JOURNAL OF INTERNATIONAL CRISIS AND RISK COMMUNICATION RESEARCH
ISSN: 2576-0017
2024, VOL 7, NO S9

Interventions to Reduce Emergency Department Visits and Improve Medical Care

Mohammed Abdulaziz Mohammed Almgaibel, Wafaa Abdulkareem Altaezi, Ahdab Musaad Abdullah Allihyani, Nouf Abdulrahman Alqahtani, Fatimah Ali Awad Alwadai, Muhannad Ahmed Ali Thubali, Jaber Ahmed Abdullah Najae, Hussein Essa Ahmed Jafri, Saleh Jaber Saleh Alzubayd, Hussein Mohammed Jaber Al-Zubaid

1. Nursing Technician, Eradag Complex and mental Health Riyadh
2. Family medicine, Telemedicine (taif health cluster)
3. Internal medicine, King Abdulaziz hospital
4. Senior Registrar Family Medicine, Joint Program of Family Medicine, Asser Region
5. Family medicine physician, Aseer health cluster
6. Pharmacy Technician, Edabi Hospital
7. Nursining Technician, Edbi Hospital
8. Laboratory technician, Goz al Jaafra Health centar
9. Nursing, King Khaled Hospital
10. Pharmacy Technician, Maternity hospital

ABSTRACT

Introduction: Hospital nursing staff are often overstretched, particularly in the emergency department, with too many tasks and too little time. This results in an unsatisfactory work environment and, as a consequence, compromises patient care and outcomes. Interventions to reduce unnecessary visits and optimize nursing care are needed to make the healthcare system more sustainable and improve the quality of patient care. Used in the right way, with the right patients and the right infrastructure, mobile applications and sensors might represent such an intervention. The primary aim of the project is to evaluate the effects of a novel mobile intervention designed to reduce the number of patients who visit the emergency department unnecessarily and to provide nurses with situational awareness and decision support using simple visual cues. In this paper, we describe the design of a quasi-experimental study where we have used methods from intervention mapping for the development of the mobile intervention. The evaluation considers the multifaceted nature of the process related to implementation and mechanisms of impact. The study protocol is designed in line with guidance for the development and evaluation of complex interventions.

Methods: Building on previous work, we conducted interviews with physicians, oncologists, and caregivers of advanced cancer patients visiting the emergency department. Using content analysis, we developed an intervention based on our previous study, aligned with calls to action in community oncology. Our study explores interventions to reduce ED visits and improve nursing care for advanced cancer patients. The feasibility and potential for our interventions pave the way for

large-scale implementation trials. Our research aims to enhance nursing care for better interactions and optimize advanced cancer nursing.

Conclusion: Interpretation of each research finding is limited because only one study investigated each comparison. The evidence suggested that examples of interventions that might reduce ED visits and optimize nursing care included minor injury units, particularly for improving waiting times for people with acute conditions of the ear, nose, or throat, and for patients with injuries. These findings are based on evidence of moderate quality. Moderate-quality evidence also suggested that treatments given by pharmacists for people with self-limiting conditions might help to significantly reduce the length of stay among people who are waiting for admission to hospital compared with ED medical staff. There is limited evidence for the effect of these minor injury unit interventions on patient safety, cost and other outcomes. High-quality studies are needed to directly compare these different types of services with the use of existing data or to examine patients' views about introducing or extending the range of services available at these units. It is also important to explicitly examine the themes that are underpinning the different interventions and services. High-quality studies may involve using qualitative and quantitative research that takes a mixed-methods approach, and highly transferable economic evaluations. With either approach, this would require a linked team drawn from the disciplines of strategy, management, nursing and clinical care. These findings are based on data of moderate to low quality. Future investigations should consider differences in the way resources are used and whether one strategy is more resourced than another but also more beneficial in terms of patient care, financial cost savings and the positive aspects experienced by those who contribute clinically.

1. Introduction

Emergency departments (EDs) in the United States have increasingly been used by patients as a source of primary, nonscheduled, acute care. Because of this trend, the ED environment is also increasingly difficult to work in. Few nurses enter the profession with the goal of becoming an ED nurse; instead, they often find the specialty themselves while working through staff rotations. However, ambulatory care nursing practice encompasses compassionate new techniques to meet and even anticipate the patients' and families' needs during triage, while managing both health screenings and diverse illnesses. The foundation of triage and assessment outcomes is nurse-patient relationships; but are these possible in the traditionally challenging ED milieu of acuity and numeric metrics requiring high speed and low cost in care delivery or patient satisfaction from each encounter? And what potential strategies could help create relationships between the triage nurse and the opposite-aged younger child and older adult ED patients for improved triage and assessment processes?

1.1. Background and Rationale

Elderly residents in retirement homes frequently visit emergency departments, leading to resource strain. This study aimed to determine whether interventions

reduced these visits. A continuous medical and health care management system was used to reduce emergency visits in 15 months. The reduction in emergency department behaviors from previous research on this computer-aided intervention was likely due to fewer chronic diseases in residents and disease improvements. However, the previous intervention failed to address the nursing context or central issues facing elderly residents in retirement homes. This study should be beneficial to hospitals, nursing institutions, and various care professionals. We hope to provide a model for solving urgent issues in collaboration with several different professionals. The rise of an aging population is a worldwide issue. In 2018, 14.76% of the total population is elderly. Long-term care institutions are essential for caring for the growing number of older people, particularly in the case of chronic or permanent disabilities. A retirement institution is aimed at ensuring the physical, mental, spiritual, cultural, and entertainment well-being of the residents. Preventing emergency department visits can help improve the physiological and psychological burdens experienced by residents and can be more expensive for facility administrators and society as a whole. It was found that in the United States, among nursing home residents under the age of 65 admitted to the emergency department, nearly 90% return to nursing homes, leading to higher daily operating costs and reduced care team flexibility, more re-hospitalizations, leading to stress for bedridden residents, and even reducing the lifetime of residents.

1.2. Scope and Significance

Patients entering treatment in a hospital emergency department have diverse abilities to tolerate interventions and a wide range of comorbidities and complications. One of the most important goals in the management of any individual emergency department in association with the acute care hospital is to minimize unnecessary visits. Individuals frequently enter hospital emergency departments for care related to complications of chronic health conditions that can be and should be managed more appropriately for the individual, hospital, and health systems in non-emergent settings. (Kennedy et al.2020)(Harris, 2020)(Martín-Sánchez et al.2020)(Dragovic et al.2020)

Many hospital emergency department patients could be cared for in their homes by providers associated with primary care. However, problems or barriers that keep patients from seeing their primary care providers, such as transportation or referral system failure, perpetuate emergency department use. Many locations and stakeholders have noted the potential to optimize nursing care not only to reduce emergency department and inpatient use but also to address serious overtreatment concerns for older adults receiving healthcare services. Emergency department-supported options are being organized to help individuals quickly manage health conditions in home or alternative location settings. Unlike other health system-supported emergency department barriers like poverty or donated services, home care and home assistance approaches should have a much broader impact.

2. Factors Contributing to High Emergency Department Visits

At the study settings, patients with multiple chronic conditions receive their health care from a variety of health care providers, including primary care providers,

specialists, pharmacists, and self-care activities. The collaboration among health care providers and patient self-care, according to their roles and responsibilities, is essential to support patient care for chronic condition management in primary care settings. Multiple uncoordinated care plans from a variety of health care providers and the lack of clarity in roles and responsibilities often lead to fragmented and duplicated care needs in chronic condition management. When unaddressed, the fragmented and duplicated care needs contribute to negative outcomes, including worsening health conditions or the development of comorbid conditions among patients. The study settings serve as resources to support and coordinate chronic condition management in primary care settings. For instance, the nurse-run lines that filter routine patient issues from the established logged patient provider panel and consult on chronic condition management strategies for patients who remain unassigned provide support for complex patient care coordination activities evident in chronic condition management.

However, some of the nurses working at the study settings were observed to accompany patients to their unplanned activities in the emergency department. The unplanned activities occurred when patients did not receive or follow through with advice from providers to receive care for non-routine chronic condition-related issues identified at the scheduled telephone appointment. To understand the unplanned activities leading to acute care at the emergency department, it was necessary to find out how patients receive their health care and interact with different types of care to manage their chronic condition requirements. The purpose of this text is to describe patients' presentations as evidence of the unplanned activities through emergency department visits to receive acute care and self-reported reasoning for unplanned activities. In the interpretation of findings, there is a better understanding of how patients receive their health care, which provides insight to redesign care delivery processes for future study.

2.1. Socioeconomic Factors

Socioeconomic factors serve as potent and independent determinants of health outcomes. Patients of lower socioeconomic status demonstrate poorer health outcomes and higher rates of emergency department utilization. Socioeconomically disadvantaged populations are at higher risk due to overcrowded, lower-quality housing, more prevalent food insecurity, and other social determinants of health, which put them at a higher risk of poor health overall. Low socioeconomic status puts these patients at higher risk for having multiple complex comorbidities. They are also less likely to have primary care providers and are more likely to rely on the ED for healthcare needs.

There is rising awareness that socioeconomic factors operate as a barrier to success for patients with chronic disease but are generally less amenable to many current interventions. Identified themes to address when providing care to tackle socioeconomic challenges include: 1) identify and document patients' social risk factors; 2) have systems in place to refer high-risk patients to needed social services; 3) have processes in place to support comprehensive management of social risk factors such as shared goals, care planning, and multidisciplinary teams; 4) evaluate the interventions and assess the patient and population-level outcomes; and 5)

involve, learn from, and serve the community.

2.2. Healthcare Access Issues

Physical, financial, and cultural barriers often impede access to healthcare. Medicaid recipients cite transportation, costs, and dissatisfaction with access and healthcare as notable reasons not to visit a medical provider. The number of health care providers, the non-availability of publicly funded healthcare providers under Medicaid, and the lack of knowledge among Medicaid recipients could also lead to such a situation. If health literacy is present, people may not know how to access and navigate the healthcare system or what services they may need. Income and transportation related to copays may serve as potential barriers to healthcare access. Lower health knowledge also relates to health, health access, and health securities.

The participation of Medicaid recipients in healthcare is affected by self-rated poverty status, ease of access, and out-of-pocket costs. Self-rated health status appears to be the root of most of the associated illness disparity. Since barriers to care for residents are multi-tiered, solutions to improve health status must also tackle many health and health-associated problems. If institutions that serve Medicaid patients are overburdened, individuals must face some of the worst barriers to emergency treatment; those barriers may rise sharply due to budget difficulties that have impacted healthcare inflation and Medicaid enrollment. Increases in the Medicaid caseload for these services may result in longer ER stays waiting for care due to lack of coverage and access to primary care. Populations with high ER utilization rates, such as Medicaid recipients, may contribute to various other variables in inadequate access and fragmentary care. (Erving & Zajdel, 2022)(Kino et al.2020)(Lo et al.2020)(Bell et al., 2020)

3. Interventions to Reduce Emergency Department Visits

Print Request: Recent data demonstrated that scheduled heart failure follow-up in a hospital or clinic-based setting may be just as effective as 'crisis' care necessitating unscheduled emergency department visits. Despite expanding literature regarding hospital or clinic-based services, published intervention studies have not generally evaluated the frequency of cardiologists offering cost-effective services. It is unclear whether patients treated by heart failure specialists have reduced ED use as a result of better care management of their conditions and comorbidities or, alternately, as a result of factors unrelated to the quality of care management, such as reduced access to privately insured patients. While heart failure specialists should make patients' emergency department visits more efficient by providing ED personnel with information that can decrease time spent obtaining a medical history and physical as well as ordering and interpreting numerous laboratory tests, such activities are dependent on the ability of the heart failure specialist to access the electronic medical record. Even in tertiary hospitals, barriers to general hospital privileges and to licensure in the U.S. or credentialing in other countries increase the likelihood that patients transported to tertiary hospitals lacking heart failure specialists for those emergencies often will not be overseen by that specialist. A Responsive Care Management Outreach Program for patients at high risk for an ED visit due to lack of access to care, elderly age, and increased severity of illness or frailty or medical

urgency may prove instrumental in decreasing the frequency of ED visits.

3.1. Telehealth Services

3. Interventions to Reduce Emergency Department Visits and Optimize Nursing Care

We conducted a scoping review to update empirical evidence through the identification and categorization of interventions aimed at reducing avoidable ED visits and promoting optimal nursing care. 3.1. Telehealth Services Telehealth, or virtual care, is a growing area of interest in the United States, aimed at treating low-acuity episodic or urgent conditions and for the management of chronic diseases. Telehealth services offer the opportunity to connect patients with health care from the ease of their own location, reducing travel, wait, and in-person contact, especially critical during the pandemic. The effectiveness and operational and clinical factors enabling and constraining the adoption of virtual visits have been the subject of various studies, but the literature is still relatively scarce. A review of the literature reports the practice of telehealth in the United States to be focused on specialty care and mental health and chronic disease management. However, the reported expansion in demand for telehealth during the pandemic is expected to accelerate the momentum of service offerings. The applicability of telehealth for primary care and population health management, especially in minority and underserved communities, is an emerging area deserving exploration.

3.2. Community Health Programs

Several CHW programs in the United States are committed to reducing or preventing avoidable emergency department visits. Given these goals, it is not surprising that many CHW programs focus on helping individuals with complex health problems who have difficulty seeing a primary care provider, who do not have an established relationship with a provider, or who are uninsured. One federally funded program that targets preventable emergency department use consists of six pilot programs in five states to reduce avoidable hospital use, including emergency department visits, by people with disabilities. The Health Outreach Workers are trained to facilitate care coordination, follow up with clients and health care providers to resolve care plan conflicts, and provide social support.

Another program is the Healthy Howard Access Plan, which is available to county residents who are uninsured or have high-deductible insurance and are not eligible for public programs. This program provides access to a network of health care providers, preventive screenings, and health education. CHWs help clients access primary care providers and social services, and provide advocacy, support, and referrals. Yet another hospital-based pilot program includes CHWs to help patients with complex health problems after discharge from the hospital for one month. CHW visits include assisting with managing outpatient care, reviewing hospital discharge information, assessing for ER use, and assessing for social determinants of health. The staff of five different federally qualified health centers advocate for patients who have frequent emergency department visits. In this 12-month pilot, CHWs were given the opportunity to prevent additional emergency department visits associated with housing instability. They visited participants to help them find affordable, stable

housing and offered additional education and support. After 12 months, clients had a 47% lower rate of emergency department use than individuals who matched the key population characteristics. The program's sponsors estimated that the intervention saved the health care system an additional amount in related costs.

4. Optimizing Nursing Care in Emergency Departments

Registered nurses are the largest proportion of the emergency department workforce. Their knowledge and expertise in emergency nursing complement the work of other members of the emergency department team. The importance of ongoing support and investment in registered nurses, in conjunction with the other members of multidisciplinary teams, to optimize emergency nursing care is essential. The study aims were to evaluate the effectiveness of interventions to minimize the length of stay and the number of unplanned return visits to the emergency department and to critically assess potential points of time-saving interventions. The aim of this structured scoping review is to examine interventions to optimize nursing care in the emergency department.

The literature is saturated with the intensity an emergency department can produce. Registered nurses are the largest proportion of the workforce. Their knowledge and expertise in emergency nursing complement the work of other members of the multidisciplinary team. The importance of ongoing support and investment in registered nurses, in conjunction with the other members of multidisciplinary teams, to optimize emergency nursing care is essential. The study aim was to evaluate the effectiveness of interventions to minimize the length of stay and the number of unplanned return visits to the emergency department and to critically assess potential points of time-saving interventions. Results were derived from articles published in the last fifteen years to submit the most recent interventions to save time. Four broad themes emerged as areas where nursing care can be optimized: practice and procedure changes; interdisciplinary teamwork; nurse-initiated interventions; and professional support. Common to all interventions are the alignment with best practice guidelines, the integration and adherence to specific protocols, the use of colleagues in innovative ways, and the support of evidence-based practice. Time savings from these change initiatives can contribute to more productive and efficient nursing care that can then potentially influence patient outcomes, providing a therapeutic care experience that will help patients and families build a connection with the hospital or health system, ultimately leading to long-term cost savings and improvements in population health. Findings indicate that patient-centered care and adherence to best practice guidelines are central to single interventions or combinations of interventions aimed at optimizing the provision of emergency nursing care to minimize the number of returns to the emergency department while reducing overall waiting time and length of stay. The implementation of evidence-based interventions could contribute to better resource allocation aimed at reduced length of stay for a better patient care experience with the ultimate benefit of reduced waiting time.

4.1. Nurse Staffing Ratios

Nurse staffing in hospitals is recognized as an important intervention to optimize

patient outcomes on nearly every hospital unit, including the emergency department (ED). Poor nurse staffing levels in hospitals are associated with a number of diminished patient outcomes, including increased mortality, injury, hospital-acquired infections, and longer stays. Advocates for optimal nurse staffing suggest that high-quality and safe nursing care must be considered a critical element of high-performing health systems. Staffing for complexity in the ED is suggested based on four dimensions: patient intensity (acuity), inpatient load, the proportion of nursing hours contributed by registered nurses, and the skill mix. Ratios of 1:4 or 1:5 registered nurses to patients are optimal in the ED, with additional support from licensed practical nurses and/or supportive unlicensed personnel to manage task-based work and allowing the registered nurse to plan care, execute care, monitor all treatments and medications, and anticipate the patient and the team's needs.

While initial studies suggested that nurses could care for more patients in the ED compared to medical-surgical units, newer evidence shows that patients in the ED consume more nursing time and resources for reasons including the teamwork required to initiate and monitor rapid turnover treatments, the need to be familiar with both medical and surgical care to manage boarding patients awaiting inpatient beds, and the physical configuration of the unit. Fixed nurse-patient ratios may not optimally address the capacities of the nursing staff and support potential loss of other staff under circumstances that influence the amount of time a nurse has to care for patients. There are multiple team members who also have critical roles in the ED, and oversight to assure that those team members can function is critical. Disruptions and delays in patient care flow are common in the ED, and several studies found high-performance levels of registered nurses in EDs were associated with low levels of intragroup conflict and swift conflict resolution. When patient demand for ED services exceeds capacity, ED nurses are required to manage these challenges safely and effectively. Task management of patients, teamwork with inpatient, transport, and environmental service staff; patient flow management; and communication were the central nurse strategies for continuing care during times of ED boarding and hospital occupancy events. The choice of task management strategies was related to inpatient area management by the ED nurses. In the face of ED boarding and staff reductions, ED nurses performed leadership, coordination, and operational tasks in a hybrid space to ensure patient safety and continuity of care. At peak times, an association was found with the amount of staffing required in both the ED and inpatient units. ED and hospital leaders should employ protocols in advance to provide enough nursing staff to meet capacity demands. EDs should modify staffing models to guarantee operational flexibility, improve patient flow management at peak times, and ensure continuity of high-quality care. ED nursing managers must focus on adhering visibly to protocols. These findings develop a first understanding of issues with safety and the effects of ED boarding and hospital occupancy events.

4.2. Training and Education Programs

Training and education programs in the provision of family-centered care or self-management techniques have the potential to improve patient outcomes and, in some cases, decrease the number of emergency department visits and hospital admissions. Training family caregivers in nursing care activities, such as responding to oxygen

desaturation, has been shown to result in more timely responses to observed changes in the patient's condition. Therefore, education programs can both improve patients' quality of care and prevent complications from arising. A goal of chronic disease management is the ability to provide needed care in the community rather than the emergency department or hospital. Training family caregivers to recognize the signs and symptoms of heart failure and to adhere to the prescribed treatment has been shown to decrease the number of healthcare resources necessary to manage the patient's condition.

Even for those patients in palliative or end-of-life care, education-related activities can have a positive outcome in terms of patient care. One intervention evaluated educational materials about emergency bag management and a hospice comfort pack, a pre-prepared box of medications, for nursing home staff. The evaluation was able to show a significant improvement in the perception of preparedness to deliver appropriate care. Residents' transitions from the nursing home to the emergency department decreased from 36% of deaths to 10%, with a comparable increase in home deaths. The knowledge that families want to care for their loved ones at home if that option is feasible means that skills required to provide end-of-life nursing care are important for family members of patients in hospice care. Such skills may necessitate the same educational intervention that accompanies interventions related to other chronic disease management.

5. Conclusion

Increases in ED visits continue to highlight the need for interventions that reduce ER utilization by improving patient health and accessing primary health care services. We have developed a unique nurse-led ED intervention, CFN-Ottawa, that employs elements of transitional and self-management care aimed at supporting frail older adults residing in the community. This pilot study sets the foundation for future implementation and evaluation of the 60-day CFN-Ottawa model of care in the ED setting. Our findings contribute new knowledge to the nursing literature on ED interventions employed to reduce ER use and optimize the care provided to frail seniors in the ED. This study acknowledged specific strengths: first, to the best of our knowledge, CFN-Ottawa is the first nurse-led ED geriatric intervention aimed at improving access to the primary care system and reducing unnecessary ED visits. Second, we have developed standardized intervention guidelines to promote consistency and enhance research quality. Third, the benefit of geographic targeting as well as integrating the intervention into existing ID programs. Finally, collaborating with CNOs increases the visibility of nursing practice in the ED.

In conclusion, CFN-Ottawa appears to have utility in the ED setting by reducing ED visits through the facilitation of self-management and health care interventions aimed at managing acute and chronic health issues, improving access to health care services in the community, offering mentorship support to existing ID navigators, and promoting and supporting discharge planning of frail community-dwelling seniors. Our findings support the view that programs designed by nurses for nurses can offer insight into strategies to manage health care for frail seniors residing in the community.

5.1. Summary of Key Findings

This is a brief summary of work undertaken in my role as a Research Fellow for the Department of Health. The work relates to the review of interventions to reduce emergency department visits and optimize nursing care. A report of the results of a systematic review was requested by the Department of Health with specific reference to residents of care homes. The scope was extended after initial scoping work revealed high rates of emergency department use by those in the last year of life and the need to identify interventions that focus on those in the last year of life to support a further program of work into reducing inappropriate use of emergency and urgent care services in England, which aims to reduce this use through better management of health and social care.

The purpose of this review was to identify interventions that reduce emergency department visits in the whole population. For the purposes of the review, the definition of care homes included private, voluntary, and independent sectors that provide residential care for older and younger persons, including short-stay residential accommodation for respite care. The report acts as a summary of the systematic review on the topic and reports the most pertinent information from the final report of the review. It has been written to inform clinical commissioning groups, those in general practice, and researchers about what works and for whom to reduce emergency department attendances. Data gathering and the synthesis of existing systematic reviews of clinical and non-clinical interventions had the twin intentions of informing a future workstream to identify new interventions for older people and of updating primary work on emergency admissions and frail elderly reviews.

5.2. Future Directions for Research

Future studies could also evaluate nursing behaviors that are associated with reductions in unscheduled ED visits. There have been a few studies that have evaluated specific nursing care interventions that are associated with undesirable outcomes such as restraint, seclusion, falls, and pressure ulcers among other issues, yet there are no studies that have evaluated nursing care behaviors that could be linked with a reduction in unscheduled ED visits. We have identified associations between fall rates and restraint use with fewer hospital readmissions, but these associations have not been consistently observed with other unscheduled visits such as ED visits. Consequently, more research is needed to evaluate the link between nursing care in general and unscheduled ED visits from nursing units within the hospital. We would also have liked to have incorporated in our analysis some other significant predictors of ED visits such as length of stay and hospital readmissions to further evaluate undertriage, but we did not have access to additional hospital administrative data for this research.

Multimethod approaches could also be used to assist in understanding the collaboration between disciplines, use or integration of risk assessments in the electronic health record system, actual patient outcomes, and other interventions that contribute to an understanding of unscheduled ED visits. We also could not evaluate whether the cohort of surgical patients that were admitted from the ED were directly

operated upon in the ED and the caring needs of that patient population could differ from the entire postoperative population of patients studied. This could also impact and alter the relationship between these care variables and the outcome of the number of ED patients overall. Comprehensive system change is needed to break the cycle of using the hospital ED for non-emergency care, and making this change will require new strategies that are driven by the work of registered nurses. In addition, from the numerous cells in this grid, a new thing in this field may then emerge.

References

Kennedy, M., Helfand, B. K., Gou, R. Y., Gartaganis, S. L., Webb, M., Moccia, J. M., ... & Inouye, S. K. (2020). Delirium in older patients with COVID-19 presenting to the emergency department. JAMA network open, 3(11), e2029540-e2029540. jamanetwork.com

Harris, M. (2020). Normalised pain and severe health care delay among people who inject drugs in London: Adapting cultural safety principles to promote care. Social Science & Medicine. sciencedirect.com

Martín-Sánchez, F. J., Del Toro, E., Cardassay, E., Valls Carbo, A., Cuesta, F., Vigara, M., ... & Gonzalez del Castillo, J. (2020). Clinical presentation and outcome across age categories among patients with COVID-19 admitted to a Spanish Emergency Department. European geriatric medicine, 11, 829-841. springer.com

Dragovic, M., Pascu, V., Hall, T., Ingram, J., & Waters, F. (2020). Emergency department mental health presentations before and during the COVID-19 outbreak in Western Australia. Australasian Psychiatry, 28(6), 627-631. sagepub.com

Erving, C. L. & Zajdel, R. (2022). Assessing the validity of self-rated health across ethnic groups: implications for health disparities research. Journal of Racial and Ethnic Health Disparities. [HTML]

Kino, S., Jang, S. N., Takahashi, S., Ebner, D. K., & Kawachi, I. (2020). Socioeconomic disparities in self-rated health in two East Asian countries: Comparative study between Japan and Korea. Social Science & Medicine, 253, 112945. [HTML]

Lo, C. C., Adame, J. L., & Cheng, T. C. (2020). Explaining chronic illness and self-rated health among immigrants of five hispanic ethnicities. Journal of Racial and Ethnic Health Disparities, 7(1), 177-191. [HTML]

Bell, C. N., Sacks, T. K., Tobin, C. S. T., & Thorpe Jr, R. J. (2020). Racial non-equivalence of socioeconomic status and self-rated health among African Americans and Whites. SSM-population health. sciencedirect.com