

**Effect of training and health education of the nurses and caregivers on
Patient outcome and quality of life in home health care Riyadh
Region KSA (2020-2023)**



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Abstract— Background: Home Health Care (HCC) is a component of continuum comprehensive health care whereby health services are provided to individuals and families in their places of residence for the purpose of promoting, maintaining or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness. **Materials and methods:** A quasi-experimental with pre and post-intervention observation of patient registered in home health care in the Riyadh Region was conducted. An educational program was implementing involving nurses, caregivers, and patients, and the outcome was assessed every 3 months in terms of bedsores risk and incidence and pain assessment. **Results:** The study included 350 patients who were followed up for 30 months, majority (83.4%) aged 65 years or older, and females predominated 244 (69.7%). Significant improvement was achieved reduction in bedridden patients, bedsores risk and incidence, pain, with significant in walking ability (p-value <0.05). **Conclusion:** In conclusion the study found that implementing such an educational program for nurses, caregivers, and patients under home health care resulted in significant improvement in terms of patient's outcomes and quality of life in home health care Riyadh Region KSA.

Key Word: Home Health Care, Caregivers, Nurses, Quality of life, Health education.

1. Introduction:

1.1 Background:

Home Health Care (HCC) is a component of continuum comprehensive health care whereby health services are provided to individuals and families in their places of residence for the purpose of promoting, maintaining or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness (Balinsky, 2017).

HHC services are provided by physicians, nurses, physiotherapists, occupational therapists, respiratory therapists, social workers, and dieticians; as well as drug and equipment supply. It provides nursing care, social service, physiotherapy, respiratory therapy, dietary therapy, psychotherapy, medications and equipment supply according to patient's needs (American Medical Association, 2006).

Home health care nurses have a wide range of duties and services provided that these duties should include: assessment, diagnosis, planning, implementation, wound care, disease management, therapy, medical social services, patient education and checking medical equipment such as sphygmomanometer, glucometer, medical bed, air mattress and pulse oximetry. In addition to services nurses provide, they should also consult with doctors on the status of the patient and provide feedback on any potential changes that need to be made to the care plan (Care, 2010).

There is cumulating evidence that training family caregivers and nurses may lessen their workload and enhance the health of elderly people (Sciences, Engineering and and, 2016). Thus this study was conducted to emphasize the effect of training caregivers and nurses on patient outcome, and quality of life in home health care Riyadh Region using an objective measurement.

1.2 Problem Statement:

Numerous studies have revealed that an essential component of efficient home health care understanding the system and the appropriate roles and responsibilities (Chen et al., 2000; Izumi et al., 2018). Low team experience, training, and knowledge, along with insufficient patient monitoring and evaluations, were frequently mentioned as contributing factors to adverse events in homecare (Masotti, McColl and Green, 2010). As a result, it was concluded that homecare staff needed access to training opportunities (Navaie-Waliser et al., 2004). However, to our knowledge, no studies have been published that describe the impact of the training program for this staff group and caregiver of the patient-provider in improving patient safety, outcome, and quality of life in the Kingdom of Saudi Arabia.

1.3 Objectives:

1.3.1 General Objective:

To study the effect of training and health education of the nurses and caregivers on Patient outcome and quality of life in home health care Riyadh Region KSA.

1.3.2 Specific Objectives:

To determine the effect of training and health education of the nurses and caregivers regarding:

- The bed sore risk among patients under home health care
- The wound in patients under home health care.
- The pain among patients under home health care.

2.Literature Review:

2.1. Home health care:

Home health care refers to a system of medical treatment delivered by trained professionals to patients in their homes while under the supervision of a doctor. Nursing care, physical, occupational, and speech therapy, as well as medical social services, are all included in home health care services (Ellenbecker et al., 2008).

2.2.Types of Home Health Care Services:

The range of home health care services that a patient can receive at home is limitless. Depending on the individual patient's situation, care can range from nursing care to specialized medical services, such as laboratory workups. The doctor and nurse will determine care plan and services a patient may need at home. At-home care services include:

Doctor care: A doctor may visit a patient at home to diagnose and treat illness. He or she may also periodically review home health care needs (Maaik E., 2015).

Nursing care: The most common form of home health care is some type of nursing care depending on the person's needs. In consultation with the doctor, a registered nurse will set up a plan of care. Nursing care may include wound dressing, ostomy care, intravenous therapy, administering medication, monitoring general health of patient, pain control, and other health support. (Maaik E., 2015, Perroca MG,2004).

Physical, occupational, and/or speech therapy: Some patients may need help relearning how to perform daily duties or improve their speech after an illness or injury. A physical therapist can put together a plan of care to help a patient regain or strengthen the use of muscles and joints. An occupational therapist can help a patient with physical, developmental, social, or emotional disabilities relearn how to perform such daily functions as eating, bathing, dressing, and more. A speech therapist can help a patient with impaired speech regain the ability to communicate clearly (Maaik E., 2015, Perroca MG,2004).

Medical social services: Medical social workers provide various services to the patient, including counselling and locating community resources to help the patient to recover. Some social workers are also the patient's case manager - if patient's medical condition is very complex and requires coordination of many services (Perroca MG,2004).

Care from home health aides: Home health aides can help the patient with his or her basic personal needs such as getting out of bed, walking, bathing, and dressing. Some aides have received specialized training to assist with more specialized care under the supervision of a nurse (Ellenbecker et al., 2008).

Nutritional Support: Dietitians can come to a patient's home to provide dietary assessments and guidance to support the treatment plan (Almoajel et al., 2016).

Laboratory: Certain laboratory tests, such as blood and urine tests, can be performed in the comfort of the patient's home (Ellenbecker et al., 2008).

Pharmaceutical Services: Medicine and medical equipment can be delivered at home. If the patient needs some, training can be provided on how to take medicines or use the equipment, including intravenous therapy (Maaik E., 2015).

Transportation: There are companies that provide transportation to patients who require transportation to and from a medical facility for treatment or physical exams (Maaik E., 2015).

Common Diagnoses among Home Health Care Patients Include Circulatory disease , endocrine disease, Heart disease ,Musculoskeletal, connective tissue disease and Respiratory disease (Almoajel et al., 2016).

2.3 Functional outcome and quality of life:

The aim of care given in the patient's home is to improve or maintain their physical and mental health as well as their quality of life, or to reduce the rate of deterioration so that they can stay in their home environment and avoid institutionalization. When possible, most patients and their families want to stay at home. The likelihood that a patient will stay in their home is increased if they and their family can do so securely and independently (Ellenbecker et al., 2008).

Home Health Care (HHC) consists of healthcare services that are provided to patients in their homes by qualified healthcare providers under the supervision of a physician. The purpose of these home healthcare services is to help improve all aspects of the quality of life (QOL) of patients, support their independence, and increase their level of well-being (Ellenbecker et al., 2008).

The World Health Organization (WHO) defines QOL as an individual perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns (De Vliegheer, Kristel, 2015).

QOL is a broad and complex concept, hence, maintaining a high QOL and a high level of HHC services is challenging. Because care in the home environment is usually less controlled than care in a health facility, it involves more health-related hazards. It also includes a wide range of care providers such as unregulated workers, family members, and caregivers in a setting designed for daily living, not for providing regulated healthcare (De Vliegheer, Kristel, 2015).

2.4. Assessing Quality of Care in the Home:

The goals and multidisciplinary nature of home health care services present challenges to quality measurement that differ from those found in a more traditional hospital setting. The Outcome-Based Quality Monitoring program monitors, reports, and benchmarks adverse events such as emergent care for injury caused by fall or accident, increased number of pressure ulcers, and substantial decline in three or more ADLS (Ellenbecker et al., 2008).

2.5.Woundand Pressure Ulcers:

Emergent care for wound infections, deteriorating wound status, and increase in the number of pressure ulcers are monitored and reported as adverse events (Fulmer et al., 1999).

Treatment for wounds is necessary for more than one-third of patients receiving home health care, and roughly 42% of those with wounds have multiple wounds. Just under one-fourth of leg ulcers are vascular, and another quarter are pressure ulcers, while more than 60% of wounds encountered in home health care are surgical. The majority (88 percent) of wound treatments have been determined to be appropriate, and most home health care nurses can reliably identify wound bed and peri wound characteristics. The effectiveness of wound care

in the home is directly related to how quickly wounds heal. Patients with healed wounds required fewer home health care visits and spent less time there overall (Weaver et al., 2003).

2.6 Health education in home health care:

Health education play an important role in home health care services and it improved the patient quality of life.

Health promotion and wellness are a great responsibility, particularly for all health care providers who work with bed ridden and elderly people. Some health care providers claim that because of their age, activities pertaining to prophylactic measures, health and wellness maintenance will not be helpful to bed ridden and elderly people. On the contrary, wellbeing should not be regarded as a concept specifically relevant to younger individuals. The wellness concept is applicable to every age from older adults to the young (Reicherter, E.A. &Revenda-Gr , 2005).

The world population on the whole is growing older and wellness and common diseases (infectious diseases, acute illnesses, chronic diseases and degenerative diseases, fall risk and wound care) have been changing. Although many chronic diseases cause serious defects, some studies show that if a healthy lifestyle is adopted and maintained, these defects can be delayed. Besides, these illnesses generally pose risk factors for individuals and their lifestyles. Studies on wellness and the prevention of diseases have been found effective, especially in providing lifelong behavioral change. Since the elderly and bed ridden patient is at a huge risk of major diseases and defects, members of health care units should handle their education carefully. Through such education, benefits are provided regarding protective and wellness development for many elderly and bed ridden patient (Reicherter, E.A. &Revenda-Gr , 2005).

Health education increases individuals' knowledge of health and health care and makes them informed about their health care choices. Prophylactic health behaviors (such as physical activities and having healthy food) keep older adults' lives active and increase satisfaction with life. Among the topics where elderly and bed ridden patient need help most, a lack of knowledge comes first (Leung, A., Chi, I. & Lui, Y. H. 2006).

World Health Organization (WHO) has emphasized the importance of health education to support health care needs and health promotion for elderly and bed ridden people (Leung, A., Chi, I. & Lui, Y. H. 2006).

The data collection step is an important part of the education process. For example, in education that targets elderly, and bed ridden individuals, it is essential to determine the real needs in detail at first in order to establish the needs and to meet those needs. Determination of the needs also helps us to see whether the educational program meets the real needs or not (Demirel, O, 2009).

2.7. Nurses in home health care:

Nursing is a dynamic profession subject to rapid changes in the provision of health care, thus emerged the need for in-service training programs for nurses. Nurses working in home health

care need to improve their knowledge and skills while training to update them on the latest developments in nursing practice. In home health care, some studies reported that nurses had not received in-service training in home health care, yet their tasks were still expected to perform efficiently (Furaker C., 2012).

Nurses working in home health care are facing major challenges since more advanced care and treatment are increasingly being carried out in patients' homes. In this study, patients' homes are defined as residential facilities or ordinary housing (Furaker C., 2012).

Nurses in HHC provide healthcare for patients who are terminally or chronically ill, recovering or disabled, e.g. seriously ill patients whose care requires different kinds of technical apparatus and patients receiving palliative care who wishes to die at home. In this study, HHC refers to different interventions i.e. medical treatment or nursing care, provided with or without delegation in patients' homes or the equivalent by qualified nurses, both registered nurses and assistant nurses (Nilsson K., Lundgren S., 2009).

Nurses encounter patients with both medical and nursing needs that must be met in order for these patients to be able to live in their own homes. As a consequence, there is a wide range in nurses' everyday activities, for example assessing health, giving treatment, conducting check-ups and handling pharmaceuticals (Swedish Association, 2012).

HHC nurses must also make decisions on certain issues, this means that nurses have significant responsibility for their patients' care and treatment. However, care and treatment provided within HHC are different from care given in the hospital. The reason for this is that home is a place where patients have their families and where e.g. certain values, preferences, culture, and habits prevail. These circumstances require health professionals to be capable of working independently and flexible and to be able to provide advanced care and treatment based on patients' individual healthcare needs in these patients' homes (Flojt J., Le Hir U., Rosengren K., 2014).

2.8. knowledge, skills and competences needed in HHC nurses:

Knowledge is an important component of competence.

Knowledge can be described as knowing facts, being able to handle different situations or understanding the consequences of actions.

Competencies are essential part of the practice of a profession.

Competence includes both theoretical and practical knowledge (De Vliegheer, Kristel, 2015).

The importance of nursing skills include technical skills, patient care, communication, preparation, procedure and post-procedural responsibilities, cultural competency, critical thinking, and decision-making. Nurses can learn how to provide culturally competent care to patients from various cultural backgrounds. This information can help nursing staff communicate effectively with patients and their families and help nurses provide proper care that is appropriate to patients (Lindhahl B, Lidén E, Lindblad B-M, 2011).

Nurses can access drug information containing precautions, side-effects, interactions, dosage instructions, potential nursing diagnoses, patient/family teaching and more. (Furaker C., 2012).

Knowledge is considered necessary in HHC is how to deal with a patient in home with endocrinal disease such as diabetes mellitus, also post stroke patient, bedridden patient, heart disease like heart failure and hypertension, also lung, liver and renal diseases, musculoskeletal and connective tissue diseases, geriatric medicine, infectious disease, assessment of the patient, the safety of patient in the home, the patient procedures ,post-operative patient, palliative care for cancer patient, neurological disease like epilepsy and geriatric diseases such as Alzheimer disease (De Vlieghe, Kristel, 2015).

Also skills and competencies are considered necessary in HHC is how to deal with a patient in the home such as communication skills, patient education, nursing care of patient at end of life, pain assessment and management, insertion and care of the nasogastric tube, insertion, and care of the urinary and catheterization, take a blood sample, wound dressing, all vital signs include monitoring temperature, monitoring pulse, monitoring respiration and monitoring blood pressure (Furaker C., 2012).

2.9. Nurses' Training Programs:

Education plays an important role in achieving organizational goals through a combination of organizational and workforce interests. Nowadays, training is an essential factor contributing to the greater efficiency of the staff and organizations. In fact, it is a vital investment that will lead to internal promotion, staff development and success of organizational plans (Murad M, Varkey P,2008).

Training is an investment in achieving productivity and employee retention by providing career development and job satisfaction in the long run. Training programs are essential for the survival and viability of the organization in the competition arena (Sajjadnia Z., 2015).

The literature review suggests that certain training programs do not demonstrate any efficacy in improving the quality of patient care (Murad M, Varkey P,2008).

In order to expand the capacities and improve educational outputs, it is crucial to develop and adopt new models of clinical education for nurses. In addition to the theoretical knowledge, vocational training should enhance the technical capacity and quality of services, leading to innovation. Training programs must be organized in such a way that they enhance the beneficial capabilities of employees (Monajati F., Moradi A., Khayeri B., 2013).

In-service training includes a set of measures taken to promote empowerment and competency among employees for the better undertaking of their tasks, thus helping the organization to achieve its goals (Monajati F., Moradi A., Khayeri B., 2013).

One of the main features of in-service training is applicability. Previous researches had shown that job characteristics and professional factors can contribute to the involvement of employees in in-service training (Ammentorp J., 2014).

2.10. Previous studies:

Sturkey et al. conducted an observational study comparing pre and post interventional outcomes of patients under home care in term of wound infection, deterioration, and numbers of visits required for wound care. Home care nurses were involved, Educational program including best practice video and skills laboratory; education on wound care staging, healing and appropriate protocols; observation of actual practice in home using competency skills checklist; and certification in negative wound pressure therapy. Adverse Event Outcome Reports, Emergent Care for Wound Infection/Deteriorating Wound Status improved from 1.83% to 1.09%, compared to a national average of 1.27%; decreased average visits for wound patients by 30%; achieved no breaches observed (Sturkey et al., 2005).

McDonald et al. conducted randomized, controlled, home care intervention to test the effectiveness of two nurse-targeted, e-mail-based interventions to increase home care nurses' adherence to pain assessment and management guidelines, and to improve patient outcomes. Nurses from a large urban non-profit home care organization were assigned to usual care or one of two interventions upon identification of an eligible cancer patient with pain. The basic intervention consisted of a patient-specific, one-time e-mail reminder highlighting six pain-specific clinical recommendations. The augmented intervention supplemented the initial e-mail reminder with provider prompts, patient education material, and clinical nurse specialist outreach. Over 300 nurses were randomized and outcomes of 673 of their patients were reviewed. Data collection involved clinical record abstraction of nurse care practices and patient interviews completed approximately 45 days after start of care. The intervention had limited effect on nurse-documented care practices, but patient outcomes were positively influenced. Patients in the augmented group improved significantly over the control group in ratings of pain intensity at its worst, whereas patients in the basic group had better ratings of pain intensity on average. Other outcomes measures were also positively influenced but did not reach statistical significance (McDonald et al., 2005).

Vallerand et al. conducted a study to demonstrate the effects of a program, directed at homecare nurses, of structured educational interventions on the management of pain and opioid-related side effects in homecare patients with cancer. The study involved 202 nurses caring for patients with cancer who were recruited from homecare agencies. The two-tiered educational program focused on basic and advanced pain management strategies, particularly in pharmacologic options and assertive communication skills. Instruments used were the Nurses' Knowledge and Attitudes Survey Regarding Pain, the barriers questionnaire, perception of control over pain, and a demographic questionnaire. Nurses in the intervention group had a significant increase in their knowledge, a more positive attitude about pain management, fewer perceived barriers to pain management, and an increase in perceived control over pain compared to the nurses who did not receive the intervention (Vallerand et al., 2004).

Karimi et al. investigated the impact of home-based training on the incidence of bedsore in patients with stroke. Seventy family caregivers of stroke patients that had referred to Ali EbneAbitaleb Hospital, Zahedan, Iran, were chosen through available sampling and then randomly assigned to control and intervention groups. In the intervention group, explanations

were provided for the family caregivers about stroke, its resulting problems, bedsore, methods for preventing and caring for bedsore at home. Frequency of incidence of bedsore after the intervention in the intervention and control groups was 25.7 and 48.6%, respectively. The statistical results indicated that there was a significant difference between the two groups in terms of frequency of bedsore ($P = 0.046$) (Karimi et al., 2018).

3. Materials and Methods

3.1 Study Design:

The study implemented a quasi-experimental pre- and post-intervention of patient registered in home health care in the Riyadh Region.

3.2 Study Area:

The city is in the interior of the country 530 miles by road from Jeddah on the Red Sea and 240 miles from Dammam on the Arabian Gulf (About Riyadh, 2017).

The city is divided into fifteen municipal districts, managed by the Municipality of Riyadh headed by the mayor of Riyadh (About Riyadh, 2017).

The population exceeds six million, and the total inhabited area is more than 1,600 km. (About Riyadh, 2017).

3.3 Study duration:

The study was conducted during thirty months from 2020 to 2023.

3.4 Study population:

The respondents in this study 350 patient and care giver registered in home health care in the Riyadh Region. Also, respondents in this study were sixty (60) nurses working at home health care, Ministry of Health, Kingdom of Saudi Arabia. The number of males 22 and the females are 38. The Job Description of Home Health Care Nurses include conducting daily home visit scheduled for the patient, caregiver during daily visits, including medication, injection, sampling, wound care, tubing (inserting, changing, removing) and other lab sampling and record all of the above in nursing care plan, follow up and evaluate the case during daily visit and reports to the physicians occurrences and record the same in the file of nursing, communication with family and provide health education for the case of the Patient and dealing with the case, Assist physician during visit, maintain the safety of patient from various accidents, Inspect device and equipment before use, Consider Safety equipment during work, fill the form of daily visit and complete patient files, abide by work policies and procedures.

3.5 Sample size:

The study included 350 patients however, the minimum sample size required was estimated using the following Slovin's Formula equation:

$$n = N/(1+Ne^2)$$

Where,

n is the sample size.

N is the population size.

e is the margin of error to be decided by the researcher.

N is estimated number (2000).(From hospitals data)

e margin of error (0.05)

n=333

The sample size was estimated as 350.

3.6 Data Collection Method and Tools:

Data was collected from the patient medical record using specific form of assessment pre and post intervention including:

- Patient assessment:

This form was created on the link below to be reviewed with each visit and for easy extraction of data from it.

https://docs.google.com/forms/d/e/1FAIpQLSfgCX3lyvUq0Ern_cw4kR5hT0JCzE7W8UKdyNTCPDTWm0XxHA/viewform?vc=0&c=0&w=1.

- Braden scale for bed sore risk assessment.

- Bates-Jensen wound assessment tool.

- Pain scale assessment (Face-Wrong Baker FWB).

(All these forms selected by researcher to use in research and approved by home health care administration).

3.7 Data analysis:

Data was cleaned and entered into Microsoft excel data sheet and analysed using SPSS version 28 software. Categorical data was represented in the form of frequencies and proportions. Continuous data was represented as mean and standard deviation. One sample T test was used as test of significance.

Microsoft Excel and word were used to obtain various types of graphs such as bar diagram. P value (Probability that the result is true) of <0.05 was considered as statistically significant after assuming all the rules of statistical tests and level of confidence. Data was represented after analysis in form of uni-variable tables, cross tabulation (bi variable tables), figures and narrative illustration.

4.Results:

The study included 350 patients who were followed up for 30 months, majority (83.4%) aged 65 years or older, and females predominated 244 (69.7%); male to female ratio was 1: 2.3

The frequency of bedridden patients significantly decreased from 210 (60%), to 200 (57.1%) with reduction of 2.9% (p-value 0.011) reduction was observed after one year from the start of the follow-up (table 1 and figure1). Similarly, the frequency of patients who were able to walk with support was significantly increased from 140 (40%) to 150 (42.9%) (p-value 0.011) with improvement of 2.9% that started one year after the start of the study (table 1 and figure 2).

The frequency of patients at risk of bed sores was decreased from 262 (74.8%) to 251 (71.7%) giving a reduction in bed sores risk of 3.1% (p-value 0.013); reduction was first observed one year from the onset of the follow-up (table 1 and figure 3). In accompany, the frequency of bed sores was reduced from 43 (12.2%) to 8 (2.2%) revealing a reduction of 10% (p-value 0.009) that started only 6 months after study had started (table 1 and figure 4).

The frequency of patients suffering from pain was decreasing throughout the study from 56 (16%) to 16 (4.6%) by the end of the study with 8.5% reduction (p-value 0.005) (table 1 and figure 5).

Table1: Outcome of patients under home healthcare in Riyadh, Saudi Arabia (n=350).

Parameter	Mean± SD	First	Last	Difference	Significance
Bedridden	205.9± 4	210	200	-10	0.011
Walk support	144± 4	140	150	+10	0.011
Bedsore risk	257.8± 4.3	262	251	-11	0.013
Bedsore	28.8± 13	43	8	-35	0.009
Pain	40.5± 13	56	16	-30	0.005

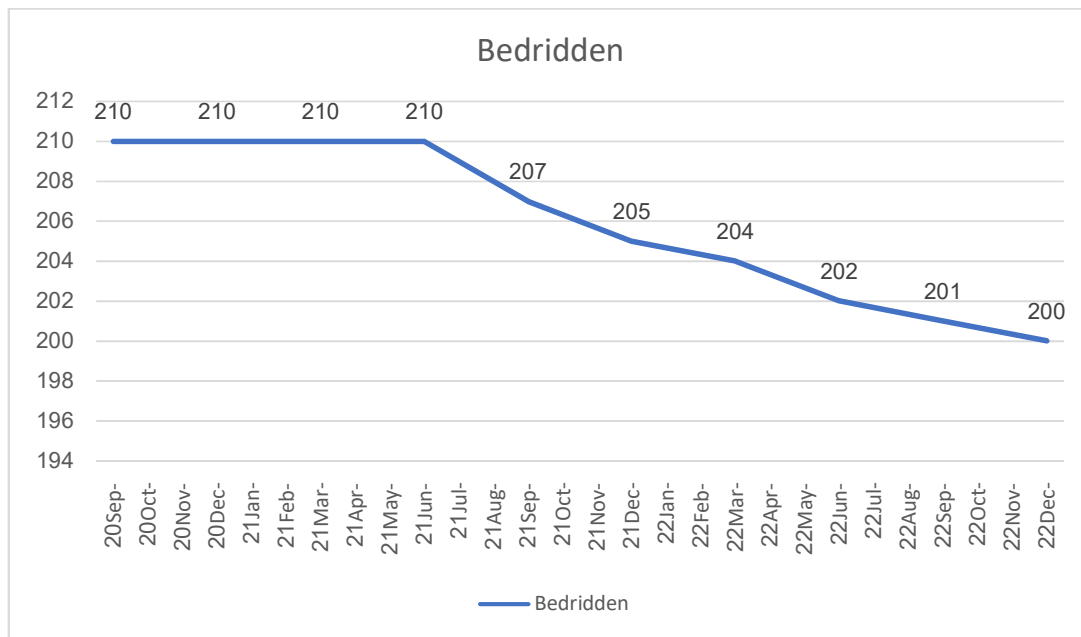


Figure1: Frequency of bedridden patients under home healthcare in Riyadh, Saudi Arabia (n=350).

The frequency of bedridden patients significantly decreased from 210 (60%), to 200 (57.1%) with reduction of 2.9% (p-value 0.011).



Figure 2: Frequency of the patient walking with support under home healthcare in Riyadh, Saudi Arabia (n=350).

The frequency of patients who were able to walk with support was significantly increased from 140 (40%) to 150 (42.9%) (p-value 0.011).

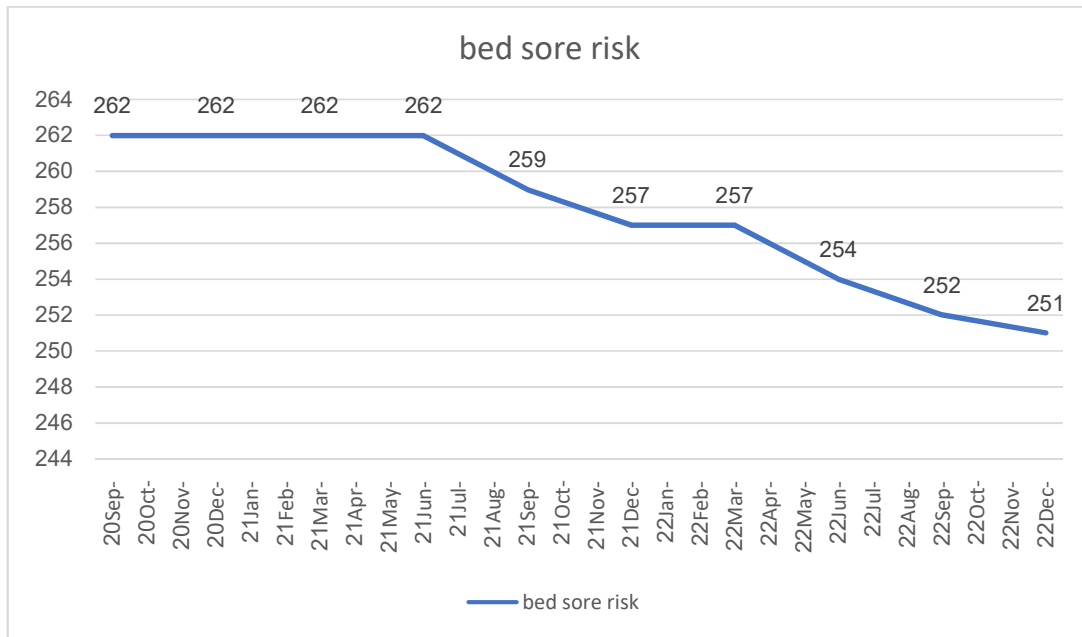


Figure3: Bedsore risk among patients under home healthcare in Riyadh, Saudi Arabia (n=350).

The frequency of patients at risk of bed sores was decreased from 262 (74.8%) to 251 (71.7%) giving a reduction in bed sores risk of 3.1% (p-value 0.013).

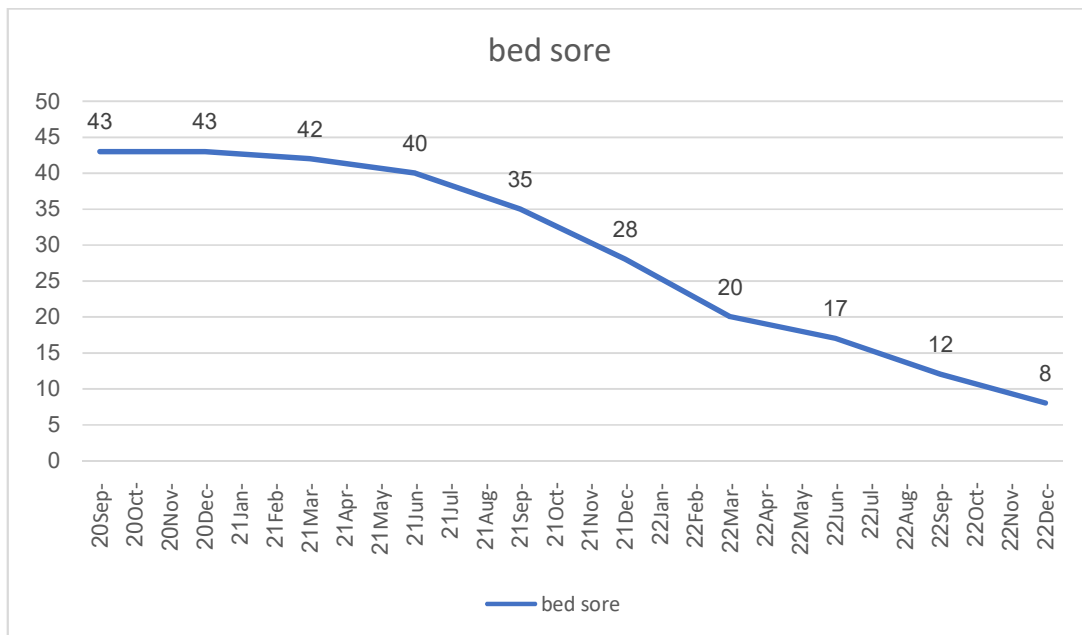


Figure 4: Incidence of bedsore in patients under home healthcare in Riyadh, Saudi Arabia (n=350)

The frequency of bed sores was reduced from 43 (12.2%) to 8 (2.2%) revealing a reduction of 10% (p-value 0.009).

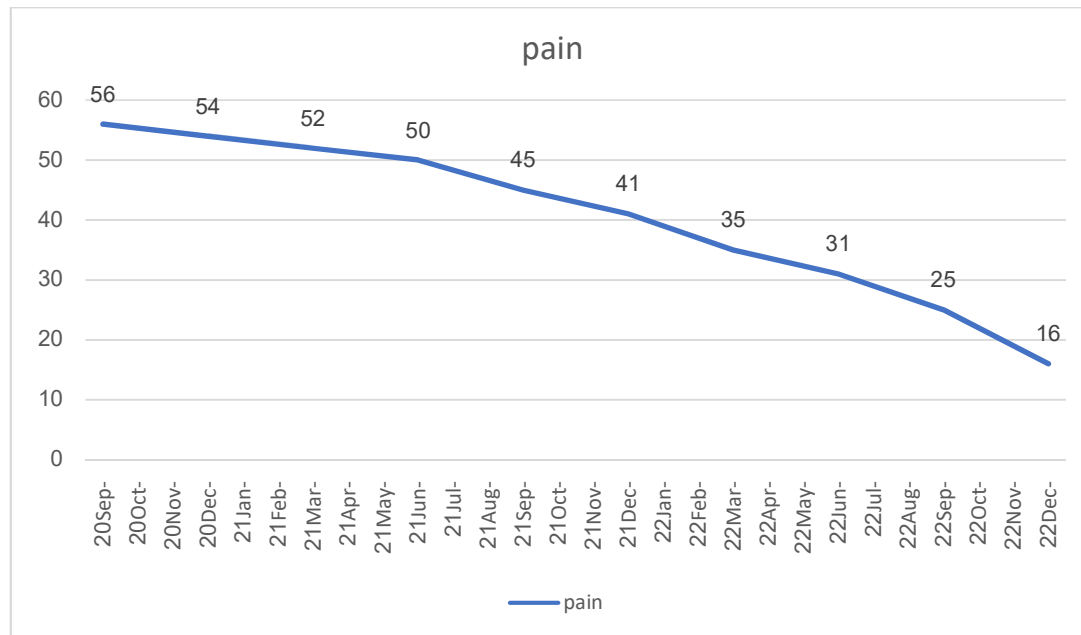


Figure 5: Pain assessment among patients under home healthcare in Riyadh, Saudi Arabia (n=350).

The frequency of patients suffering from pain was decreasing throughout the study from 56 (16%) to 16 (4.6%) by the end of the study with 8.5% reduction (p-value 0.005).

5. Discussion:

The study included 350 patients who were followed up for 30 months, majority (83.4%) aged 65 years or older, and females predominated 244 (69.7%).

The intervention also resulted in reduction in bedridden patients 60% to 57.1 and improvement in walking with support ability with improvement of 2.9% that started one year after the start of the study. Consistently, Bucher et al. also reported similar 2.9% improvement in gait balance, hence, the ability to walk (Bucher et al., 2007).

Both the risk and the incidence of bedsores were reduced in the study; patients at risk of bed sores were decreased from 74.8% to 71.7% while bed sores was reduced from 12.2% to 2.2% revealing a reduction of 10% that started only 6 months after study had started. Unarguably, educational interventions were associated with a significant reduction in bedsores in Karimi et al. study as was 25.7% in the intervention group compared to 48.6% of the control group developed bedsores (Karimi et al., 2018).

The frequency of patients suffering from pain was decreasing throughout the study from 16% to 4.6% by the end of the study with 8.5% reduction. Similarly reported by McDonald et al. who found that patients underwent the educational program improved significantly over the control group in ratings of pain intensity at its worst (McDonald et al., 2005).

6. Conclusion:

In conclusion the study found that implementing such an educational program for nurses, caregivers, and patients under home health care resulted in significant improvement in terms of patient's outcomes and quality of life in home health care Riyadh Region KSA.

Bedridden patients were decreased and significant improvement in the ability to walk was achieved.

The risk and incidence of bedsores were significantly reduced together with pain suffering.

7. Recommendations:

Uses the result of this research in improvement projects plan for the home health care department.

The outcomes of this program should be presented by publishing this work and presenting it in conferences.

Uses the result of this research in improving the weaknesses and determined the needs of patients.

Further studies assessing other factors such as knowledge of nurses, caregivers, and patients will help to guarantee the continuity of improvement.

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