Nursing Homes for Patients with Cardiovascular Disorders

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Abstracts

The cardiovascular disease is common among nursing home residents. Nursing home residents with chronic cardiovascular disease are frequently referred to emergency rooms during episodes of acute exacerbation and many are eventually hospitalized. However, many patients often do not receive adequate care during admission and discharge. This is ironic because this elderly population in nursing homes often faces delays and delirium in emergency departments and wards, but may not receive the remarkable standard. This present study evaluates the given scenario in the form of a review and uses the secondary data for the same.

Keywords: Nursing Home, Cardi-Vascular Disease, heart attacks, strokes.

1. Introduction

Each and every patient coming to the hospital is looking forward to the utmost care, all the possible cures, pre and post process system of care taking and even the perceived confidence on the specialist doctors and healthcare professionals. As a matter of fact, the segment of population that is visiting hospital for different ailments is somewhere around 1-2% of the total population, but then again are liable to act as pre-sent example for rest of the population in the region and as well as in the country. In a developing country like Saudi Arabia, the vulnerability of patient is high as the reach of medical facilities is limited to the semi-urban and rural areas. Nursing home quality of care has traditionally focused on nursing-intensive cares such as physical activities, restraints, falls, pressure ulcers, weight loss, and vaccination. The CMS (Center for Medicare

Services) has developed indicators to measure quality of these cares in the nursing home. There is currently no such indicator to measure quality of chronic disease care in the nursing home. Chronic cardiovascular disease is common among nursing home residents. Nursing home residents with chronic cardiovascular disease are frequently referred to emergency rooms during episodes of acute exacerbation and many are eventually hospitalized. However, many patients often do not receive adequate care during admission and discharge. This is ironic because this elderly population in nursing homes often faces delays and delirium in emergency departments and wards, but may not receive the remarkable standard.

A study of patients hospitalized for heart failure found that 9% of patients were nursing home residents. In this study, only 40% of nursing home residents with heart failure had their ventricular function assessed, and only 50% of heart failure patients who improved on angiotensin-converting enzyme inhibitors received this medication. These costs are less than community admissions. Assessment of left ventricular ejection fraction and use of angiotensin-converting enzyme inhibitors are good predictors of CMS in heart failure. Nursing home residents with heart failure are hospitalized during acute illness, but clinical evidence does not support whether it can reduce mortality and morbidity.

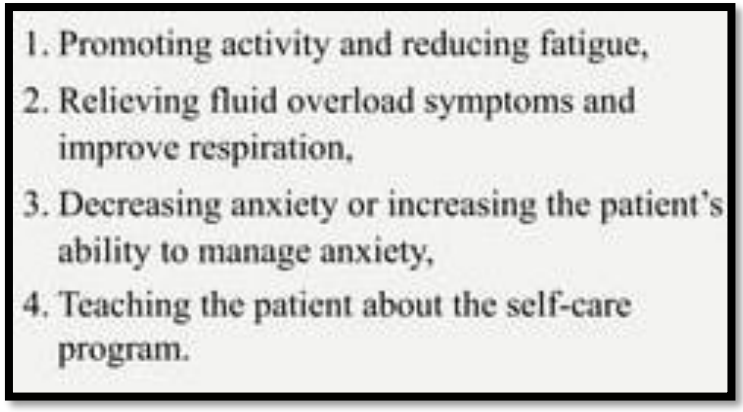
Aspirin and beta-blockers are recommended treatments for patients hospitalized with acute myocardial infarction. It is evident from the past record that about 70% of the patient aspiring critical care, including the patients of Cardio-vascular diseases have taken the benefit of free checkup and other related schemes of government, in some of the cases even full-free treatment was available for such patients. The information furnished from the NCCP (National Cooperative Cardiovascular Project) of about more than 1 lakh patients from the age group of 41 to 65 years of age. This data was established for the year 2002 to 2010 and since then the average increase in the process was around 13% per annum. The cross-sectional study conducted in the regard lasted for around 15 years i.e. 1995 to 2005 and the level of treatment accuracy identified was around 65% with 10% to 15% variation the aesthetics of patients in terms of treatment and functional accuracy of the same. Then another study conducted in the later years i.e., 2010 to 2015 the level of significance was shifted to 95% and the result established mortality rate of less than 12% which was less than the national average of 15% or so. The components considered in the study were demographic, clinical presentation, hospital course, and discharge medication variables. The shift of the percentage was more than 50% as acquired in 1995 and 2000.

Mechanism	Physiology	Effect on Body	Complication
Frank-Starling mechanism	The greater the stretch of cardiac muscle fibers, the greater the force of contraction.	• Increased contractile force leading to increased CO	• Increased myocardial oxygen demand • Limited by overstretching
Neuroendocrine	Decreased CO stimulates the sympathetic nervous system and catecholamine release.	• Increased HR, BP, and contractility Increased vascular • resistance Increased venous return	• Tachycardia with decreased filling time and decreased CO Increased vascular resistance • Increased myocardial work and oxygen demand
	Decreased CO and decreased renal perfusion stimulate renin– angiotensin system. Angiotensin stimulates aldosterone release from adrenal cortex. ADH is released from posterior pituitary. Atrial natriuretic factor is released.	• Vasoconstriction and increased • Salt and water retention by the kidneys Increased vascular volume • Water excretion • inhibited Increased sodium excretion • Diuresis • Decreased perfusion of other organ systems • Decreased perfusion of skin and muscles	• Increased myocardial work Renal vasoconstriction and decreased renal • perfusion • Increased preload and afterload Pulmonary congestion Fluid retention and • Renal failure Anaerobic metabolism and lactic acidosis
Ventricular hypertrophy	Increased cardiac workload causes myocardial muscle to hy- pertrophy and ventricles to dilate.	• Increased contractile force to maintain CO	• Increased myocardial oxygen demand • Cellular enlargement

Source:https://www.pearson.com/content/dam/one-dot-com/one-dot-com/us/en/higher-ed/en/products-services/lemone-6e-info/pdf/lemone-6e-chapter-31.pdf

Figure 1: Mechanism During Heart Failure

Levy et al (2018) evaluated the database of NCCP and commented on the previous findings in the same segment of cardio-vascular diseases and the base of the same was patients getting cured in the multi-specialty hospitals and nursing homes. The results of the study were in confirmation with the previous studies and many of them were published in the form of research papers in myocardial infarction and cardio-vascular based journals. The authors report that 61% of all eligible patients with acute myocardial infarction received “early” beta-blockers during hospital stay but only 44% of the nursing home residents received these drugs during the same period. The overall 61% rate of early beta-blocker use reported in this study is higher than the rate of 50% discharge use of beta-blockers reported by Krumholz et al (2021) in the same cohort.



Source: https://www.slideshare.net/slideshow/nursing-management-for-cardiovascular-disorders/271079280

Figure 2: Nursing Management in Cardio-vascular diseases

This is unlikely because of the difference in timing of beta-blocker use between the two studies, with early use in Levy et al and late use in Krumholz et al (2020). Beta-blocker use was reported to be lower within 24 hours of enrollment than discharge. Levy et al (2019) also reported that nursing home residents who had acute myocardial infarction did not use aspirin. It is unclear whether underuse of this important life-saving medication is due to bias due to differences in baseline characteristics. The results in Table 1 of this report indicate that patients admitted from nursing homes were older and had higher caseloads than patients admitted from the community. Among nursing home residents, 'early' use of beta-blockers was associated with reduced untreated 30-day and 1-year mortality. Unadjusted 1-year mortality rates were 38% and 55% for nursing home residents who did and did not take beta-blockers, respectively ($P < 0.0001$). A similar association was observed between aspirin use and mortality. Although the authors did not provide information on the characteristics of nursing home residents who did and did not take beta-blockers or aspirin, it appears that nursing home residents who used these drugs were younger, less contaminated, and had lower rates of morbidity. It is unclear whether deficiencies in the following characteristics could explain the lower mortality associated with the use of this drug. Data from the parent company's Cooperative Cardiovascular Program showed that the reduction in moral hazard associated with the use of both drugs was significant after adjusting for various risk factors. These ideas and changes have been successfully followed in parenting studies.

It also allows readers to anticipate similarities or lack of similarities in baseline characteristics between nursing home residents who received aspirin and beta-blockers and those who did not. The fact that the authors examined more than one medication or treatment in their study complicates the presentation of baseline characteristics. This can be facilitated by providing baseline data on aspirin and beta-blocker use separately or by examining them separately as in the main study. Recently, propensity score matching has become a powerful tool for designing

nonrandomized studies. Unlike traditional risk-based multivariate analyses, mediation studies can be designed to examine outcomes blindly and thus track the significance of clinical trials. In addition, covariate imbalance before and after the study design can be objectively measured and presented using a graphical representation. Since many questions about the treatment of nursing home residents cannot be answered by evidence from clinical trials, rigorous research (such as correlational) is needed to obtain the best evidence that studies of nursing home populations cannot provide. When randomized clinical trials are logistically infeasible and/or poorly justified, nonrandomized studies using rigorous methods will provide evidence for treatment. While researchers improve the design of studies that are inconsistent with the outcomes of nursing home care, it is important that physicians continue to work to improve the standard of care for nursing home residents. If we are suffering from a shortage of elderly residents in nearby hospitals and sometimes life-changing hospitals, we have a responsibility to provide a model of care for patients admitted to other hospitals. Personal exemptions should be made and documented in detail on the drawing.

2. Reviews of Recent Studies:

Nursing home staff:

There were five studies that reported staff knowledge of heart failure. One study reported a statistically significant improvement after intervention. Three studies assessed nursing home staff's ability to care for residents with heart failure. Spilsbury et al (2023) Two of the improvements were reported as improvements in staff confidence and their ability to provide appropriate care to heart failure residents and residents not previously diagnosed with heart failure for the presence of signs and symptoms. The final outcome was an improvement in anxiety related to providing care.

Nursing home residents with heart failure:

The change to functional capacity and quality of life was assessed by the intervention group. Changes to practice are related to changes in the operational processes within the nursing home. Changes to practice were reported as an aim of the educational interventions and as a result of a review of current processes after implementation. Stark et al (2022); Sullivan (2017) Five studies reported changes to interprofessional communication and all of them reported improvements. One study reported improvements in interprofessional communication towards overall resident care, indicating a spill-over effect from the intervention. Some studies used a mixed method design and a quantitative survey to support the qualitative findings, but these improvements were not significant. Tricco et al (2018); Tunnard et al (2022) According to some studies, the implementation of the intervention prompted a review and refinements of existing communication processes to incorporate new practices for managing critical care episodes in residents with heart failure. The stop and watch communication tool were used to report on inter professional communication. The 'Stop and Watch' tool, developed to identify non-specific changes in health conditions, was used to improve the identification, evaluation, and communication of changes in heart failure status of nursing home residents. During the study

period, six audits were conducted, with the tool found to have not been completed by participants at any time.

Some studies reported changes in the assessment of heart failure by nursing home staff. The studies that employed the EKWIP-HF intervention reported that nursing home staff were able to better conduct heart failure assessments and identify signs and symptoms. Studies stated that a heart failure worksheet could be used to aid recall, guide assessment, and provide a clear process for documenting/reporting changes to symptoms. Urbich et al (2020); Wachter et al (2022) There was a drop-off in completion of the worksheets observed towards the end of the study, despite the fact that nursing home staff were completing them and ensuring timely reporting of new heart failure related signs and symptoms. Prior to the intervention, there were no processes in place for assessing heart failure, which means that the implementation of such worksheets for conducting assessments may be accepted by nursing home staff.

Process Implementation:

The nursing home staff provided qualitative feedback on the effectiveness of education as an intervention component. Both studies yielded positive outcomes, as nursing home staff emphasized that education expanded their understanding of heart failure, improved their ability to recognize signs and symptoms, enhance their diagnostic skills, and make more informed decisions regarding appropriate care. WHO (2018) One of the important aspects was the ability to differentiate the signs and symptoms of heart failure from other conditions or syndromes, such as delirium. The participants in both studies expressed their gratitude for the 'new leaf pocket card' (to aid in clinical assessments and for creating tailored care plans for heart failure patients. The updated leaflet outlines the primary signs of heart failure and is intended for use in nursing homes. Additionally, some of the studies highlighted the usefulness of clinical guidance sheets that are provided in residents' rooms. Zhao (2021); Zhang et al (2019) The guidance sheets not only aided in the assessment of heart failure, but also reportedly facilitated improved self-management by both residents and their families. ACSM (2013), AHA (2013) Unfortunately, the authors did not provide any information on how self-management was enhanced. Feedback from participants emphasized the advantages of 'bedside sessions', which allowed staff to collaborate and conduct assessments together. Not only did the perceived ability to conduct assessments improve, but conducting these as a team was also perceived to enhance interprofessional communication. The quality of care improved as a result of staff feeling more valued and having their voices heard, leading to noticeable improvements in the overall care provided. Ashley et al (2012); Bickley et al (2012)

Some of the studies examined the implementation of new communication and documentation processes, and found mixed results regarding the fidelity of interventions. Participants emphasized that some processes were simpler to execute than others, but the authors did not provide additional information on the specific details. ENA (2010); Hodges (2009) Unfortunately, due to the challenges faced, refresher workshops were required after four months of the six-month intervention. Furthermore, nursing home staff were urged to perform daily weight checks on the residents, although this task was considered manageable. The nursing home staff believed that daily weight monitoring was unnecessary because they believed it was a way to ensure that the appropriate care was being provided. Kee et al (2014), Perrin et al (2012)

3. Conclusion:

The results of this study emphasize the potential benefits of interventions implemented in nursing homes to enhance the quality of care provided to individuals with heart failure. Nevertheless, the majority of the outcomes reported in the included studies were centered around nursing home staff. Consequently, further research is required to ascertain the efficacy of these interventions in enhancing outcomes for nursing home residents. Additionally, future studies should focus on investigating whether these interventions can lead to lasting effects and long-term sustainability. Education was a common intervention component utilized across the studies, delivered in-person to nursing home staff. Participant feedback, although limited, suggested that education was positively received and helpful, enhancing the staff's understanding of heart failure. Unfortunately, this study revealed low participant attendance at the sessions, with the facilitator expressing that this method was too demanding. The delivery of a digital intervention could potentially lead to better outcomes, reducing the workload on staff and eliminating the need for an intervention facilitator. Using a digital approach, participants can access the intervention whenever it is convenient for them, which may enhance their acceptance of the intervention, engagement with it, and chances of achieving positive outcomes.

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