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Prevalence Of Chronic Medical Conditions Among Healthcare Workers In KSA: A Systematic Review

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Abstract

Background: *Chronic illnesses are often associated with non-communicable diseases, which are defined by their non-infectious causes. Chronic illnesses, sometimes known as silent pandemics, account for the vast majority of fatalities and disabilities worldwide.*

Aim*: This systematic review aims to explore the prevalence of chronic medical conditions among healthcare workers in the Kingdom of Saudi Arabia (KSA).*

Methods*: Adhering to PRISMA guidelines, electronic searches were conducted in databases like PubMed, Embase, Scopus, and Web of Science using MeSH terms and relevant keywords. Studies reporting chronic medical conditions prevalence among KSA healthcare workers of any design were included, while reviews, editorials, and commentaries were excluded. Two reviewers independently screened studies for eligibility, with disagreements resolved through discussion. Data extraction captured study char[1]acteristics, participant demographics, and prevalence data. Descriptive statistics summarized the data, and meta-analysis was considered for pooled prevalence rates, supplemented by a narrative synthesis.*

Results*: From an initial 346 studies, 21 full-text articles were reviewed, with three studies meeting inclusion criteria. Most studies focused on chronic medical conditions prevalence in the general population. Among eligible studies, one examined obesity and comorbidity among healthcare workers, finding varying prevalence rates based on weight categories. Another study reported chronic conditions, including heartburn, irritable bowel syndrome, anemia, fatigue, and hypertension among healthcare administrators. In a cross-sectional study, primary healthcare clinic participants exhibited notable rates of hyperlipidemia, hypertension, asthma, and diabetes, alongside high levels of perceived stress. The pooled prevalence of*

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chronic conditions among healthcare professionals was analyzed, highlighting the significant burden.

***Conclusion**: This review underscores the scarcity of research on chronic medical conditions among KSA healthcare workers. Findings reveal substantial prevalence rates, emphasizing the need for tailored interventions and wellness promotion programs to mitigate the impact of these conditions on healthcare professionals' well-being. Further research is warranted to comprehensively understand and address this issue.*

***Keywords**: healthcare professionals – chronic medical conditions – wellness promotion programs – heartburn – irritable bowel syndrome – anemia – fatigue – hypertension.*

Introduction

For illnesses that last for more than three months, the term "chronic" is often employed. When people in the academic and professional areas use the term "chronic disease," it might mean different things to different people. Chronic illnesses are often associated with non-communicable diseases, which are defined by their non-infectious causes (Bernell, S., & Howard, S. W., 2016). Chronic illnesses, sometimes known as silent pandemics, account for the vast majority of fatalities and disabilities worldwide (Harris, R. E., 2019).

The global mortality toll from chronic illnesses has risen steadily over the last three decades, from 27 million in 1990 to 39.5 million in 2016. The worldwide spread of chronic illnesses is happening at the same time as a change in demographics. Chronic illnesses are responsible for the deaths of 38 million people per year, or 63% of all deaths, according to the World Health Organization (WHO) (Rudd et al., 2020). Half of all individuals in the US deal with two or more chronic diseases (Rudd et al., 2020; Anderson, G., & Horvath, J., 2004).

In 2017, the leading five causes of disability-adjusted life years on a global scale were: infant sickness, ISHD, stroke, lower respiratory infections, and COPD. Several chronic illnesses saw an increase in disability-adjusted life years from 1990 to 2017, even though the age-standardized rates for these diseases declined over that time (Collaborators, 2017). The decrease in chronic illnesses has also contributed to an increase in the global life expectancy at age 70. The top five level 3 causes of death for people aged 70 and over globally in 2019 were ischemic heart disease, stroke, chronic obstructive pulmonary disease, Alzheimer's disease, other dementias, and lower respiratory infections, according to data from the 2019 Global Burden of Diseases, Injuries, and Risk Factors Study (Collaborators, 2017).

Death rates among adults aged 70 and over rose from 1990 to 2019 due to many diseases and conditions, including lung cancer, diabetes, chronic renal disease, Alzheimer's disease, and other dementias. The leading cause of mortality in Saudi Arabia in 2010 was chronic illnesses, according to a country-specific study from the Global Burden of illnesses (GBD 2019 Ageing Collaborators, 2022). The highest risk factor for illness in males was an elevated body mass index (BMI) of 4610 per 100,000 persons, whereas in women it was 7,000 per 100,000. For both sexes, high blood sugar ranked as the second-most common illness risk factor (3280 per 100,000 people for women) and the third-most common risk factor (6250 per 100,000 people for men). The results of the Saudi Health Interview Survey revealed that diabetes, hypertension, and obesity are major issues in Saudi society (Alkhunein et al., 2024). Asthma affected 49,000 people, diabetes 50,600, hypertension 51,000, and obesity 45,000 per 100,000. Researchers in Saudi Arabia found that those with a high body mass index (BMI) are more likely to suffer from chronic diseases (Memish, et al, 2014).

Researchers in Saudi Arabia recently used data from the 2017 Global Burden of Disease Study to find out how many people died, how many people were sick, what factors put people at risk, and how much healthcare was provided between 1990 and 2017 (Tyrovolas et al., 2020). However, in 2018, no one knows how common chronic illnesses were or how many people died from any reason across Saudi Arabia's thirteen administrative areas. In line with the objectives of Saudi Vision 2030, which aim to enhance and revolutionize healthcare in Saudi Arabia, these numbers should be publicly disseminated (Chowdhury & Leenen, 2021; Rahman & Al-Borie, 2021). Accordingly, the purpose of this research was to determine the rates of chronic illnesses among healthcare professionals in Saudi Arabia.

Methods

Review Question

This systematic review protocol aims to investigate the prevalence of chronic medical conditions among healthcare workers in the Kingdom of Saudi Arabia (KSA). The primary research question guiding this review is: What is the prevalence of chronic medical conditions among healthcare workers in KSA?

Search Strategy

The search strategy adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic searches were conducted in databases such as PubMed, Embase, Scopus, and Web of Science. Medical Subject Headings (MeSH) terms and relevant keywords pertaining to "chronic medical conditions," "healthcare workers," and "Saudi Arabia" were utilized. The search was restricted to studies published in English.

Types of Studies to be Included

This systematic review encompassed studies reporting the prevalence of chronic medical conditions among healthcare workers in KSA. All study designs, including cross-sectional, cohort, and case-control studies, were considered. Only studies presenting primary data on prevalence were included, while reviews, editorials, and commentaries were excluded.

Participants

The systematic review involved studies focusing on healthcare workers in KSA, including those employed in hospitals, clinics, and other healthcare facilities. There were no restrictions based on age, gender, or specific healthcare profession.

Search Keywords

Searches employed a combination of keywords and phrases pertinent to the review question, including "chronic medical conditions," "healthcare workers," "Saudi Arabia," and related terms. The search strategy was tailored to each database and encompassed both controlled vocabulary (MeSH terms) and free-text terms.

Study Selection Process

Two independent reviewers screened titles, abstracts, and full texts of retrieved articles for eligibility. Any discrepancies were resolved through discussion or consultation with a third reviewer. Eligible studies were chosen based on predefined inclusion and exclusion criteria, prioritizing studies reporting the prevalence of chronic medical conditions among healthcare workers in KSA.

Outcomes

The primary outcome of interest is the prevalence of chronic medical conditions among healthcare workers in KSA. Secondary outcomes may include variations in prevalence based on demographic factors such as gender, age, occupation, and geographical location, as well as potential risk factors associated with chronic medical conditions in this population.

Data Extraction and Coding

Data extraction was conducted using a standardized form to capture pertinent study characteristics, participant demographics, and prevalence data. Two reviewers independently extracted data from included studies, with any disparities resolved through discussion or consultation with a third reviewer.

Data Management

Descriptive statistics are employed to summarize the extracted data, including prevalence rates of chronic medical conditions among healthcare workers in KSA. Furthermore, a narrative synthesis is provided to summarize findings across the included studies.

Results

The initial search identified a total of 346 studies from PubMed, Embase, Cochrane Library, and CINAHL. There were some duplicates and the 63 studies were screened based on their titles and abstracts. Of these, 21 full-text articles were reviewed, and only three studies were eligible for inclusion in this systematic review (Figure 1).

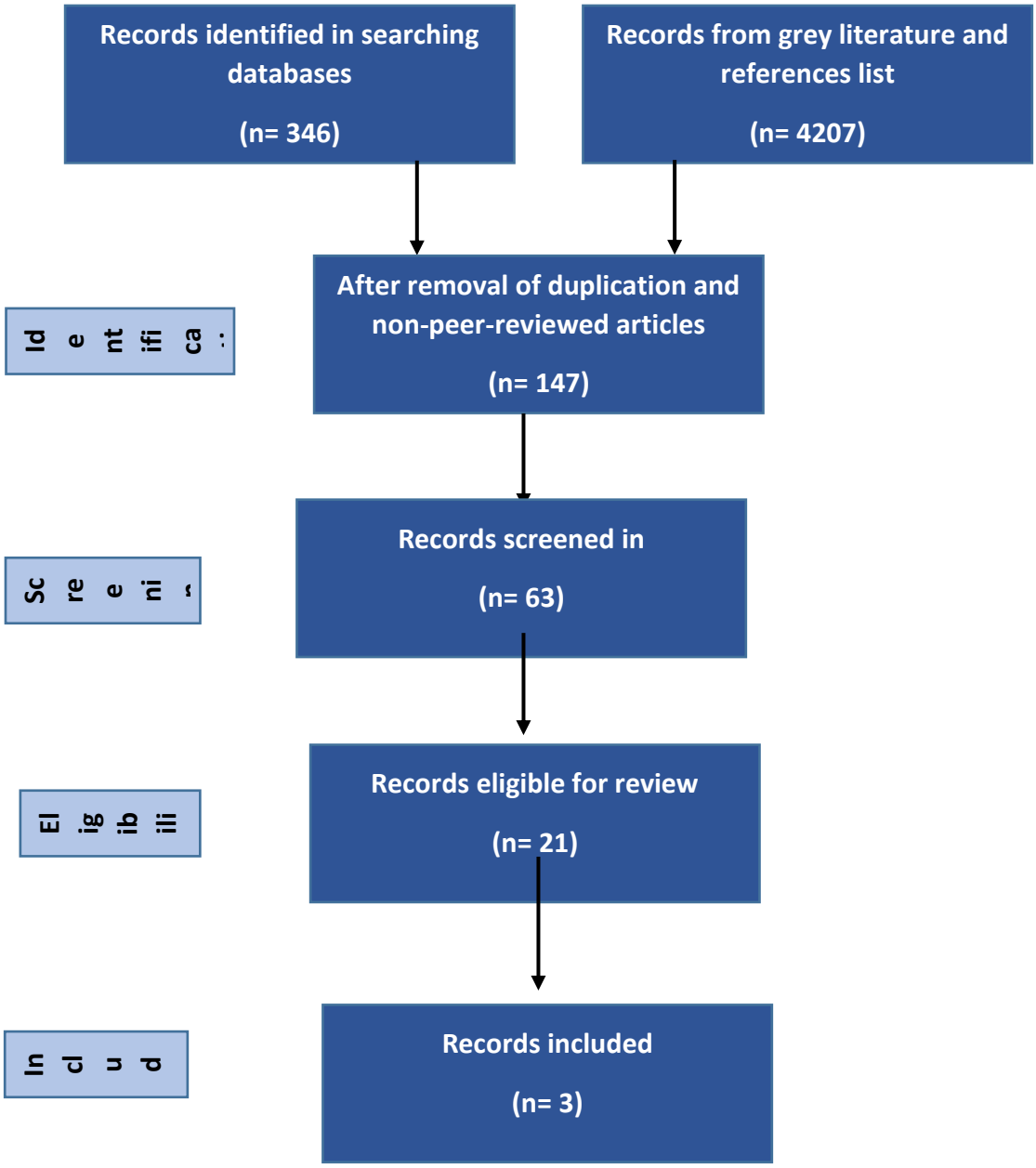

Figure 1: Flow chart of selection process

Most of the study found were aiming to determine the prevalence of chronic medical diseases among general population and there are two studies, one systematic review and one registry analysis, conducted for this purpose (Alenzi et al., 2023; Alzahrani et a., 2023).

One study assessed obesity and its related comorbidity among healthcare workers at a tertiary healthcare center. It was found that among employees with normal weight, the percentages with diabetes mellitus, hypertension, dyslipidemia, and established atherosclerotic cardiovascular

disease are 4.7%, 7.1%, 7.1%, and 11.1% respectively. For employees classified as overweight, the percentages increase to 10%, 20.9%, 14.5%, and 22.2% respectively. Among employees with class 1 obesity, the percentages rise to 24.1%, 26.5%, 22.9%, and 55.6% respectively. Employees with class 2 obesity show percentages of 22.2%, 26.9%, 14.8%, and 0% respectively for the same conditions. Finally, for employees with class 3 obesity, the percentages are 10% for each of diabetes mellitus, hypertension, and dyslipidemia, while it is 11.1% for established atherosclerotic cardiovascular disease (Elabd et al., 2022).

In addition, another study conducted in King Abdullah Medical City in Makkah reported some chronic conditions among healthcare administrators that led to job absenteeism. These chronic conditions were chronic heartburn, irritable bowel syndrome, severe anemia, chronic fatigue and hypertension (Alturkistani, 2023).

In western Saudi Arabia, researchers used primary healthcare clinics that are part of the National Guard Health Affairs to conduct a cross-sectional study. A self-reporting survey instrument was used. The demographics, health background, exercise, diet, and smoking habits were all included of the survey. Among participants (n= 160), 23.8% had hyperlipidemia, 16.3% were hypertensive, 7.5% had bronchial asthma, and 6.9% were diabetic. Fifteen percent rated their general health as fair, fifty-four percent as good, and thirty percent as exceptional. In terms of felt stress, 77.5% of the participants indicated a moderate to high level. In order to lessen the impact of lifestyle-related illnesses on primary care doctors, it would be beneficial to institute health and wellness promotion programs in conjunction with routine screenings and checkups (Alshareef et al., 2019).

The prevalence of the previous chronic conditions is summarized in figure 2 as a pool of all three studies participants (n= 707) (Alturkistani, 2023; Elabd et al., 2022; Alshareef et al., 2019).

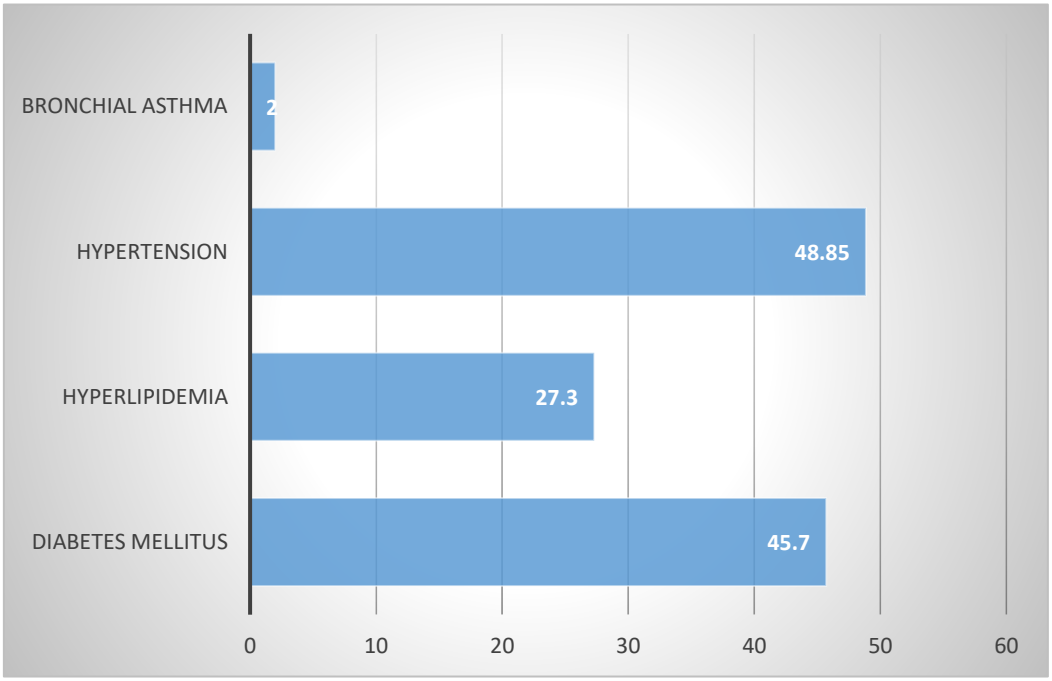

Figure 2: Major chronic medical conditions among Saudi healthcare professionals (Percentage; N= 707)

Discussion

Public health concerns may be better managed and health services can be improved with the use of epidemiological data pertaining to chronic illnesses in any given community or province (Bustami et al., 2021). Among healthcare professionals, the prevalence of the chronic illnesses that had been previously investigated was the main result of interest.

Among the Saudi population, DM has been the most researched chronic illness (Al-Hanawi et al., 2020; Alanazi, A. M., et al., 2017; Alanazi, N. H., et al., 2017; Alhazmi, et al., 2017), however the recovered data show that it is not the most prevalent. While the national incidence for chronic diseases was 28.7 percent, GERD had the greatest prevalence among adults in Arar city at 61.8% (Alsuwat et al., 2018; Alsulobi et al., 2017). The online survey was limited to Arar city, so it may not be a representative sample of the NBP population as a whole. Nonetheless, the results did indicate that GERD was more common among those who consumed caffeine and nicotine, were psychologically stressed, ate fatty foods, and used non-steroidal anti-inflammatory drugs (NSAIDs) for long periods of time (Alsulobi et al., 2017).

Regarding diabetes mellitus (DM) in NBP, the prevalence rates varied from 4.5% in Turaif to 11.6% in the whole NBU population, with a nationwide average of around 8.5% (Alqahtani et al., 2023; Alanazi, M. S., et al., 2018; Alenizi, D. A., 2014). From 6.7% in Tabuk to 17.8% in Hail, the estimated prevalence of DM in other locations was as follows: (Al-Hanawi et al., 2020). Possible modifiable risk factors for this prevalence include lifestyle choices, health behaviors, metabolic syndrome, obesity, and overweight. The incidence of DM may also be influenced by variables that cannot be changed, such as age, family history, or genetics (Fawzy et al., 2019; Alanazi, F. K. et al., 2018). As a result, public health-oriented educational efforts that inform the NBP community about modifiable risk factors of diabetes mellitus (DM) must be initiated.

Among teenagers in Arar, the obesity prevalence rose to 55%, whereas it was 21% in the NBP overall (Althumiri, et al., 2021; Alanazi, N. H. et al., 2017; Albow, B., & Alenezy, A., 2016). In NBP, the overall prevalence of DM is rather high, with teenage prevalence rates surpassing the national average of 24% (Althumiri, et al., 2021).

Other related health problems and chronic illnesses, such as diabetes and cardiovascular disease, are likely to develop in such individuals (SS, M. A., 2016). Additional chronic illnesses that have been examined in NBP adolescents include eating disorders (25.5%, which is within the national range; (Melisse, et al., 2020)), acne vulgaris (14.3% of females), depression (56.3% of men), and anxiety (56% of males) (Fatima & Ahmad, 2018). Peptic ulcers were predicted to affect 21.2% of Arar's elderly population, whereas renal failure affected 6.5% (Alruwaili et al., 2018; Alshammari, et al., 2018). There are two studies that have been found that deal with the frequency of inflammatory disorders, namely arthritis and knee-osteoarthritis (Raja et al., 2020; Alrowaili, 2019).

It is important to consider the limitations of the included research when interpreting all of the previously mentioned conclusions. To begin, it is important to note that the majority of the included research did not include all NBP groups. National studies among the Saudi population, including NBP, were the only two that were representative of the whole population (Al-Hanawi et al., 2020; SS, M. A., 2016).

Evidence from these research shows that 21.1% of NBPs are overweight, and 11.6% have diabetes. It is not possible to apply these findings to the whole NBP population. Second, the majority of the research used self-reporting rather than diagnostic data to determine the prevalence. While some studies relied on verified diagnoses to determine chronic illness prevalence rates (Alanazi, W. S. et al., 2019; Alrowaili, M. G., 2019; Alanazi, M. S., et al., 2018; Alshammari et al., 2018; Alanazi, N. H., et al., 2017; Alenazi, S. A., Koura, H. M., et al., 2015; Alenazi, S. A., Ali, H. W. et al., 2015), others relied on self-reported data, which may be biased, under-or overestimated (Spitzer, S., & Weber, D., 2019; Maukonen et al., 2018). Lastly, several of the qualities that were noted varied significantly throughout the research that were included. The demographics of the participants, the environment, the sampling method, the sample size, and the intended population are all examples of heterogenic features.

Conclusion

In conclusion, the systematic review identified a limited number of studies focusing on the prevalence of chronic medical conditions among healthcare workers in Saudi Arabia. Despite the initial search yielding 346 studies, only three studies met the eligibility criteria for inclusion in this review. These studies provided valuable insights into the prevalence of chronic conditions such as obesity, diabetes mellitus, hypertension, dyslipidemia, and established atherosclerotic cardiovascular disease among healthcare workers in various healthcare settings in Saudi Arabia.

The findings indicate a significant burden of chronic medical conditions among healthcare professionals, with higher prevalence rates observed among those with obesity. Additionally, findings from one study highlighted the impact of chronic conditions on job absenteeism among healthcare administrators. Furthermore, a cross-sectional study conducted in primary healthcare clinics revealed a considerable prevalence of hyperlipidemia, hypertension, bronchial asthma, and diabetes among participants, along with notable levels of perceived stress. These findings underscore the importance of implementing health and wellness promotion programs alongside routine screenings and check-ups to mitigate the impact of lifestyle-related illnesses on healthcare workers in Saudi Arabia. Further research in this area is warranted to better understand the factors contributing to the prevalence of chronic medical conditions among healthcare professionals and to develop targeted interventions to improve their health and well-being.

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