | 3 | 10.0 | 11.1 | 100.0 |
| Total | 27 | 90.0 | 100.0 | |
| Missing | 3 | 10.0 | | |
| Total | 30 | 100.0 | | |

To determine the effectiveness of the evidence-based stress intervention, the project manager used the paired samples t-test to compare the paired differences of the pretest and posttest scores of the respondents before and after the stress management interventions. Using the paired samples statistics, the project manager computed for the pretest and posttest means, standard deviation, and standard error means. The pretest revealed a mean of 7.8148, a standard

deviation of 5.60931, and a standard error mean of 1.07951. On the other hand, posttest indicated a mean of 4.8519, a standard deviation of 4.8519, and a standard error mean of .77479. Table 4 displays the paired samples statistics

Table 4

Paired Samples Statistics

| | Mean | N | Std. Deviation | Std. Error Mean |
|----------|--------|----|----------------|-----------------|
| Pretest | 7.8148 | 27 | 5.60931 | 1.07951 |
| Posttest | 4.8519 | 27 | 4.8519 | .77479 |

Moreover, the paired samples correlations revealed that the pretest and posttest correlated .953 with a significance level of .000. Table 5 shows the paired samples correlation.

Table 5

Paired Samples Correlation

| | N | Correlation | Sig. |
|--------------------|----|-------------|------|
| Posttest & Pretest | 27 | .953 | .000 |

Using the data from the paired difference (see Table 6), the average difference between the two variables was 2.96296. The standard deviation of the difference scores was 2.15695, while the standard error mean computing both the test statistic, and the upper and lower bounds of the confidence interval were .41510. The test statistic was 7.138, with a degree of freedom of 26. The p-value was .000 corresponding to the given test statistic with degrees of freedom.

Table 6

| <i>Paired Difference</i> | | | | | | | | |
|--------------------------|---------|-------------------|-----------------------|----------------------------|---------|-------|----|---------------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval | | t | df | Sig. (2- tailed) |
| | | | | Lower | Upper | | | |
| Pretest- Posttest | 2.96296 | 2.15695 | .41510 | 2.10970 | 3.81622 | 7.138 | 26 | .000 |

As indicated in the results of the paired samples test, the pretest and posttest scores were positively correlated ($r = .953$, $p < 0.001$). There was a significant average difference between pretest and posttest scores ($t_{26} = 7.138$, $p < 0.001$); and on average, pretest scores were 2.96296 higher than posttest scores (95% CI [2.10970, 3.81622]).

SECTION FIVE: DISCUSSION

Implication for Practice

The experiences of stress and burnout by caregivers are very significant events that can decrease job satisfaction and can harm patient health outcomes (Yada et al. 2014). The nature of caregiving and the responsibility to work and serve persons at their illness states were very personal encounters that often lead to adverse effects on the health and well-being of caregivers (Frederick, 2016). A decrease in stress experience can lead to the satisfaction of caregiver roles and improvement of patient's quality of life (Choi et al. 2013; Yada et al. 2014). This scholarly project indicated that evidence-based stress management interventions decreased caregiver stress. The evidence-based research helped this scholarly project to determine the significance of implementing stress management interventions among caregivers who experienced stress at work.

The project manager identified low levels of stress among research participants, and how evidence-based interventions decreased caregiver stress by increasing their knowledge and awareness on effective stress management interventions. The results of the scholarly project agree with the literature that caregiver stress experience can be decreased through the implementation of evidence-based stress management interventions (Blom et al. 2013). It was significant to support caregivers to help them help the people they care for and to prevent the adverse effects of stress on themselves and to the people who depend on them (Baker, Huxley, Dennis, Islam, & Russell, 2015; Blom et al. 2013).

However, the scholarly project was unable to collect demographic and qualitative data that can help expound the outcomes of the project. Another limitation of the project was the small sample size. Future study may use additional survey questionnaires to explore qualitative data that can help to identify personal and abstract qualities of research. The qualitative aspects of caregiving could be identified by questions such as: “How do you identify yourself as a caregiver?” “How do you feel working as a caregiver?” “How do you cope with stress?” These are qualitative questions that can widen the awareness about caregiving profession, and explore more interventions to decrease caregiver stress.

The small sample size of the scholarly project can affect the generalizability of the results of the study to other population and can reduce the capability of statistics to show traits that were present within a community (Brownson, R. C., Colditz, G. A., & Proctor, E. K. (2017). Further studies can use social media and other available networking resources to increase the sample size.

Sustainability

Experiences of stress among professional caregivers may result in adverse effects on their health, and may also lead to many adverse incidents in several healthcare institutions and facilities in the country (The Joint Commission, 2015; Ramos, 2017). Failure of administrators to meet their caregivers' needs demands for both practical and sustained clinical support to obtain the best patient outcomes (Frederick, 2016).

Presently, the healthcare organization in which the study was conducted had no evidence-based interventions in decreasing caregivers' stress experiences. The agency is a non-profit healthcare organization with limited resources to give to its employees. Although the scholarly project did not include data about compensation and working environment, the project manager observed that caregiver's remuneration and staffing were challenges that need to be addressed by the healthcare organization. However, this scholarly project can be implemented with limited resources and had been effective effectiveness in decreasing stress among caregivers through the implementation of evidence-based interventions.

Dissemination Plan

The critical appraisal of literature supported the use of evidence-based stress management interventions to decrease stress among caregivers. Although stress was a highly recognized problem, many caregivers were left unsupported, stressed, and burned out, and were facing multiple challenges from the work environment and job responsibilities (Yada et al. 2014). Nursing leaders and administrators of healthcare organizations need to accept responsibility to prepare caregivers to deal with work-related stressors. It is reasonable for nursing leaders and administrators to form a committee to discuss options for incorporating a variety of evidence-based stress management interventions to all caregivers in different healthcare settings. Engaging

nursing leaders and administrators to facilitate the change process will allow them to be responsible for educating their employees on how to manage and decrease work-related stress experiences.

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Appendix A

Literature Matrix

| Article Title, Author, etc. (Current APA Format) | Study Purpose | Sample (Characteristics of the Sample: Demographics, etc.) | Methods | Study Results | Level of Evidence (Use Melnyk Framework) | Study Limitations | Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale. |
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| Almis, H., Bucak, I. H., Konca, C., & Turgut, M. (2017). Risk factors related to caregivers in hospitalized children's falls. <i>Journal of Pediatric Nursing</i> , 32, 3-7. doi:10.1016/j.pedn.2016.10.006 doi:10.1111/ggi.12260) | This study was intended to evaluate the risk factors for falls among inpatient children in relation to their caregivers. | The study involved 117 hospitalized children (39 patients with a fall event and 78 patients who did not experience a fall) in relation to their caregivers. The children included in study were at the hospital between June 2014 and June 2015. Demographic | A non-experimental descriptive survey. | The analysis of risk factors related to caregivers for pediatric inpatient falls, by multivariate logistic regression, showed that low educational level of caregivers (OR = 0.361; CI = 0.196–0.665; $p < 0.01$), caregivers' smoking (OR = 4.863; CI = 1.058–22.358; $p < 0.05$) and | Level 6: descriptive design | The data obtained were from only one hospital. The study did not examine the personality characteristics of caregivers (Some caregivers are depressive, anxious, perfectionist, neurotic, emotionally | The study provided good amount of information, Caregivers' attention, fatigue and sleep conditions, stress level and anxiety are the most important factors influencing inpatient pediatric falls. This |

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| | | data of patients, caregivers, some habits; education level; and number of siblings were recorded. | | increased length of stay for the children (OR = 1.994; CI = 1.475–2.696; $p < 0.01$) carried a higher risk for pediatric inpatient falls. | | unstable, socially phobic, apathetic, and insensitive; some lack self-confidence. Most caregivers are depressive and anxious) and not measuring their stress and anxiety levels. | makes caregivers the most important environmental factor associated with falls in hospitalized children. |
| Baker, C., Huxley, P., Dennis, M., Islam, S., & Russell, I. (2015). Alleviating staff stress in care homes for people with dementia: Protocol for | The study aims to analyze Mindfulness-based stress reduction (MBSR) training to enhance wellbeing of staff that will not only benefit staff | The study included 403 care homes in Wales, with random sample of 134 managers and staff who provide direct care for residents. (33 %). Of the 72 who | Randomized controlled trial. | The study indicated the advantage of using online training, including convenient access to the course at their own pace, and immediately use techniques | Level 2: One or more randomized controlled trials. | The study did not examine if MBSR training can be extended to informal and formal caregivers across primary and secondary care who | The study indicated that MBSR can be a valuable effective, and cost-effective intervention to enhance wellbeing of staff. |

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| stepped-wedge cluster randomised trial to evaluate a web-based mindfulness-stress reduction course. <i>BMC Psychiatry</i> , 15(1), 317. doi:10.1186/s12888-015-0703-7 | themselves but also residents and care providers. | responded, the study selected a random sample of 35 to participate in the trial. | | learned in their practice. | | prefer web-based training or cannot attend traditional mindfulness courses. MBSR may be of potential benefit and need detailed examination. | |
| Bijker, L., et al (2018). "A pilot randomized controlled trial of E-care 4 caregivers: An internet intervention for caregivers of depressed patients". Retrieved | The study aims to evaluate user-friendliness and initial short-term effects on psychological distress of 'E-care for caregivers. | The study included caregivers of depressed patients (partners, parents, children, siblings, family or friends) through online newsletters and by advertisements on websites | Randomized controlled trial. | Two-thirds of participants experienced higher levels of psychological distress (K10 > 20). The internet intervention was evaluated as user-friendly by caregivers (average score of 81.5, range [0–100]). Results did not show a | Level 2: One or more randomized controlled trials. | The study recommends sequential design in online course and subsequent evaluation. | Delivering the intervention via internet was successful as well as recruiting participants for data collection. |

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| from https://www.sciencedirect.com/science/article/pii/S2214782916300628 . | | related to caregivers of people with depression. Included were (self-reported) non-professional caregivers aged 18 years or older who looked after a depressed person. Excluded were non-professional caregivers without internet access and those with no proficiency in Dutch. | | reduction in psychological distress or other secondary outcome measures. Sensitivity analyses showed a decreased quality of life in the control condition compared to the intervention condition ($p = 0.02$, Cohen's $d = 0.44$) and higher levels of mastery ($p = 0.02$, Cohen's $d = 0.48$) in the intervention condition compared to controls. | | | |
| Blom, MM, et al (2013). <i>Effectiveness and cost-effectiveness of an internet intervention for family</i> | This study aims to provide evidence about the effectiveness and cost-effectiveness | The study used pragmatic randomized control trial (RCT) to include 175 participants who were recruited | Randomized controlled trial | There is a need to advance cost effective approaches to meet the needs of caregivers. Depression, feelings of | Level 2: One or more randomized controlled trials. | The study has high level of generalizability. No limitation was indicated in the study. | The study indicated the importance of cost-effective interventions, including internet-based interventions |

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| <p><i>caregivers of people with dementia: design of a randomized controlled trial.</i></p> <p>Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/23305463.</p> | <p>s of an internet intervention for caregivers.</p> | <p>from website, the monthly digital newsletter of the Alzheimer's Society in the Netherlands, leaflets at meetings of Alzheimer Cafes and information letters to memory clinics and other relevant care institutions. Participants answered questionnaire as a screening tool if they are suitable for treatment. Caregivers will be included with a score > 4 on the Center for Epidemiological Studies-Depression scale, or a score > 3 on the HADS-A, or a</p> | | <p>burden and caregiver stress are common among caregivers. Different kinds of interventions are developed to prevent or decrease the negative psychological consequences of caregiving. The use of internet interventions is still very limited but they may be a cost effective way to support caregivers in an earlier stage to reduce psychological distress in caregiving.</p> | | | <p>to decrease psychological symptoms among caregivers, given the fact that caregivers are crucial in care management.</p> |
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| | | minimum score of 6 on a one item burden scale ranging from 0-10. Caregivers with high scores on the CES-D and the HADS-A or having suicidal thoughts, were first contacted by an elderly care physician. | | | | | |
| Choi, Jisun & Boyle, Diane. (2013). RN Workgroup Job Satisfaction and Patient Falls in Acute Care Hospital Units | To analyze the relationship between nurse job satisfaction and patient falls on 4 types of acute care hospital units. | Random 2009 unit-level data from 2,763 units in 576 National Database of Nursing Quality Indicators hospitals. | Systematic review of descriptive studies | Nurse job satisfaction has contradicting relationship with patient falls (incident rate ratio, 0.941, 95% confidence interval, 0.911-0.972). | Level 5: Systematic review of descriptive studies | Study is based on cross-sectional design, which does determine relationships between variables. | The study provided good amount of information about nurse job satisfaction and patient falls |
| Donnelly, N., Hickey, A., Burns, A., Murphy, P., & Doyle, F. (2015). | To evaluate the effect of caregiver stress on subsequent institutional | Study included Care recipients: Community-dwelling older people (aged 65 and over) with | Systematic review of open-label or randomized | Caregiver stress has a significant effect on subsequent institutionalization of care recipients, | Level 1: Systematic review & meta-analysis of randomized | The study did not account the impact of the health system on | The level of stress experienced by a caregiver is important both of itself |

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| Systematic review and meta-analysis of the impact of carer stress on subsequent institutionalization of community-dwelling older people. <i>PLoS One</i> , 10(6) doi: http://dx.doi.org/10.1371/journal.pone.0128213 | placement of community-dwelling older people. | chronic care needs that are being cared for by an informal caregiver who takes primary responsibility of the care recipient. | controlled trial studies. | the overall effect size was negligible (SMD=0.05, 95% CI=0.04–0.07). Sensitivity analyses found that, the effect size was higher for measurements of stress than for other measures, though still relatively small (SMD=0.23, 95% CI=0.09–0.38). | controlled trials; clinical guidelines based on systematic reviews or meta-analyses | long-term care provision | and for its potential impact on the caregiver, such as impaired psychological well-being and physical health |
| Hersch, R. K., et al (2016). Reducing nurses' stress: A randomized controlled trial of a web- | The aim of the study is to evaluate the effectiveness of the web-based BREATHE: Stress Management | Study included 104 nurses employed either by one of five hospitals included in a suburban Virginia hospital system (n = 36) or a large metropolitan | Randomized controlled trial. | Program group participants experienced significantly better reductions than the control group based on full Nursing Stress Scale, and 6 of the 7 subscales. No | Level 2: One or more randomized controlled trials. | Limitations include small sample size, the degree of program utilization as several nurses in experiment group did not access the program, and | The study indicated that the use of a web-based program provides nurses with the tools to address nursing |

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| <p>based stress management program for nurses.</p> <p><i>Applied Nursing Research</i>, 32, 18-25. doi:10.1016/j.apnr.2016.04.003</p> | <p>for Nurses program.</p> | <p>hospital in New York (n = 68); Age ranged from 22 to 65 (mean = 41), Females account to 87.5%, and 65% identified as Caucasian. Forty-four percent were never married and 50% were either married or living with a partner. Fifty-seven percent of participants had a BSN and 21% had a MSN. The nurses' experience is from those that had been a nurse less than 1 year (8%) to those that had been a nurse for more than 25 years (30%); 34% worked on medical or surgical floor; 8</p> | | <p>other significant results were found. Moderator analysis discovered that nurses with greater experience benefitted better.</p> | | <p>he study was only able to assess the relatively short-term (three months).</p> | <p>related stress.</p> |
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| | | participants (8%) are advanced practice nurses and 10 participants (10%) are clinical nurse managers. | | | | | |
| Hu, C., Kung, S., Rummans, T. A., Clark, M. M., & Lapid, M. I. (2015). Reducing caregiver stress with internet-based interventions : A systematic review of open-label and randomized controlled trials. <i>Journal of the American Medical</i> | This study examined high level of stress among caregivers and to analyze caregiver stress to quality of life and improve the care they provide. | This systematic review assesses the effectiveness of internet-based interventions to decrease caregiver stress using Ovid MEDLINE (1946-2013), Embase (1988-2013), PsycINFO (1987-2013), and CINAHL. | Systematic review of open-label or randomized controlled trial studies. | Eight open-label trials met the review criteria: three showed positive benefit in reducing caregiver stress, four were partially positive (some outcomes positive, others negative), and one was a negative study. Sixteen randomized trials met the review criteria: six showed positive benefit, five were partially positive, and five were negative. There were no clear | Level 1: Systematic review & meta-analysis of randomized controlled trials; clinical guidelines based on systematic reviews or meta-analyses | The study did not assess outcomes for caregivers and their recipients' health, different technology delivery methods, and the cost of such interventions. | Internet-based interventions were mostly effective in decreasing caregiver stress and enhancing well-being. |

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| <i>Informatics Association</i> , 22(e1), e194-e209. doi:10.1136/amiajnl-2014-002817 | | | | patterns as to the variables (such as study duration and complexity of intervention) associated with better outcomes, although earlier studies typically had more negative outcomes. | | | |
| Imamura, K., Kawakami, N., Tsuno, K., Tsuchiya, M., Shimada, K., Namba, K., & Shimazu, A. (2017). Effects of web-based stress and depression literacy intervention on improving work engagement among workers with | The study aims to analyze the effects of a psycho educational information website to improved work engagement among individual workers with low work engagement, where work engagement was | 1,236 workers were included in the study are registered members of a web survey site in Japan. 313 and 300 participants were assigned to an intervention and control group, respectively. Participants who fulfilled the eligibility criteria were randomly allocated to | Randomized controlled trial. | educational information website showed a significant effect on work engagement ($t = 1.98$, $P = 0.048$) after 4-month follow-up in the low work engagement subgroup, with a small effect size ($d = 0.17$). | Level 2: One or more randomized controlled trials | The study did not utilize stratified, permuted-block, randomization into the low or high levels of work engagement subgroups at baseline. | The study indicated that web-based psycho education website may be effective to enhance work engagement among individual workers with low work engagement. |

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| low work engagement. <i>Journal of Occupational Health</i> , 59(1), 46. | measured as a secondary outcome. | intervention or control groups. | | | | | |
| Kajiyama, B., et al (2013). Exploring the effectiveness of an Internet-based program for reducing caregiver distress using the iCare Stress Management e-Training Program. <i>Aging & Mental Health</i> , 17:5, 544-554, DOI: 10.1080/13607863.2013.775641 | The study aims to analyze if the online iCare Stress Management e-Training Program reduces stress, bother, depression, and poor life quality of caregivers. | The study included 150 caregivers, randomly assigned to the iCare Condition (ICC) or to the Education/Information-Only Condition (EOC) for a 3-month period. Change in self-report measures of stress (PSS) (primary outcome), caregiver bother(RMBPC), depression (CES-D), and quality of life (PQOL) (secondary outcomes) was determined, along with | Randomized controlled trial. | A mixed ANOVA revealed that change in perceived stress was significant for the ICC but not the EOC ($p = .017$). Changes in the other measures were not significant. More caregivers in the ICC used the materials in their own caregiving situation than those in the EOC. Roughly one-third of the caregivers enrolled in the study dropped prior to completion. | Level 2: One or more randomized controlled trials | Due to limited gender, ethnic, and racial diversity in the sample, the study is limited in its generalizability. Inclusion of participants with diverse sociocultural background can benefit from the iCare program. | Internet based intervention leads to improvement in overall stress among caregivers. |

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| | | usage of new information in one's own caregiving. | | | | | |
| Kamiya, M., Sakurai, T., Ogama, N., Maki, Y., & Toba, K. (2014). Factors associated with increased caregivers' burden in several cognitive stages of Alzheimer's disease. <i>Geriatrics & Gerontology International</i> , 14(S2), 45-55. doi:10.1111/ggi.12260 | To study the factors associated with caregiver burden (CB) among caregivers caring for older adults living with cognitive stages of Alzheimer's disease (AD). | The study included 1,127 (with normal cognition (NC), 126 with amnesic mild cognitive impairment (aMCI) and 881 with AD), outpatients and their caregivers. Demographics include 362 males, 799 females; aged 78.5 ± 6.2 years) and their families, who attended the Medical Center for Dementia at Japan's National Center for Geriatrics and Gerontology (NCGG) from September 2010 to August 2012. | A non-experimental descriptive survey. | Zarit Burden Interview (ZBI) score was higher in patients with lower Mini-Mental State Examination score (MMSE). Dementia Behavior Disturbance Scale (DBD) was constantly related with CB in all patients; symptoms related to memory deficit were related to CB in aMCI; Geriatric syndrome including falls and motor disturbance, sleep problems, urinary incontinence, and fatigue was related to CB. | Level 6: descriptive design | The study was a cross-sectional study and has selection bias composed of a large number of patients consecutively selected in the Medical Center for Dementia. | The study has shown that education and support programs for caregivers are effective to prevent caregiver burden (CB). Educational programs should provide prognostic information on the disease and factors related with CB. |

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| Marziali, E., et al (2018). <i>Impact of Internet-Based Interventions on Caregiver Mental Health: Systematic Review and Meta-Analysis</i> . Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6053616/ . | To analyze the impact of internet-based interventions on caregiver mental health outcomes and the impact of different types of internet-based intervention programs. | MEDLINE, EMBASE, CINAHL, PsycINFO, Cochrane, and AgeLine databases were searched for randomized controlled trials or controlled clinical trials published from January 1995 to April 2017 that compared internet-based intervention programs with no or minimal internet-based interventions for caregivers of adults with at least 1 chronic condition. The inclusion criteria were studies that included (1) adult informal caregivers (aged 18 years or older) of adults | Systematic review of randomized controlled trial studies. | The study showed small to moderate beneficial effects of internet-based interventions on caregiver mental health including a reduction in symptoms of depression, stress or distress, and anxiety. The types of internet-based interventions that appeared to have a beneficial effect on mental health included information or education only on decreasing depression, stress or distress, and anxiety and information or education on reducing depression and anxiety. | Level 1: Systematic review & meta-analysis of randomized controlled trials; clinical guidelines based on systematic reviews or meta-analyses | The limitations of the study include the weakness in methodology, despite being RCTs and CCTs.. | The study indicated that Internet-based interventions, when designed with the target populations in mind, more likely demonstrate a beneficial effect on the mental health of caregivers. Internet-based interventions for caregivers should have a strong theoretical basis and incorporate behavior change techniques, |
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| | | living in the community with a chronic condition; (2) an internet-based intervention program to deliver education, support, or monitoring to informal caregivers; and (3) outcomes of mental health. Title and abstract and full-text screening were completed in duplicate. | | | | | particularly those aimed to help manage stress and enhance coping. |
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|---|---|--|---|---|--|--|---|
| McKechnie, V., Barker, C., & Stott, J. (2014). Effectiveness of computer-mediated interventions for informal carers of people with dementia--a systematic review. <i>International Psychogeriatrics</i> , 26(10), 1619-37. doi:http://dx.doi.org.ezproxy.liberty.edu/10.1017/S1041610214001045. | The aim of the study is to know if computer-mediated psychosocial interventions are effective for caregivers. | The study used 14 empirical studies, evaluating a range of complex, multifaceted computer-mediated intervention for informal caregivers. | Systematic review of randomized controlled trial. | Interventions did have effect on caregiver burden/stress, anxiety, and depression. Most studies found positive aspects of caring were increased through these interventions, as well as with caregiver self-efficacy. | Level 1: Systematic review & meta-analysis of randomized controlled trials; clinical guidelines based on systematic reviews or meta-analyses | The study did not consider the effects of interventions on people of different ethnicities and caregiver-patient relationships, as there is evidence that differential effects exist between groups. | The study suggests that computer-mediated psychosocial interventions are beneficial to decrease stress and increase self-efficacy among caregivers. |
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| <p>Moreira, A. C. A., et al (2018). Effectiveness of an educational intervention on knowledge-attitude-practice of older adults' caregivers. <i>Revista Brasileira De Enfermagem</i>, 71(3), 1055-1062. doi:http://dx.doi.org.ezproxy.liberty.edu/10.1590/0034-7167-2017-0100</p> | <p>The study aims to compare the knowledge, attitude and practice of older adults' caregivers before and after an educational intervention in the domains of the care between caregiver and older adult, feeding, bathing, hygiene and mobility and transportation</p> | <p>In the first stage of the research (pre-test), 87 caregivers were interviewed, of whom two were excluded due to death of the older adult and three abandoned their function during the period of data collection. Therefore, 82 caregivers participated in the first stage, 34 in the second stage (Educational Intervention - EI) and also 34 in the third stage (immediate post-test).</p> | <p>Quasi experimental study.</p> | <p>The educational intervention resulted to improvements in knowledge, attitude and practice, with statistical significance of attitude ($p < 0.020$) and practice ($p < 0.001$), in the domain of the care between caregiver and older adult; knowledge ($p < 0.001$) and practice ($p < 0.003$) in feeding; Knowledge ($p < 0.001$) and practice ($p < 0.001$) in bathing and hygiene; and knowledge ($p < 0.001$), attitude ($p < 0.001$) and practice ($p < 0.001$) in</p> | <p>Level III: Evidence obtained from well-designed controlled trials without randomization, quasi-experimental</p> | <p>The analysis of the 34 caregivers who started and completed the study showed an improvement in attitude in most of the domains.</p> |
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| | | | | mobility and transportation. | | | |
| Nantsupawat, A., Nantsupawat, R., Kunaviktikul, W., Turale, S., & Poghosyan, L. (2016). Nurse burnout, Nurse-Reported quality of care, and patient outcomes in Thai hospitals. <i>Journal of Nursing Scholarship</i> , 48(1), 83-90. doi:10.1111/jnu.12187; Ramos, D. (2018). Critique and Leveling. Retrieved from | To study the effect of nurse burnout on patient adverse and quality of care events. | The study used random selection including 2,084 out of 2,415 registered nurses (response rate is 98.6%) among 92 community hospitals (with 90 beds). | A non-experimental descriptive survey. | 32% of nurses reported high emotional exhaustion, 35% low personal accomplishment, 18% high depersonalization ; 5% of nurses reported patient falls. Increasing emotional exhaustion score in nursing units is related with a increase in patient falls about 30%. | Level 6: descriptive design | Study used cross-sectional design, which did not determine relationships between variables. | The study was able to give information about burnout and its effects on patient outcomes. |

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| https://learn.liberty.edu/webapps/assignment/uploadAssignment?course_id=_456707_1&content_id=_26299918_1&assign_group_id=&mode=cpview . | | | | | | | |
| Smith, S. A. (2014). Mindfulness-Based Stress Reduction. <i>International Journal of Nursing</i> , 25: 119-130. doi:10.1111/2047-3095.12025 | The study explored mindfulness-based stress reduction (MBSR) as intervention to enhance effective coping with stress. | The study used sources from EBSCOhost, Gale PowerSearch, ProQuest, PubMed Medline, Google Scholar, Online Journal of Issues in Nursing, and reference lists from relevant literatures. MBSR was used in ten studies involving participants completing a traditional-length MBSR | Systematic review of related literatures. | Empirical evidence on using MBSR among nurses and caregivers indicates positive effects including reduced stress, burnout, and anxiety; and increased empathy, focus, and mood. | Level 5: Systematic review of descriptive & qualitative studies | Length of classes and requirements for independent meditation of participants varied among the studies, resulting to uncertainty about the minimal effective “dose” of MBSR to maintain stress-relieving benefits. | The study indicated caregivers can use MBSR to improve ability to cope with stress and ultimately improve the quality of patient care provided. |

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| | | course spanning over a minimum of 8 weeks. Three studies involved abbreviated 4-week MBSR interventions. Studies varied on the length of the weekly group sessions, with classes ranging from 30 min to two-and-a-half hours; on the inclusion of a daylong retreat; on the requirement and length of home meditation; and on journaling requirements. | | | | | |
| Yada, H., et al (2014). Job-related stress in psychiatric nurses in japan caring for elderly | The study examined the specificity and structures | The study used Analysis of covariance to study the specificity of job-related stress in 224 | A non-experimental descriptive survey. | The study revealed that greater stress was affected by work environment and physical workload, and | Level 6: descriptive design | The study has sampling bias and its small sample size may have resulted in selection bias. | The study indicated the significance of decreasing job stressors |

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| <p>patients with dementia. <i>Environmental Health and Preventive Medicine</i>, 19(6), 436-443. doi:http://dx.doi.org.ezproxy.liberty.edu/10.1007/s12199-014-0414-6</p> | <p>of job-related stress among psychiatric dementia nurses (PDNs) caring for elderly people living with dementia.</p> | <p>nurses, which included 63 PDNs and 181 other psychiatric nurses (OPNs)).</p> | | <p>higher anxiety was affected by physical workload and utilization of techniques. All positive job-related stressor effects on stress reactions exhibited at a level of significance of 5 %. A correlation between utilization of techniques and work environment was found at a level of significance of 10 %. A correlation between error variables for stress reactions was found at a level of significance of 5 %.</p> | | | <p>to improve patient health outcomes, and establishing structures for nursing techniques in psychiatric dementia wards to improve the mental health of PDNs.</p> |
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Appendix B

IRB Approval Documentation

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

April 19, 2019

Dexter Ramos

SS

Dear Dexter Ramos,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. [45 CFR 46.101\(b\)\(2\)](#) and (b)(3). This listing refers only to research that is not exempt.)

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

Administrative Chair of Institutional Research
Research Ethics Office

LIBERTY
UNIVERSITY.*Liberty University | Training Champions for Christ since 1971*

Appendix C

CITI Training



Course Completion for DEXTER RAMOS

Congratulations on your recent course completion!

Name: **DEXTER RAMOS** ([REDACTED])
Institution: **Liberty University** ([REDACTED])
Course: **Biomedical & Health Science Researchers**
Stage: **1 - Basic Course**
Completion Date: **01 Nov 2018**
Expiration Date: **31 Oct 2021**
Completion **29302596**
Record ID:

Appendix D

Letter of Support from the Organization

Date: February 25, 2019

[REDACTED]
Living Resources Agency
Albany, New York

Dear [REDACTED]

As a graduate student in the School of Nursing at Liberty University, I am conducting research as part of the requirements for Doctor of Nursing Practice degree. The title of my research project is Decreasing Caregiver Stress and the purpose of my scholarly project is to know how nurses can support caregiver stress?

I am writing to request your permission to contact the Direct Support Professionals/ Caregivers of your organization to invite them to participate in my scholarly project.

Participants will be given a form and they will be asked complete the attached survey. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond below. A permission letter document is attached for your convenience.

Sincerely,

Dexter Ramos
Student

[REDACTED]

- I grant permission to participate in the scholarly project

- I do not grant permission to participate in the scholarly project

Appendix E

Permission Letter to Use the Tool



| | |
|-----------------------------------|--|
| Author(s) | [REDACTED] |
| Owner | [REDACTED] |
| Copyright | Copyright 1980, 1983, 1990 Steven H Zarit and Judy M Zarit |
| Original bibliographic references | <p>ZBI-22</p> <p>Zarit SH, Reever KE, Bach-Peterson J. Relatives of the Impaired Elderly: Correlates of Feelings of Burden. <i>Gerontologist</i>. 1980;20(6):649-55</p> <p>Zarit SH, Orr NK, Zarit JM. The hidden victims of Alzheimer's disease: Families under stress. New York: New York University Press, 1985</p> <p>Anthony-Bergstone CR, Zarit SH, Gatz M. Symptoms of psychological distress among caregivers of dementia patients. <i>Psychol Aging</i>. 1988 Sep;3(3):245-8 (PubMed abstract)</p> <p>Zarit SH, Zarit JM. The Memory and Behavior Problems Checklist and the Burden Interview. Gerontology Center, Penn State University. 1990</p> <p>ZBI-12</p> <p>Bédard M, Molloy DW, Squire L, Dubois S, Lever JA, O'Donnell M. The Zarit Burden Interview: a new short version and screening version. <i>Gerontologist</i>. 2001 Oct;41(5):652-7 (PubMed Abstract)</p> |

Article 2. Rights to Use

Section 2.01 Context of the Use of the Questionnaire

The User undertakes to only use the Questionnaire in the context of the Study as defined hereafter.

| | |
|-------------------------------|-----------------------------|
| Context and conditions of use | Other project |
| Title | Decreasing Caregiver Stress |
| Start | 02/2019 |
| End | 06/2019 |
| Mode of administration | Paper administration |

Section 2.02 Conditions for Use

The User undertakes to use the Questionnaire in accordance with the conditions for use defined hereafter.

(a) Rights transferred

Acting in the Owner's name, MRT transfers the following limited, non-exclusive rights, to the User (the "Limited Rights") (i) to use the Questionnaire, only as part of the Study; this right is made up exclusively of the right to communicate it to the Beneficiaries only, free of charge, by any means of communication and by any means of remote distribution known or unknown to date, subject to respecting the conditions for use described hereafter; and

Zarit Burden Interview_UserAgreement_March2016_5.0

© Mapi Research Trust. The unauthorized modification and use of any portion of this document is prohibited.



(I) to reproduce the Questionnaire, only as part of the Study; this right is made up exclusively of the right to physically establish the Questionnaire or to have it physically established, on any paper, electronic, analog or digital medium, and in particular documents, articles, studies, observations, publications, websites whether or not protected by restricted access, CD, DVD, CD-ROM, hard disk, USB flash drive, for the Beneficiaries only and subject to respecting the conditions for use described hereafter; and

(II) Should the Questionnaire not already have been translated into the language requested, the User is entitled to translate the Questionnaire or have it translated in this language, subject to informing MRT of the same beforehand by the signature of a Translation Agreement indicating the terms of it and to providing a copy of the translation thus obtained as soon as possible to MRT.

The User acknowledges and accepts that it is not entitled to amend, modify, condense, adapt, reorganise the Questionnaire on any medium whatsoever, in any way whatsoever, even minor, without MRT's prior specific written consent.

(b) Specific conditions for the Questionnaire

- Use in individual clinical practice or Research study / project

The User undertakes never to duplicate, transfer or publish the Questionnaire without indicating the Copyright Notice.

- Use in a publication or on a website with unrestricted access:

In the case of a publication, article, study or observation on paper or electronic format of the Questionnaire, the User undertakes to respect the following special obligations:

- not to include any full copy of the Questionnaire, but a protected version with the indication "sample copy, do not use without permission"
- to indicate the name and copyright notice of the Owner
- to include the reference publications of the Questionnaire
- to indicate the details of MRT for any information on the Questionnaire as follows: contact information and permission to use: Mapi Research Trust, Lyon, France - [REDACTED]
- to provide MRT, as soon as possible, with a copy of any publication regarding the Questionnaire, for information purposes
- to submit the screenshots of all the Pages where the Questionnaire appears to MRT before release to check that the above-mentioned requirements have been respected.

- Use for dissemination:

- On a website with restricted access:

In the case of publication on a website with restricted access, the User may include a clean version of the Questionnaire, subject to this version being protected by a sufficiently secure access to only allow the Beneficiaries to access it.

The User undertakes to also respect the following special obligations:

- to indicate the name and copyright notice of the Owner
- to include the reference publications of the Questionnaire
- to indicate the details of MRT for any information on the Questionnaire as follows: contact information and permission to use: Mapi Research Trust, Lyon, France - [REDACTED]
- to submit the screenshots of all the Pages where the Questionnaire appears to MRT before release to check that the above-mentioned requirements have been respected.

- On promotional / marketing documents

In the case of publication on promotional/marketing documents, the User undertakes to respect the following special obligations:

Zarit Burden Interview_UserAgreement_March2016_5.0

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- to indicate the name and copyright notice of the Owner
- to include the reference publications of the Questionnaire
- to indicate the details of MRT for any information on the Questionnaire as follows: contact information and permission to use: Mapi Research Trust, Lyon, France – [REDACTED]
- to provide MRT, as soon as possible, with a copy of any publication regarding the Questionnaire, for information purposes
- to submit the screenshots of all the Pages where the Questionnaire appears to MRT before release to check that the above-mentioned requirements have been respected.

For any other use not defined herein, please contact MRT for the specific conditions of use and access fees (if applicable).

Article 3. Term

MRT transfers the Limited Rights to use the Questionnaire as from the date of delivery of the Questionnaire to the User and for the whole period of the Study.

Article 4. Beneficiaries

The Parties agree that the User may communicate the Questionnaire in accordance with the conditions defined above to the Beneficiaries involved in the Study only, in relation to the Study defined in section 2.01.

Article 5. Territories and Languages

MRT transfers the Limited Rights to use the Questionnaire on the following territories and in the languages indicated in the table below:

| Questionnaire | Language |
|---------------|---------------------|
| ZBI-12 | English for the USA |

Article 6. Price and Payment Terms

The User undertakes in relation to MRT to pay the price owed in return for the availability of the Questionnaire, according to the prices set out below, depending on the languages requested and the costs of using the Questionnaire, in accordance with the terms and conditions described in section 6.02 of the General Terms Included in Appendix 1.

Agreed and acknowledged by

[REDACTED]

25-Feb-2019

Zarit Burden Interview_UserAgreement_March2016_5.0

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Appendix F

IOWA Model Permission to Use

Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care



Today, 10:48 AM
Dexter Ramos

Reply all

To help protect your privacy, some content in this message has been blocked. To re-enable the blocked features, click here.

To always show content from this sender, click here.

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care*. Click the link below to open.

[The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care](#)

Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182. doi:10.1111/wnn.12223

In written material, please add the following statement:

Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.

Please contact

CONFIDENTIALITY NOTICE: This email and any attachments are ONLY for the person(s) named in the message header. Unless otherwise indicated, it contains information that is confidential, privileged or exempt from disclosure under applicable law. If you are not the intended recipient, you are hereby notified that any examination, analysis, disclosure, copying, dissemination, distribution, sharing, or use of the information in

this transmission is strictly prohibited. If you have received it in error, please notify the sender of the error and delete the message. Thank you. Visit Living Resources Corporation on the Web

m...

Appendix G

Participant Consent Template

The Liberty University Institutional
Review Board has approved
this document for use from
4/19/2019 to 4/18/2020
Protocol # 3722.041919

CONSENT FORM
Decreasing Caregiver Stress
Dexter Ramos
Liberty University
School of Nursing

You are invited to be in a research study about Decreasing Caregiver Stress. If you are 18 years of age or older and working as a direct support professional or caregiver, you are invited to participate in this research study. Please read this form and ask any questions you may have before agreeing to be in the study.

Dexter Ramos, a doctoral candidate in the School of Nursing at Liberty University, is conducting this study.

Background Information: The purpose of this study is to know how nurses can decrease caregiver stress.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Answer a questionnaire that will ask questions about your stress experience. This will take 10 to 20 minutes.
2. If your score is 1 or higher on the pre-test, you will be asked to complete a web-based stress-management intervention. The intervention will take 15 to 30 minutes of your time.
3. Finally, you will be asked to complete a post-test. This will take 10 to 20 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: The direct benefit will only exist for those participants who complete the intervention. The direct benefit participants may receive is the decrease in caregiver stress.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records. All research data will be stored on a password locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time.

Contacts and Questions: The researcher conducting this study is Dexter Ramos. You may ask any questions you have now. If you have questions later, you are encouraged to contact him at [REDACTED] You may also contact the researcher's faculty chair, [REDACTED]

The Liberty University Institutional
Review Board has approved
this document for use from
4/19/2019 to 4/18/2020
Protocol # 3722.041919

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 [REDACTED]

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature of Participant

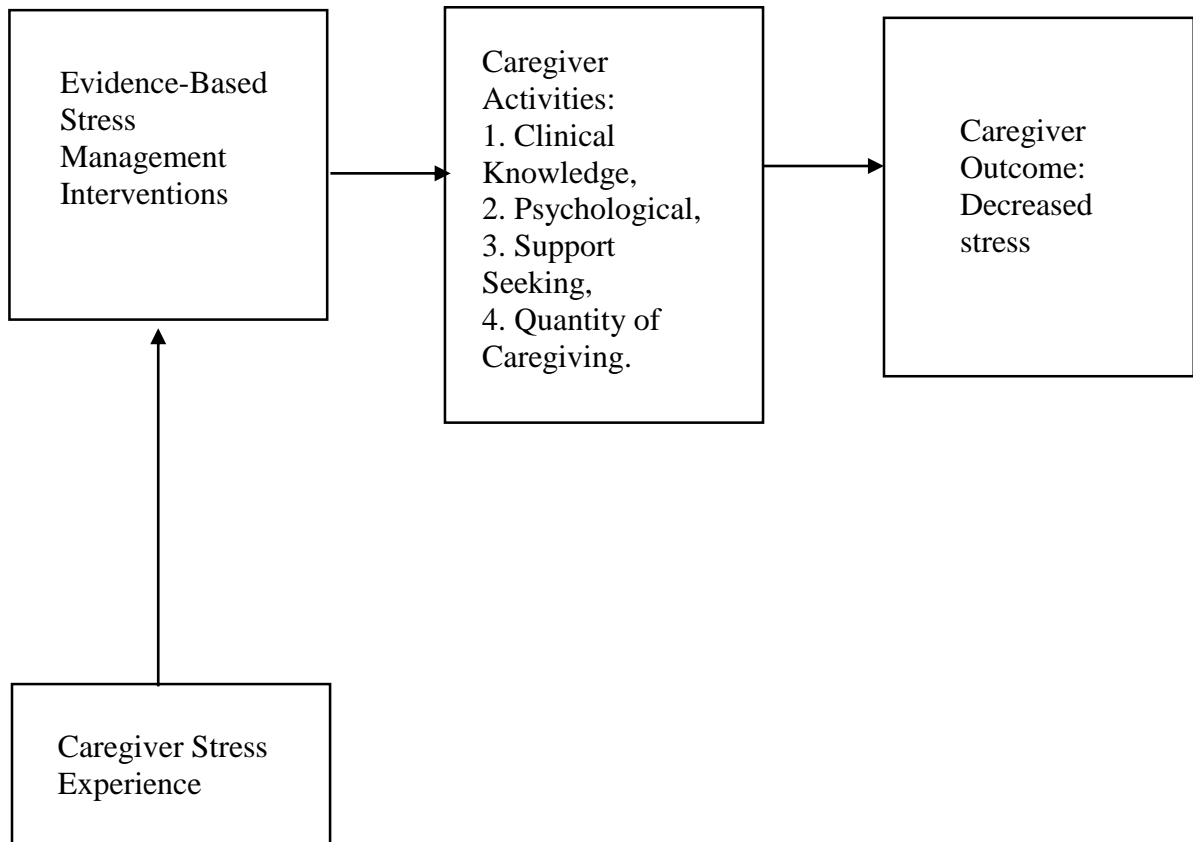
Date

Signature of Investigator

Date

Appendix H

Figure 1. The Caregiver Stress Intervention Flowchart



Appendix I

Stress Management Interventions (Frederick, 2016)

- Caregiver assessment to identify high levels of burden (*ZBI -12*).
- Encouraging caregivers to take a break, take care of their own health, maintain a healthy diet, exercise, and seek their own preventive healthcare (Frederick, 2016)
- Assisting caregivers to learn to set limits and ask for help. Learn to respond “yes” if someone offers to help them. Learn to say “no” to activities beyond their limitation and are strenuous rather than nurturing (Frederick, 2016).
- Giving resources and information about advocacy organizations (Appendix C).
- Providing information on home modification tools, from using available technology technology and equipment to make their job easier (Appendix C).
- Encouraging caregivers to verbalize shared governance and shared decision making for patient’s needs.
- Helping to identify coping strategies such as praying, talking with friends and family and obtaining additional information from appropriate online resources (Appendix C).
- Resource/referrals need to be specific and targeted, so as to not overwhelm the caregiver (Frederick, 2016).

Appendix J

Possible Resources (Frederick, 2016).

Caregiver information (general):

1. https://caregiver.org/state-list-views?field_state_tid=89.
2. <http://www.caregiveraction.org>
3. <http://n4A.org/about-n4a/?fa=aaa-title-V1>
4. <http://www.caregiver.va.gov> (Veteran specific)
5. <http://www.videocaregiving.org/caregiving.php>

Disease specific, advocacy organizations that offer up to date resources and information:

1. <http://www.nationalmssociety.org/Resources-support/family-matters>
2. <http://www.theacpa.org> (chronic pain)
3. <http://www.alz.org>
4. <http://www.cancer.org>
5. <http://www.diabetes.org>
6. <http://www.heart.org>
7. <http://lung.org>
8. <http://psychiatry.org>
9. <http://www.strokeassociation.org>

Informational resources:

1. <http://www.nia.nih.gov>
2. <http://www.aarp.org/home-family/caregiving/>

Decision making tools:

1. <http://decisionaid.ohri.ca>
2. <http://www.caregiving.org>

Medicare tools

1. <http://nihseniorhealth.gov/medicareandcaregivers>
2. <http://www.medicare.gov/nursinghomecompare/search.html>

Medication tracking tool:

1. http://www.safemedication.com/safemed/MyMedicineList/MyMedicineList_

Apps to assist with caregiving:

1. RxMindMe: provides management and reminder alerts for medications
2. Personal Caregiver: options include caring for an aging patient, managing medical conditions, losing weight, and questioning a medical bill
3. iBioMed: extensive care management tools

Appendix K

Implementation Plan of Action (Frederick, 2016).

A. Universal

- caregiver pledge
- <http://www.whatisacaregiver.org/caregiving-for-others.html>
- information about patient's disease process
- information about support groups
- have medications been reviewed and reconciled? Is a medication tracking tool needed?

B. Selective

- Are patient needs identified and symptoms managed to include pain control and pharmacologic interventions as needed for insomnia/dementia?
- Are practical supports needed such as domestic/respice care, adult day programs, or food delivery services?
- Are there family member's/church groups that could be enlisted for help; does the caregiver know how to set limits and ask for help?
- Is there technology or home modification tools available to help with patient care • are referrals needed for visiting nurses, wound care, physical therapy, speech therapy, occupational therapy or social work (available funding)?
- Is end of life planning desired?
- Is long term placement indicated?

C. Indicated

- Is the caregiver engaging in health promoting behaviors that include exercise or other activities that improve quality of life?
- Caregiver referral for psychological supports such as counseling, coping skills, problem solving
- Immediate mental health intervention as indicated