Journal of Population Therapeutics & Clinical Pharmacology

Nursing Epidemiological Approach of Hypertension Management in a Public Health Service

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Abstract

Background: Nursing diagnosis plays a crucial role in epidemiological surveillance, especially in addressing public health priorities like arterial hypertension. Therapeutic Regimen Management is a key focus in nursing diagnoses related to this chronic condition in primary healthcare settings. This study aims to examine nursing diagnoses in hypertensive patients using an epidemiological approach.

Methods: A descriptive study employing an epidemiological approach was conducted to analyze nursing diagnoses among hypertensive patients.

Results: Our findings reveal that 17.7% of patients were undiagnosed, and there were more accurate diagnoses among patients with complications compared to those without complications.

Conclusions: Improving nursing records is essential to facilitate more comprehensive studies in post-modern epidemiology for the future, especially regarding public health nursing and the management of arterial hypertension.

Keywords: public health nursing, epidemiological surveillance, nursing diagnosis, arterial hypertension

Introduction

The historical roots of epidemiology can be traced back to ancient times, with notable mentions in Hippocrates' work "Air, Waters and Places," which delves into the epidemiological analysis of infectious diseases and their environmental correlations. Over time, epidemiology has evolved into a robust methodology, progressing from its focus on infectious diseases to broader societal and molecular pathways, including the interplay between individuals and their environment. This evolution has led to a contemporary emphasis on health phenomena and a post-modern epidemiology grounded in Public Health Nursing principles. (Frérot et al., 2018)

In various Information Technology (IT) systems contribute to epidemiological surveillance, particularly in primary healthcare where nurses utilize systems like S-Clínico for recording diagnoses and interventions based on the International Classification for Nursing Practice (ICNP). Despite the standardized documentation processes and the legal authority of Community Health and Public Health Nursing specialists in leading epidemiological surveillance, a recent study highlighted a lack of empowerment among primary healthcare structures for such surveillance. (Melo, 2020)

While possesses the IT infrastructure for epidemiological surveillance through systems like SINAVE (National System of Epidemiological Surveillance), the focus has primarily been on mandatory reported diseases rather than nursing diagnoses. The prioritization of interventions, guided by Local Health Diagnoses, often centers on prevalent local diseases like cardiovascular conditions, particularly arterial

hypertension. Medical reports on arterial hypertension diagnoses, coded according to the International Classification of Primary Care (ICPC-2), are primarily documented in IT systems like S-Clínico. Nurses then identify chronic patients with arterial hypertension, initiate consultations, and address Nursing Diagnoses related to therapeutic management, notably focusing on "Therapeutic Regimen Management" criteria. This clinical relationship between nursing diagnoses and medical diagnoses presents opportunities for a new approach to epidemiological surveillance, necessitating community empowerment and partnerships facilitated by public health nurses. (Kelly, 2008)

In this research context, the study aims to: a) Identify the distribution of nursing diagnoses related to Therapeutic Regimen Management concerning medical diagnosis codifications for arterial hypertension. b) Determine the documentation rates for nursing diagnoses related to Therapeutic Regimen Management in hypertensive patients.

Material and Methods

The study adopted an epidemiological approach with a quantitative methodology, focusing on a descriptive analysis of data recorded in S-Clínico between January 1, 2019, and December 31, 2019.

Data extraction from S-Clínico was conducted by the Department of Data Management of the primary healthcare organization where the study took place. The following criteria were applied:

- Inclusion of individuals with valid registrations at the health centers of the primary healthcare organization, excluding duplicate, deceased, or sporadic registrations of individuals not residing in the center's area but requiring occasional care and registration for access purposes.
- Inclusion criteria consisted of activation of the hypertension follow-up program, medical diagnosis of hypertension with complications (K87), medical diagnosis of hypertension without complications (K86), activation of the Therapeutic Regimen Management focus (without complete nursing diagnosis), complete diagnosis of impaired or effective Therapeutic Regimen Management (using standard national codification), and complete diagnosis of impaired or effective Therapeutic Regimen Management (alternative to standard national codification).

Descriptive statistics were applied using Microsoft Excel 2020 to:

- Examine the relationship between nursing diagnosis activity and medical diagnosis of arterial hypertension, comparing prevalence for arterial hypertension in general, with complications, and without complications (based on codes K86 and K87 for medical diagnosis and impaired or effective judgments for Therapeutic Management nursing focus as per ICNP and standardized in national IT S-Clínico).
- Determine relative frequencies of Nursing Diagnoses related to Therapeutic Regimen Management (impaired and effective judgments) compared to those before the 2016 standardization of terms.
- Calculate relative frequencies of undiagnosed Therapeutic Regimen Management focus (activated focus without any positive or negative judgment record).

This initial phase of the nursing diagnosis observatory did not delve into deeper analysis due to limitations in nursing records, which are expected to improve in subsequent phases.

The study received ethical approval from the institutional ethics committee under approval code N 55/CE/JAS dated July 13, 2018.

Results

The study identified a total of 134,536 registered users, with 56% being women and 44% men. The distribution and prevalence of medical diagnoses in hypertension patients are summarized in Table 1.

Table 1: Distribution and prevalence of medical diagnoses in hypertension patients.

Medical Diagnose	n	Prevalence
Arterial Hypertension patients	39,059	29%
K86—Arterial Hypertension without complications	33,916	25%
K87—Arterial Hypertension with complications	5,143	3.8%

The overall prevalence of hypertension in the study population was 29%, with 25% without complications and 3.8% with complications. Among patients with arterial hypertension, 65% were males and 35% females. However, the study did not conduct a deeper analysis of this data as it was not the primary focus.
Regarding the aim of identifying the distribution of nursing diagnoses in Therapeutic Regimen Management related to the codifications of medical diagnoses associated with arterial hypertension, the results showed that 43.85% of hypertension patients had activation of the "Therapeutic Regimen Management" focus without a defined nursing diagnosis judgment. On the other hand, 56.04% had a complete diagnosis, with 15.94% diagnosed as impaired Therapeutic Regimen Management and 40.10% as effective Therapeutic Regimen Management. A small portion (0.11%) had an undefined diagnosis.
Regarding documentation rates for nursing diagnoses related to Therapeutic Regimen Management in hypertensive patients, the study found that globally, 73.3% of patients with arterial hypertension had Therapeutic Regimen Management activation by nurses, with 72% having complete nursing diagnoses. Of these, 55.5% adhered to national documentation standards, while 17.7% lacked a complete diagnosis.
When comparing patients with complications to those without, nursing diagnoses were more prevalent in the former group, with higher rates of Therapeutic Regimen Management activation (87.1% vs. 75.1%) and complete diagnoses (86.3% vs. 69.9%). Rates of uncoded or incomplete diagnoses were similar between the two groups.
The population of hypertensive patients with complications was notably lower than those without complications (5,143 vs. 39,059 patients, respectively).

Discussion

Our study underscores the importance of implementing nursing diagnoses to enhance the quality and robustness of epidemiological surveillance. The relatively high rate of uncoded diagnoses, standing at 17.7% among hypertensive patients, highlights a potential area for improvement. Our previous study also revealed low levels of community empowerment in this regard, emphasizing the need for interventions led by community and public health nurses to empower primary healthcare nurses in epidemiological surveillance of nursing diagnoses. (Melo et al., 2019)
Patients with complications, despite being fewer in number, demonstrated better rates of nursing diagnoses related to Therapeutic Regimen Management. This could be attributed to more frequent nursing consultations for these patients, indicating a need for increased nursing interventions to prevent complications. (Bastos, 2015)
Arterial hypertension poses a significant public health challenge in the studied population. However, nurses' contributions are not adequately evidenced in objective terms, as reflected in their records and the epidemiological analysis. Integrating nursing diagnoses into public health determinants could enhance data analysis and recognition of nurses' contributions to the population's health. (Frérot et al., 2018)
While offers an ideal context for developing this new epidemiological approach in line with Nursing Science principles, our study represents an initial step. We have established the first nursing diagnosis observatories in public health units, engaging all nurses and fostering intentional community partnerships for epidemiological approaches to nursing diagnoses.Future studies should focus on comparative and correlational analyses. Our descriptive study, alongside ongoing mixed-approach studies on community empowerment, sets the stage for more robust epidemiological studies. Community-based interventions promoting increased empowerment should target organizational structures like nursing diagnostics observatories, partnerships with healthcare authorities, leadership development in IT documentation and epidemiological surveillance, and communication enhancement within the nursing community. (Kelly, 2008)
Utilizing community-oriented nursing models like the Community Assessment, Intervention, and Empowerment Model (MAIEC) can further enhance epidemiological surveillance of nursing diagnoses. Major interventions related to Therapeutic Regimen Management and other diagnosis dimensions can significantly impact the control of arterial hypertension, supported by specialist nurses in community and public health nursing. (Melo, 2020)

Despite the need for improvements in nursing records, particularly regarding arterial hypertension, our study found encouraging results with global nursing diagnosis rates exceeding 70%. This reflects nurses' efforts to contribute scientifically to population health assessment. With a conducive organizational context and increased nursing community empowerment, epidemiological surveillance of nursing diagnoses can rapidly become a reality. (Susser et al., 1996)

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