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Assessing Health Literacy in Somali Women Living in the United States with Hypertension

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Walden University

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Walden University

2025

Abstract

Assessing Health Literacy in Somali Women Living in the United States with
Hypertension

by

Tawanna Morris

MPH, Benedictine University, 2015

BS, Benedictine University, 2012

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Ph.D. Public Health Community Health

Walden University

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Abstract

Health literacy (HL) remains a critical public health concern, particularly among immigrant populations. Low HL and chronic conditions such as HTN continue to affect this group disproportionately, emphasizing the need for targeted interventions. Guided by the Health Belief Model, this qualitative study examined Somali immigrant women's perceptions of HL, how literacy levels influence hypertension management, and the barriers they encounter when managing their condition. Five Somali immigrant women who met the criteria participated in semi-structured interviews. All spoke English, were at least 18 years old, were identified as Somali living in the United States, were legal immigrants, and were diagnosed with hypertension. Data were analyzed using a six-step thematic analysis to code and identify major themes. Three key themes found that Somali immigrant women 1) perceived hypertension as an indicator of potential health risks associated with unhealthy lifestyle practices; 2) were influenced by access to reliable health information that promoted positive lifestyle modifications; and 3) encountered persistent barriers that impacted their ability to sustain healthy behaviors. The implication for positive social change highlights the importance of culturally tailored health literacy programs. Public health leaders should allocate resources to strengthen education initiatives that address linguistic and cultural barriers, enhance disease management understanding, and improve overall health outcomes among immigrant communities.

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Dedication

This dissertation is dedicated to my family, friends, mentors, my entire village who stood by me on this journey, I love you all deeply. To my mom, my guardian angel in heaven, I know that you are proud of me. Through many sleepless nights, sacrifices, and more tears I will ever admit, I am proud of myself for completing this journey. Last, but certainly not least, I thank God for the mental tenacity and physical strength that I needed every step of the way.

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Chapter 1: Introduction to the Study

Hypertension (HTN) is one of the most common noncommunicable chronic diseases worldwide, requiring medications and lifestyle modifications to prevent serious complications (Janchai et al., 2021). According to the World Health Organization (WHO, 2023), HTN is a serious medical condition and can increase the risk of heart, brain, and kidney disease, among other illnesses. HTN is a significant cause of premature death worldwide, with over one in four men and one in five women (i.e., over a billion people) having the condition (Janchai et al., 2021). Research suggests that health education is one strategy to control HTN and avoid various complications; however, it is not enough to achieve sustainable outcomes (Janchai et al., 2021). Although studies have addressed the management of HTN for the general population, little is known about Somali immigrant women and how they manage and understand the disease, thus warranting the need for the current study.

Ethnic minority populations in the United States are disproportionately affected by HTN. Nevertheless, the prevalence of cardiovascular disease (CVD) and risk factors among Somali African immigrants to the United States have not been systemically studied (Westgard et al., 2021). Somali immigrants are one of the largest African populations to resettle in the United States since 1990, allowing for an emerging literature base of disease-specific studies among Somali immigrants (Mohamed et al., 2022). Research on the health literacy (HL) of this population provides an opportunity to explore and identify both barriers and possible solutions. Lovric et al. (2022) state that HL is

linked to health outcomes, including self-management of chronic diseases.

Although similar studies have been conducted in other geographic locations (Darvishpour et al., 2022; Zhang et al., 2021), no study to date has focused on HL for immigrant Somali women with HTN.

Sany et al. (2020) suggest that individuals with chronic diseases require adequate HL skills to control their disease and its relevant side effects. Janchai et al. (2021) explain that HL is the cognitive and social skills that allow individuals to acquire, access, understand, and use information to stay healthy. HL has become a critical topic, because it is strongly associated with the ability to engage in complex disease management and self-care (Woods et al., 2023). Health priorities such as HTN have been expressed as a primary concern for Somali immigrant women due to lifestyle factors such as a sedentary lifestyle, the cost of gym membership, and the lack of women-only exercise facilities (Mohamed et al., 2022). The role of HL among Somali immigrant women is essential to consider, because it is a critical factor that may determine how this population manages their HTN.

Certain groups are at higher risk for having limited English language skills and low literacy, such as individuals who do not speak English at home, immigrants, and those with lower levels of education (Healthy People 2030, n.d.). According to Medina et al. (2022), problematic and inadequate levels of HL are notably frequent among the migrant population. The enhancement of HL among immigrants is essential to reduce health inequalities, achieve better health outcomes, and contribute to defending the

human rights of this vulnerable population. With regards to Somali immigrant women, there is a gap in literature regarding the associations between HL and women with HTN due to insufficient research addressing this population. Somali immigrants suffer from these gaps, because previous researchers have not examined HL and HTN for Somali immigrant women and the impact on their health.

The purpose of this study is therefore to evaluate and address the HL levels of Somali women with HTN living in the United States. By assessing the HL of women living with HTN, the study aims to determine whether low HL negatively impacts the way in which they care for and monitor the disease. This study contributes to filling the gap in literature on insufficient immigrant HL and why this literacy is important for immigrants and their overall health. The results of this study may encourage public health leaders to advocate for better HL programs for all. This chapter provides key context on the background of the problem as well as the purpose and significance of this study. The remaining sections outline the research questions, theoretical framework, and nature of the study.

Background

Researchers have noted that health education is vital in adequately caring for chronic diseases such as HTN; for example, Janchai et al. (2021) state that health education is one strategy to control HTN and avoid complications. Evidence also suggests that developing people's HL may be a promising strategy to improve their health outcomes and quality of life. Lovric et al. (2022) have found that an inadequate level of

HL is significantly associated with arterial HTN, which results in inappropriate care for one's health and the use of health services. Nonetheless, although Lovric et al. (2022) examined the association between HL and the prevalence of arterial HTN, their research was specific to Croatian adults. In addition, Lovric et al. (2022) studied other chronic diseases (such as diabetes and obesity) and their association with low HL (LHL). Nevertheless, Shaw et al. (2009) have shown that there is essential work required on the associations among culture, LHL, and language barriers, as these factors affect immigrants in the United States with HTN.

There is an urgent need for more research that addresses how LHL for immigrants with HTN can lead to long-term adverse health outcomes. In the current study, I address the knowledge gap noted by Zhang et al. (2021) by examining hypertensive Somali immigrant women who are at least 18 years old and living in the United States. Inadequate HL is associated with worse health outcomes and presents a financial burden for both patients and the health care system (Al-Arif et al., 2022). Given the growing immigrant population in the United States, the current study is necessary to research the connection between HL and HTN among Somali immigrant women.

Problem Statement

Hypertension is one of the most severe health issues worldwide (Janchai et al., 2021). Individuals with LHL are more likely to present with advanced illnesses, resulting in delayed diagnosis and treatment as well as poorer outcomes (Coughlin et al., 2020). African Americans and other Black populations are disproportionately affected by HTN,

including adult immigrants living in the United States (Hussein et al., 2023). Studies have also highlighted that immigrants and war refugees represent an especially vulnerable group of people for whom HTN is a significant health concern (Hussein et al., 2023). Somali Americans display significant occurrences of diabetes and obesity, which are often accompanied by difficulties in regulating blood pressure (Greenlund et al., 2023). Somali women also have relatively higher rates of uncontrolled HTN (Hussein et al., 2023).

HL is linked to many health outcomes, including self-management of chronic diseases such as obesity, arterial hypertension, and diabetes mellitus, revealing that inadequate HL is directly connected to arterial hypertension and type 2 diabetes (Lovric et al., 2022). Immigrant groups (including those who do not speak English at home and individuals with lower education levels) are often at greater risk for chronic diseases such as obesity, diabetes, and arterial hypertension due to low literacy skills (U.S. Department of Health and Human Services, 2023). The issue of HL poses a significant hurdle in providing effective medical education to non-native populations like Somali immigrants (Falkowski et al., 2023). Research has documented that there is a relationship between HL and HTN (Phillip et al., 2022); however, there is a gap in studies related to understanding the role of HL and HTN among Somali women. Consequently, the relationship between the levels of HL and HTN among Somali women is currently not well understood. Exploring the relationship between HL and HTN among Somali women has the potential to enhance our understanding of the contributing factors to the higher

rates of HTN among this population and may ultimately result in a reduction of hypertension prevalence within this group.

Purpose of the Study

The situation or issue that prompted this study is the assessment of HL and its impact on Somali immigrant women with HTN. Initial studies on Somali immigrant women's health focused on communicable diseases such as tuberculosis, hepatitis, and parasite infections (Mohamed et al., 2022). Chronic conditions, including HTN, have a high prevalence among Somali immigrants (Janchai et al., 2021). Furthermore, Janchai et al. (2021) explain that HTN is among the most common noncommunicable chronic diseases worldwide. In general, HL has been introduced as a moderating source for the challenges associated with the self-management of chronic diseases (Darvishpour et al., 2022). Improving HL for Somali immigrant women may help improve the health outcomes for this group and other immigrant populations facing similar challenges. This qualitative study explores the experiences of Somali immigrant women living in the United States with HTN to assess this population's understanding of the importance of HL and any negative impact on their understanding of HTN.

Theoretical Framework

The theoretical concept grounding this study is the health belief model (HBM). The HBM has been used to explain and predict individuals' health behaviors in the prevention and control of diseases and their complications, including perceptions of susceptibility, seriousness, severity, benefits, barriers to health behavior, and cues to

action (Joho, 2021). The six constructs of the HBM are connected to the course of action taken by individuals with an illness or disease and can therefore impact the perceptions and benefits of this model. The relevance of this framework to my study was to increase the effectiveness of the recommended health behavior changes, thus improving the likelihood of a person adopting the behavior. The HBM provided an initial observation of the participants' HL (adequate or inadequate) and their perceptions regarding the appropriate care for their HTN. This model provided insights into the participants' understanding of the benefits and barriers related to HTN.

Nature of the Study

To address the research questions in this qualitative study, the research design included in-depth semi-structured interviews to obtain primary data. I selected this design to collect the data required to identify the perceptions of hypertension among immigrant Somali women living in the United States. This method aided in answering the research questions by allowing an analysis of the participants' responses to interview questions addressing their personal experiences. The nature of this study addressed the gap in HL for hypertensive Somali immigrants living in the United States. I used the primary data collected during the interview process, including questions prepared in advance and follow-up questions that may be necessary for the analysis. Interview questions included inquiries related to the HBM constructs to connect the model with the research questions. To analyze the interviews, I transcribed the data to obtain a complete, accurate, and verbatim rendition of the interview questions and answers. The study of the participants'

interview responses also included defining, identifying, and coding excerpts with relevant concepts, themes, events, names, examples, places, and dates (see Rubin & Rubin, 2012).

Definitions

Health literacy (HL): "The degree to which individuals have the ability to find, understand, and use information and services to inform health related decisions and actions for themselves and others" (Centers for Disease Control and Prevention [CDC], 2023, p. 1).

High blood pressure health literacy: The ability of hypertensive patients to acquire, understand, and deal with the hypertension-related knowledge and medical services needed to control diseases (Zhang et al., 2021).

Hypertension (HTN): A condition in which pressure in the blood vessels is 140/90 mmHg or higher (WHO, 2023).

Low health literacy (LHL): A condition associated with patients who are older, possess limited education, have lower income, suffer from chronic conditions, and are nonnative English speakers (Hickey et al., 2018).

Assumptions

Several assumptions were made based on prior research published in similar studies. The first assumption I made was that there is a decline in immigrants' health once they migrate to the United States due to differences in beliefs, practices, and traditions. Another assumption I made was that participants would be honest in responding to all questions to the best of their ability regarding what they knew about HTN and how to

manage the disease effectively. The last assumption I made was that participants had sufficient cognition and could participate fully in the study.

Scope and Delimitations

This study focused on understanding the lived experiences of Somali women aged at least 18 years old living in the United States. The results of this study did not apply to other ethnicity groups. Also, there was no guarantee this study would apply to all immigrant Somali women living in the United States with HTN. This study only explored HTN; therefore, this study does not apply to other chronic diseases such as diabetes and obesity.

Limitations

This study included primary data analysis, through the collection of semi structured interviews. Several limitations were considered. First, limitations did exist in terms of participation and recruitment to allow for an appropriate sample size; thus, a successful outcome was not guaranteed. I overcame this limitation by researching and outreaching to multiple faith based and nonprofit organizations and recruited across the United States rather one city. Second, participation bias could have been another limitation of this study. To minimize participation bias, I framed open-ended questions to prevent participants from simply agreeing or disagreeing and directed them to answer in a truthful manner. This study was feasible and can be released for review, given I relied solely on the results of the interviews.

Significance

The result of this study provided insight into the relationship between HL and Somali immigrant women with HTN. The collected information from this study also indicates to policy and law makers the various factors associated with HL health outcomes specifically for HTN. Lastly, this study could lead to strategies for improving HL programs to decrease adverse health outcomes for immigrants with HTN.

Summary

Health literacy is a known public health issue that impacts many people with chronic diseases such as HTN. HL is an integral part of one's health to care for chronic illnesses such as HTN and may contribute to adverse health outcomes when HL levels are not sufficient. Mei et al. (2023) states that HL is an essential factor affecting health and a strong predictor of the population's health status. LHL levels broadly impact vulnerable immigrant populations and, therefore, are necessary to avoid adverse health outcomes. According to Lovric et al. (2022), an inadequate level of HL was associated with the development of cardiovascular diseases, which in turn results in inappropriate care for one's health and the use of health services. More focused HL for immigrants with HTN is suggested and may improve this population's health outcomes. I addressed the information gap of hypertensive Somali immigrants, their HL levels, and how their personal perceptions impact their health. Chapter 2 provides a review of literature that is necessary to conduct this study. Chapter 3 includes a description of the selected methodology and the approach that will be used in this study.

Chapter 2: Literature Review

Hypertension (HTN) is a serious global health issue. It requires prescription drugs and lifestyle changes to prevent severe complications. Individuals with low health literacy (LHL) are more likely to present delayed diagnosis, advanced illness, and treatment that may result in poorer outcomes (Janchai et al., 2021). African Americans and other Black populations, including adult immigrants living in the United States, are disproportionately affected by HTN (Hussein et al., 2023). Research studies also highlight HTN as a significant health issue for African immigrants (Hussein et al., 2023; Mels et al., 2019; Phillip et al., 2022). Research also emphasizes that immigrants and war refugees primarily represent a vulnerable group of people with HTN (Hussein et al., 2023). Although studies have focused on the management of HTN in the general population, researchers have not addressed how Somali immigrant women manage and understand the disease.

Many non-White persons in the United States have limited health literacy (HL), which results in the inability to understand or comply with health information (Fleary & Ettienne, 2019). Previous research has found that 88% of adults in the United States showed inadequate HL levels; intermediate proficiency was 55%, basic proficiency 22%, and below basic proficiency 14%, which indicates that only 12% of US adults could sufficiently promote their wellbeing by navigating the healthcare system successfully (Milken Institute, 2022). As a result of these findings, one could deduce that most immigrants and refugees of African descent, including Somali women, may not possess

the HL levels they need to control their HTN. Improving HL for Somali immigrant women may help improve the health outcomes for this population and other immigrant populations with similar challenges. Therefore, this qualitative study will explore the experiences of Somali immigrant women living in the United States with HTN to assess what this population understands about the importance of HL and any negative impact on their understanding of HTN.

This literature review includes various sections. First, I discussed the theoretical foundation, followed by a review of the literature that includes relevant studies organized in categories, from the broad subject to the specific research gap. There are eight major sections: (1) introduction, (2) a broad overview of HTN in the USA, (3) the Black population and HTN, (4) causes of HTN in the Somali population, (5) HTN and Somali women, (6) HL, (7) the consequences of LHL, and (8) HL for immigrants. The conclusion or summary discusses how the gap was established based on the existing literature.

Literature Search Strategy

I included current, peer-reviewed, reputable articles sourced from health-related databases such as Medline, Mayo Clinic, the CDC, Cleveland Clinic, and the American Heart Association in my search strategy. The sources were written in English, 85% were published during the past five years, and several are government reports. I also included older seminal research.

This study focused on the research gap on how Somali immigrant women

manage and understand HTN by researching historical, psychological, cultural, economic, health, gender, and familial structure information on Somalia and Somalian refugees published in journals found on Google Scholar and ERIC, and statistical and other material from the CDC database. The key terms – used separately and in combination – were *hypertension, health literacy, ethnicity and hypertension, Somali, history, political, immigrants, Somali women and hypertension, language barriers, low health literacy, the efficacy of immigrant health literacy in the USA, chronic disease, health education, statistics, hypertension service delivery in the USA, healthcare experiences, health and culture, and equity*. Also, the *Health Belief Model, Hochbaum, Rosenstock & Kegels, self-efficacy, cues to action, and health behavior* terms were searched. The following segment is a discourse on this study's theoretical foundation.

Theoretical Foundation

The theoretical foundation for this study was the Health Belief Model (HBM). The social psychologists Hochbaum, Rosenstock, and Kegels published the HBM in 1952. Hochbaum et al. worked for the U.S. Public Health Service. They aimed to describe why individuals failed to join programs designed to counteract and uncover disease. Hochbaum et al. (1952) created the HBM behavior change framework to understand how an individual views their disease and how their decision-making may cause the illness to become worse, cause other health problems, or lessen risk. The model proposes that people will change their behavior if: (1) they are vulnerable to experiencing adverse health conditions resulting from that behavior, (2) the resulting illness may be

critical, (3) they can access the resources required to avoid or restrain the disease, and (4) the advantages of altering the behavior outweigh the disadvantages (Cronce & Larimer, 2011; Etheridge et al., 2023).

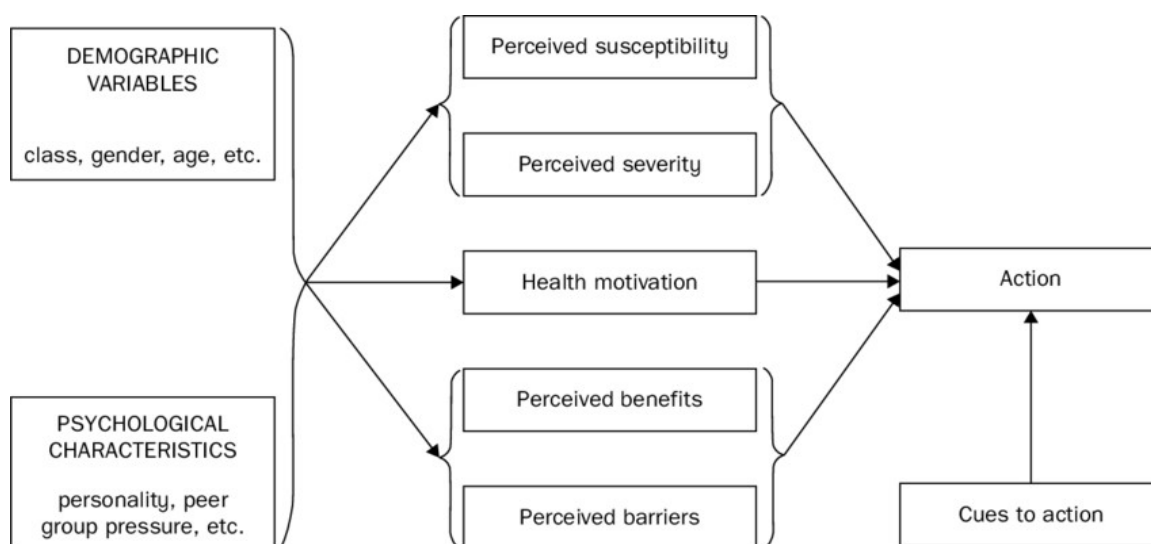
The HBM comprised four constructs. These constructs include (1) an identified personal susceptibility to an adverse health condition, (2) the recognized severity of the disorder, (3) the benefits of combatting that illness, and (4) perceived barriers to combatting the ailment's disadvantages (Cronce & Larimer, 2011; Etheridge et al., 2023). As the HBM evolved, Rosenstock et al. added two constructs to the model in the late 1980s: (5) an individual's self-efficacy level involving the confidence to produce a successful outcome and (6) cues to action that may include a decision-making process (Rosenstock, 1974). Therefore, the HBM has evolved to include both self-efficacy and cues to action. Cues to action entail the incentive to activate the decision-making process to undertake a suggested health action. Self-efficacy and subjective norms are noteworthy positive predictors of the intention to change behaviors (Jones et al., 2015; Urbanovich & Bevan, 2020).

As stated previously, the development of the HBM was not static. It occurred concurrently with searching for solutions to practical health intervention problems (Rosenstock, 1974) and continues to evolve. Healthcare workers use HBM worldwide to increase awareness of health challenges, improve perceptions of personal risk, promote behavior that can decrease or remove risk, and develop self-efficacy to make the changes required. The model focuses on the individual while considering the social context in

which health behaviors are considered (Green et al., 2020). According to Abraham and Sheeran (2015), the HBM suggested that cues to action motivate healthy behavior when the subject holds the appropriate beliefs. Health education drives individual perceptions of symptoms, and social influences form part of a range of triggers that influence the cues to action. Adaptations to the HBM later included a person's willingness to be concerned about their health. Figure 1 illustrates the components of the HBM.

Figure 1

Health Belief Model



Note: The Health Belief Model. Adapted from information in "Barriers and opportunities to improve blood pressure control." By Abrahamowicz, A.A., Ebinger, J., Whelton, S.P., Commodore-Mensah, Y., Yang, E. (2023). *Current Cardiology Reports*, 25, 17–27.

<https://doi.org/10.1007/s11886-022-01826-x>.

I chose the HBM as my theoretical foundation as it provides an appropriate basis for this study on Somali women with HTN and the accessibility of information on how to manage their health challenges.

The United States government and medical field have tried to provide and improve HTN treatment. Even so, close to half of the adult population in the US meet diagnostic criteria for HTN, which is the most pervasive modifiable risk factor for cardiovascular disease ([CVD]; Abrahamowicz et al., 2023), heart failure or attack, stroke, aneurysm, kidney and eye problems, metabolic syndrome, and dementia (Mayo Clinic, 2024). Thus, HTN is responsible for a litany of health-related complications.

To compound this issue, according to Abrahamowicz et al. (2023), people from ethnic and racial minority groups do not receive equitable management and control of blood pressure (BP). Socioeconomic and lifestyle factors, diet and the accessibility of healthy food, exercise, and inappropriate or non-existent healthcare may result in the increased occurrence of HTN among the Black population (Aggarwal et al., 2021). The abovementioned studies evaluated the pervasiveness, cognizance, medical care, and control of HTN. The research supports previous research illustrating that Black adults have higher HTN incidence than White adults in the USA and that Black women have higher prevalence than White women.

In addition, previous research has addressed HL in vulnerable populations. Warren-Findlow et al. (2019) conducted a concise, targeted, two-hour, evidence-based HL class taught to vulnerable populations. This resulted in the participants learning and

applying practical self-care skills and activities regarding diet and weight management. Most Warren-Findlow et al. (2019) participants were female, aged between 30 and 80, and most were over 50. Additionally, half of the sample population was Hispanic, 89% of non-Hispanic participants were African American, and 56% of the participants exhibited inadequate HL. During a telephonic follow-up conversation one month later, the researchers discovered that self-care measures for Hispanics and low HL participants had improved significantly (Warren-Findlow et al., 2019). These results indicate that even a small amount of HL intervention can have positive results and that interventions modeled from the HBM can make a difference to immigrants', refugees', and overall health in the US.

The HBM is one of the most extensively applied and comprehensively studied public health theories worldwide. The HBM was initially devised to replicate America's espousal of preemptive health behaviors (Jones et al., 2015). The HBM has been used to observe participants' HL, whether adequate or inadequate, and how they perceive proper care since the 1950s (Cronce & Larimer, 2011; Etheridge et al., 2023; Green et al., 2020). Decades of exploration have refined the HBM, and it has been successfully modified to suit distinct cultural and other relevant contexts.

Additionally, the HBM has been used in previous research on HTN among Somali populations. A study of 646 participants showed that health behaviors related to diet and exercise, diabetes, obesity, and HTN caused the most critical health issues among Somali individuals and their families. Mohamed et al. (2022) used the HBM to

assess the health priorities of Somali individuals and their families. They compared their responses to those of the wider community. The authors concluded there was a significant overlap regarding health priorities among Somali individuals, their families, and other community members. The highest health conduct priorities were diet, exercise, obesity, HTN, and diabetes. These noncommunicable diseases took precedence over infectious diseases. The findings underscore the need to focus on noncommunicable diseases among Somali immigrants regarding HL.

The HBM is pertinent to my study as it can increase the effectiveness of recommended health conduct changes and improve the likelihood that a person will alter their behavior. The model provides insight into the participants' understanding of behavior change benefits regarding HTN and the barriers along the way. I will similarly use the HBM to answer the research questions in this study, ascertaining the perception of HTN among immigrant Somali women living in the United States, how HL impacts those with HTN, and which barriers they face.

Review of Relevant Literature

This section of the study includes a review of relevant, peer-reviewed literature concerning a broad overview of HTN in the USA, the Black population and HTN, causes of HTN in the Somali population, HTN and Somali women, HL, the consequences of LHL, and HL for immigrants. Subsections include, among others, HTN statistics, HTN diagnosis, the history of Somali refugees living in the USA, and their current living conditions. I included research on the cultural, socioeconomic, and linguistic reasons for

low health literacy in ethnic communities and the resulting health risks. The focus of this study is HTN and LHL as they relate to Somali women. I will, however, start this review by discussing the predominance of HTN in the USA.

Hypertension

High BP reduces the arteries' elasticity, decreasing blood flow and oxygen to the heart, and may cause chest pain and angina. Excessive pressure on the walls of the arteries is detrimental to the blood vessels and organs in the body (Centers for Disease Control and Prevention, 2021). The higher the pressure and the more prolonged the wait to control the condition, the more damage it can do. High BP can, therefore, lead to life-threatening illnesses and death (Fuchs & Whelton, 2020). The following section deals with behaviors and the health conditions that may result in HTN.

Hypertension Causes

Several factors may cause HTN. These influences include an unhealthy diet lacking fruit and vegetables, too much sodium in the diet, obesity, a lack of exercise, smoking, high alcohol or caffeine intake, age (55 and older), stress, sleep apnea, pre-existing medical conditions such as diabetes and chronic kidney disease (CKD), selected medications, a family history of high BP (Cleveland Clinic, 2023), and circadian rhythms (Faraci & Scheer, 2024). Thus, many different causes can contribute to HTN.

Recent literature highlights a high prevalence of HTN and its relationship to cardiovascular disease (CVD). Previous research has found uncontrolled HTN or BP to be a predominant risk factor for myocardial infarction, stroke, heart failure, CKD,

cognitive decline, and premature death based on conceptual postulates assessed in clinical trials and experimental investigations (Fuchs & Whelton, 2020; Saiz et al., 2022).

Diastolic and systolic BP predict cardiovascular morbidity, which can be fatal. Untreated cardiovascular morbidity can result in an increasing rise in BP that eventually causes kidney and vascular damage and treatment resistance (Saiz et al., 2022). According to Faraci and Scheer (2024), variations related to HTN include endothelial dysfunction, aortic dissection, atherosclerosis, chronic renal disease, atrial fibrillation, thrombosis, increased vascular stiffness, modification of the extracellular matrix, inward vascular remodeling, and hypoperfusion (Faraci & Scheer, 2024).

Diastolic and systolic BP may be elevated in any individual of any age. Systolic BP may become more significant as people age and large arteries stiffen and lose pliability. Cardiovascular secondary preclusion is a vital concern (Saiz et al., 2022). For 20 years, CVD has remained the leading global cause of death. It is killing more people than ever before. The 2017 Global Burden of Disease study indicates that 17.8 million people – 233.1 per 100,000 – died of CVD during that year (Jagannathan et al., 2019). These findings emphasize the health risks caused by HTN and underscore the necessity for instructing Somali immigrants and the general population on how to manage their stressors via health education and self-management. High BP and HTN can cause CVD, but it is preventable.

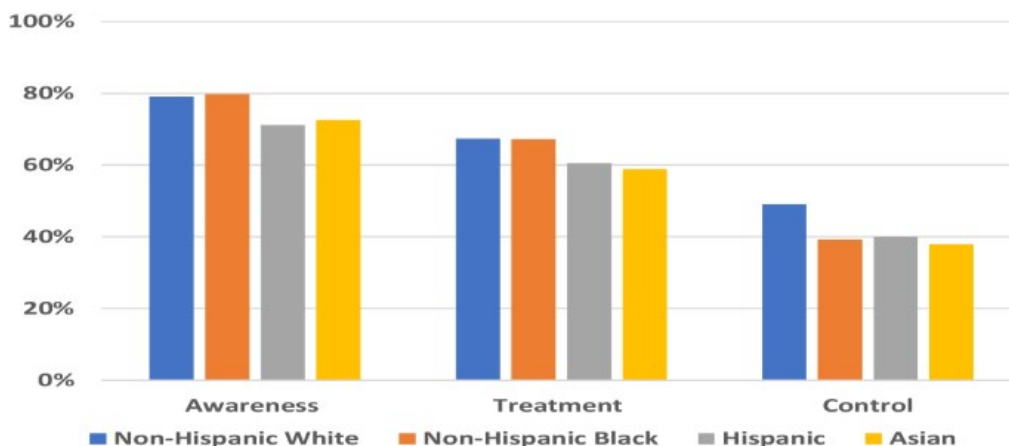
Demographics and Hypertension in the United States

The age-adjusted prevalence of HTN among adults in the 2017-2018 National

Health and Nutrition Examination Survey (NHANES) was 45.4%. The Centers for Disease Control and Prevention (CDC, 2025) provided the following information: elevated BP levels were higher among men (51.0%) than women (39.7%). Additionally, BP increased with age. For example, 22.4% of individuals between 18 and 39 had elevated BP. Similarly, 54.5% of people between 40 and 59 suffered from elevated BP. Finally, 74.5% of persons 60 and older had elevated BP levels. Thus, risks for elevated BP increase dramatically with age.

Regarding ethnicity, HTN prevalence was found to be different among different populations. According to the CDC (2025), HTN was more prevalent among non-Hispanic Black adults (56%) than non-Hispanic Whites (48%). Additionally, HTN was prevalent in Asian adults (46%) and Hispanic adults (39%). The statistics indicated that HTN was more pervasive among non-Hispanic Black adults than in the Hispanic and White populations in the USA.

A recent analysis based on an NHANES survey found that non-Hispanic Black persons are diagnosed earlier in life and suffer from four to five times more severe HTN than Whites, with a more significant morbidity and mortality rate. According to Abrahamowicz et al. (2023), they have a four times higher risk of end-stage renal disease, a 30% higher risk of fatal stroke, and a 50% higher risk of CVD mortality. As regards HTN control rates, Whites were 49%, Hispanics 40%, non-Hispanic Black people 39%, and Asian Americans 38%. Figure 2 indicates the awareness, treatment, and control levels of different ethnicities in the United States.

Figure 2*HTN Awareness, Treatment, and Control by Ethnicity*

Note: *HTN Awareness, Treatment, and Control Graded by Race/Ethnicity*. Adapted from Barriers and opportunities to improve blood pressure control. By Abrahamowicz, A.A., Ebinger, J., Whelton, S.P., Commodore-Mensah, Y., Yang, E. (2023). *Current Cardiology Reports*, 25, 17–27. <https://doi.org/10.1007/s11886-022-01826-x>.

Abrahamowicz et al. (2023) found that BP control rates in the United States have deteriorated over the past ten years. Ethnic and minority groups show drastically lower control rates than people of European descent.

In 2018, Black people had twice the mortality rate of Whites because of HTN-related heart disease. The American Heart Association (2020) found that the death rate for Black men was 206.6 out of 100,000. Conversely, the death rate for White men was 117.2 out of 100,000. Mortality was also higher among women. The death rate for Black women was 132.7 compared with 81.5 for White women (American Heart Association, 2020). These statistics indicate that much needs to be done among the affected ethnicities

regarding education, HL, and treatment to reduce these numbers. These findings suggest that education and information are essential in the required interventions, especially for at-risk populations. However, before interventions can occur, HTN must be appropriately diagnosed.

Hypertension Diagnosis

A medical professional need to capture an accurate BP measurement to diagnose HTN. Often, BP is noninvasively assessed in a doctor's office. To attain the measurement, the clinician uses a sphygmomanometer or BP cuff, wraps it around the upper arm, over the brachial artery, and inflates it to stop the blood flow in the vein. However, over the past two decades, medical practitioners have started using semiautomated and automated apparatuses that measure the oscillogram and detect the amplitude of the BP oscillations on the arterial wall. The device then estimates the BP via an empirical algorithm (Chandrasekhar et al., 2019; Muntner et al., 2019). Convincing at-risk individuals to see a doctor would be the first step in determining whether treatment and control are required.

Hypertension Follow-up After Diagnosis. Evidence supports initial lifestyle modification management between six and 12 months after initial diagnoses, followed by antihypertensive drug therapy. Verification of target organ damage (TOD) would be mandatory if the patient's BP remains above the normal BP range (Carey et al., 2021). During a study of the management relevance of HTN between 2018 and 2021, Carey et al. (2021) found that lifestyle modification remains the foundation of antihypertensive

treatment as non-medical interventions effectively lower BP, and lifestyle modifications improve medical and pharmacological therapy effectiveness. Self- and telemonitoring at home were also successful in aiding antihypertensive drug titration to achieve and maintain the BP target. Multipart and multilevel implementation strategies that include team-based support were the most effective hypertensive patient BP control methods (Carey et al., 2021). The findings of Carey et al. (2021) are aligned with previous research, such as those of Mohamed et al. (2022), which suggests that individuals with HTN can change their situation by choosing a healthier daily regime. As Black persons, including Somalis, are especially vulnerable, they require this information.

Somali Culture and History

Culture can include ethnicity, religion, belief systems, values, attitudes, education, social organization, language, and material culture. Ali et al. (2020) have found that the residents of Somalia and Somaliland comprise several different ethnicities. The predominant Sunni Muslim Cushitic Somalis are ethnic Africans of the Afroasiatic language family. Approximately 60% of this homogeneous population contains East African genes, and 40% have West Eurasian genes. These inhabitants are closely related to the Semitic and Cushitic-speaking Ethiopian populations (Ali et al., 2020). Approximately 85% of the population are persons of Somali origin, while minority ethnic groups account for 15%. Just over five percent of the population are Somali Bantu (the descendants of enslaved people brought to Somalia in the 18th Century), of whom a small percentage is Christian and the rest Muslim. Somalia is a

complex, socially complicated country comprising several ethnicities. Most wars waged in their homeland in the Horn of Africa over the past three decades can be described as ethnic and politically motivated (Almi & BinWasi, 2020). Clans and sub-clans have been at the heart of Somalia's mainly nomadic life, creating an unstable system with changing alliances.

Large numbers of Somalis came to the United States in the 1980s and 90s because of the civil war in Somalia. Though Putman and Noor (1993) state that most Somalis are Islamic, they also assert that many cultural aspects are like American values. However, Somali immigrants and refugees who leave behind one continent, culture, and society for an environment totally unlike what they know face many complexities. Magan (2020) found that these include anti-Muslim, anti-Black, and anti-refugee discrimination in the United States. Thus, the experiences that Somali immigrants face can be wrought with hardship and discrimination.

A cross-sectional study of Somali women in the United States found that self-reported discrimination encounters were related to adverse physical and mental health consequences in Somali migrants living in the United States (Johnson-Agbakwu et al., 2023) in their study of the relationship between mental health symptoms, acculturation, and trauma in Somali refugees. Further, Jorgenson and Nilsson (2021) found that Somalis who described higher levels of acculturation regarding the English language and American cultural competency recounted lower mental health symptoms than those who did not. However, the acculturation scores of Somali immigrants who have lived in the

United States for a long time but have not had easy access to education, employment, TV, or the internet would be lower on English language and American cultural competency (Jorgenson & Nilsson, 2021). The studies mentioned indicate that Somali refugees may experience mental health challenges resulting from past experiences, discrimination, and not having assimilated the language, customs, and way of life in the US.

The family is the ultimate source of personal identity and security. Somali genealogy is the most crucial aspect of their identity (Putman & Noor, 1993). Somali culture focuses more on the family than the individual, and extended families often live together. Elders are deeply valued, and younger members seek out their counsel on community and personal issues. Arranged marriages are common in some communities (CDC, 2021a). The importance of family creates a vital structure that may bridge the disparities between traditions, modern influences, changing attitudes, and health concerns between generations.

Somali history has been rife with conflict and violence since the country's inception. Somalis experienced extended periods of stress because of brutal circumstances, with intermittent intervals of relative peace (Keating & Waldman, 2019). Somalia was a conflict-ridden country, with clan-based violence caused by diverse groups fighting each other, war, peace talks that never achieved peace, attacks on and murder of civilians, a high death rate, rampant corruption, political instability, and piracy along the coast (Keating & Waldman, 2019; Putman & Noor, 1993). Additionally, Somalians have had to contend with drought, flooding, famine, starvation, life instability,

and insecurity, causing suffering and stress among the more significant Somali population (Putman & Noor, 1993). Thus, Somali populations have historically dealt with a multitude of factors that contribute to their physical and mental health.

The amount of literature exploring the health status of Somali refugees is on the rise. According to Murphy et al. (2019), several research studies have found mental health disorders, post-traumatic stress disorder (PTSD), depression, and anxiety in the Somali population in the US as exposure to traumatic events and torture correlate with PTSD symptoms (Murphy et al., 2019). Jorgenson and Nilsson (2021) pronounced that it is to be expected that many Somali refugees who lived through the war have experienced substantial and complex traumas and are more likely to express residual effects in terms consistent with anxiety or depression rather than what those in the West view as PTSD. Jorgenson and Nilsson experienced barriers to communicating with participants during their 2021 study of the relationships between trauma, acculturation, and mental health symptoms in Somali refugees. These included language barriers, having to employ interpreters and cultural ambassadors, uncertainty, a lack of trust among the participants, mental health symptoms, and the fact that study questions brought back unsettling memories they did not want to face (Jorgenson & Nilsson, 2021). Chances are the abovementioned concerns affect Somali immigrants' present-day circumstances.

Black and Somali Populations and Hypertension

As mentioned previously, minority populations are more at risk for HTN. For example, Africans are more prone to HTN, increased BP, arterial stiffness, and CVDs.

There is a greater prevalence of HTN among Black youths at younger ages than among Whites, causing higher cardiovascular risk factors among Africans in general (Mels et al., 2019) and Somali (Mohamed et al., 2022) populations. According to Mels et al. (2019), HTN in Africans is due to lower protein intake and an abundance of nonessential amino acids, which may relate to increased protein catabolism or increased amino acid biosynthesis. Therefore, African populations may be even more at risk than other populations within the United States.

Additionally, some Black and African populations with CKD have limited access to healthy food. For example, some Black and Somali populations may consume too much sodium, causing them to be at higher risk for CKD (Ahmed et al., 2019; Phillip et al., 2022). Additionally, high-sodium diets and diets low in fruits and vegetables were prevalent among Somali participants when HTN was considered (Ahmed et al., 2019). To compound this issue, Ahmed et al. (2019) also found that Somali participants were also more likely to have reduced physical activity, creating increases in obesity and diabetes. These findings speak to the need to focus on noncommunicable diseases such as HTN, the health issues they may cause, and furnishing relevant information to Africans, including Somali immigrants.

One's standard of living and comfort level influence many aspects of life, including health. As part of a case study of Somali American households in the Midwestern United States, Karnik and Peterson (2023) examined food security related to social capital among low-income immigrant families. The researchers found that car

ownership and the relationship systems among people who worked and lived in a distinct society, enabling that community to function effectively (objective social capital) and cognitive, social capital – calculated as perceived community support – effectively improved household food security (Karnik & Peterson, 2023). These discoveries lead to questions about Somali cultural concerns, and the support individuals require.

Carrero et al. (2020) stated that dietary advice for CKD patients usually focuses on nutrient quantity, resulting in insufficient vegetables and fruits, which could benefit patients greatly, and a lack of dietary diversity. Many Somali families cannot access healthy foods and health services. Dietary variety is a CKD and high BP concern (Borrelli et al., 2020; Carrero et al., 2020), as Somalis may not consume enough fresh produce and too much salt. These issues, together with high-stress levels and other causes of HTN, such as a lack of minority health education, may worsen the situation for those already prone to BP. The appropriate interventions can, however, prevent hypertension from escalating to life-threatening CVD and CKD.

Borrelli et al. (2020) affirmed that tests frequently find elevated BP related to CKD in patients. Sodium sensitivity is a direct cause of HTN and CKD, and the researchers concluded that sodium and fluid retention led to the development of HTN. Relative to these findings, Phillip et al. (2022) concluded that 89% of minority CKD patients tested positive for food insecurity and had to obtain healthy food vouchers from a food depository. Access to a food depository, screening for food insecurity, and patient education augmented adherence to a low-sodium diet and advanced BP control (Phillip et

al., 2022). These findings emphasize that a healthy diet containing fresh fruits and vegetables, and low sodium intake is essential, as is reduced stress levels.

Stress and Mortality

In addition to diet and lifestyle, stress plays an essential role in HTN. Psychosocial stress, which includes work-related pressure, increases transient BP elevation regarding short-term alteration in the autonomic nervous system (Rengganis et al., 2020). Spruill et al. (2019) did a community-based study among Blacks to examine the connection between perceived stress levels and incident HTN. They assessed the results annually for 13 years. They found that higher perceived stress correlated with an increased risk of developing HTN over the years and concluded that intervening during periods of high stress may reduce the risk of HTN (Spruill et al., 2019). A surge of alterations can occur in the nervous, endocrine, renal, and cardiovascular systems in response to an acute state of tension (Rengganis et al., 2020). The researchers determined that acute stress response can become maladaptive during prolonged stress, and continuous autonomic nervous system to cardiovascular system stimulation can lead to intensified and lasting BP concerns and possible vascular dysfunction. The stressed person may utilize behavior defense mechanisms that include not sleeping well, alcohol consumption, and overeating, which could aggravate the physiological response, causing it to shift to a pathological response to chronic stress (Rengganis et al., 2020) that may include psychosocial stress related to adverse life events and financial strain. Spruill et al. (2019) suggest that interventions teaching adaptive coping strategies to chronic stressors,

such as discrimination and low socioeconomic status, that affect Blacks excessively may diminish the harmful CVD effects of chronic stress exposure. The stress caused by historical events, such as a civil war or other traumas experienced in their homeland, and the insecurities and emotional upset suffered during the immigration process could be contributing factors to the high BP levels in older Somalis who fled in the 1980s and 90s as well as other refugee populations.

Death rates caused by HTN tend to fluctuate. Rethy et al. (2020) reported that the total annual HTN-related deaths in the US increased between 2000 and 2018 as regards CVD and the age-adjusted mortality rate (AAMR). Between 2012 and 2018, rates decelerated concerning previously declining death rates, stagnated, or increased for each CVD subtype and race/sex grouping, nullifying earlier progress. White men experienced the most considerable upsurge in hypertension-related CVD deaths between 2000 and 2018. Even so, AAMR for Blacks compared to Whites was approximately twice as many (Rethy et al., 2020). These results indicate that Black men in the US need official interventions related to HTN. I discuss HTN in Somali women in the following section.

Hypertension and Somali Women

This study aims to discover how Somali immigrant women manage and understand HTN. Ahmed et al. (2019) did a study in Hargeisa, Somaliland, to establish the pervasiveness of noncommunicable disease vulnerability among males and females between 20 and 69. They discovered that the incidence of HTN increased substantially in women due to overweight, obesity, diabetes, and low physical activity. The authors

suggest that Somali women require interventions (Ahmed et al., 2019). Ude (2022) studied female immigrant populations' stress and coping mechanisms. Participants born in West Africa and living in the Washington DC area of the United States aimed to identify specific stressors and how to manage them. Ude found three themes – perceived stressors, sources of stress, and coping measures – and examined how these themes contributed to the participants' hypertension. The women believed their hypertension diagnosis resulted from school, work, trauma, household, and marriage-related pressures. An HTN diagnosis encouraged the female immigrant participants to evaluate coping measures such as therapy, sleep, and watching movies to help lower their HTN. The study discovered that African immigrant women living in the US understand that stress is a part of HTN (Ude, 2022). This finding supports this study's research focus on what Somali women know about how stress impacts HTN and the negative impact it has on their health.

Similarly, a study by Njeru et al. (2020) aimed to examine social networks and obesity-related characteristics among adult Somali immigrants in a Minnesota city to advise participatory, community-based, research-derived social network interventions to decrease obesity rates. Obesity is essential to explore as it is linked to HTN. Fifty percent of the 646 participants were affected by obesity or overweight. The researchers found that distinct social networks gathered based on weight status and that social contacts and operative networking characteristics related to the weight loss intentions of individuals (Njeru et al., 2020). Interventions for Somali populations may want to consider or

continue to target obesity among Somali women in future interventions for HTN.

Health Literacy

Health literacy encompasses individuals' diverse needs and the significance of interactions between healthcare systems, providers, and individual consumers. Further, HL is multifaceted. Liu et al. (2020) defined HL as an individual's capacity to acquire and interpret data and evidence to maintain and improve health appropriately in individual and system contexts. Coughlin et al. (2020) state that limited HL prevents many individuals from understanding or acting upon health information. The National Assessment of Adult Literacy Survey concluded that 36% of adults in the US had below basic or basic HL. Non-whites are more likely than Whites to have partial HL, which may result in delayed diagnosis, advanced illness, and postponed treatment reducing the possibility of a favorable outcome (Aljassim & Ostini, 2020; Coughlin et al., 2020). Thus, HL can differ between populations within the United States.

Inadequate HL is associated with worse outcomes for both individuals and healthcare organizations. For example, low HL can financially burden patients and the healthcare system (Al-Arifi et al., 2022). It has also been found that people with inadequate HL often need help understanding prescription labels, participating in medical decisions, following medical recommendations, and attending their follow-up appointments (Shoker et al., 2022). Effective communication between the patient and the healthcare provider depends on HL so patients can make informed decisions because they understand the medical information. Low HL is associated with a minimal understanding

of the disease and relevant information, screening, challenges in appropriate decision-making, and treatment choices (Coughlin et al., 2020; Fleary & Ettienne, 2019). Low HL can impair successful illness management and be linked to lack of exercise, incorrect dietary choices, and obesity. As such, these are all reasons that promote adverse health outcomes and demonstrate a connection between HL and negative health outcomes.

Health Literacy Programs

Many studies on the efficacy of HL programs indicate that organizations present classes and courses to immigrants regarding HL. For instance, Stormacq et al. (2020) included 21 studies in a review to ascertain participants' HL competency in understanding health information and the ability to understand the material. This review indicated that targeted interventions, using culturally appropriate information and targeted goals, often improved HL more effectively than other programs. Additionally, according to Auld et al. (2020), current educational HL programs that aid in understanding health issues should include comprehensive school health education and programs.

Previous research has also been done on HL programs within the United States and found that sociodemographic factors also influence HL. For example, Aljassim and Ostini (2020) concluded that sociodemographic factors influence health literacy differences, regardless of whether US residents live in a rural or urban environment. However, the researchers suggest that evidence-based interventions should be developed to tackle healthcare access challenges concerning health policies and clinical levels to reduce health outcome disparities. Therefore, interventions demonstrate that HL can be

improved among high-risk populations, especially when considering cultural and sociodemographic differences.

Health literacy intervention research should focus on (a) refining the quality of health communication extended to diverse populations, especially by progressing professional frontline expertise and support; (b) empowering people to acquire exchangeable skills in obtaining, comprehending, analyzing, and utilizing health information; and (c) ensuring that priority is equal to need by accessing and involving the population groups disproportionately impacted by low health literacy to reduce the LHL levels related to medical concerns (Nutbeam & Lloyd, 2021). Researchers have discovered methods health providers can use to solve LHL problems and improve HTN in refugees and immigrants.

Researchers have revealed that limited English proficiency (LEP) impedes healthcare as patients may not understand diagnosis and care plans. These challenges may result in missed office visits, delays in preventive services, and unmanaged acute conditions that could exacerbate chronic conditions. Researchers have discovered that LEP and LHL combined adversely affect immigrants' health status (Fleary & Ettienne, 2019; Murphy et al., 2019). Next, I consider suggestions for improving existing HL and LHL and the requirements for effective programs for Somali immigrants.

Health Literacy Programs for Somali Immigrants

According to the World Population Review (2024), there are currently 166,095 Somalis living in the US, and 944 reside in Illinois. The health messaging chosen for

immigrants must be effective. It requires more than merely sharing information to reach patients and members of the public, especially when you consider culture. It involves the participation of the entire network surrounding the affected population (Milken Institute, 2022). It has been suggested that African immigrants, who need to adapt to a new culture and may be unsure of their social identity, be placed in separate groups when conducting HL or health screenings (Burgess & Somali Health Board, 2020). Also, presenters should use an interpreter when working with immigrants, including Somalis, whether they need one. Burgess and the Somali Health Board (2020) likewise suggest that doing so is beneficial when providing health services. They advise that presenters should identify Somali Bantu patients and make a Bantu interpreter available, as this ethnic Somali minority has lower literacy rates than their Somali counterparts and may feel more comfortable in the presence of a Bantu interpreter.

Community and religion are central to Somali healing and life. Healthcare providers must understand cultural appropriateness, provide practical health information sharing tailored to the audience's needs, engage the attention of those they wish to sway, and include existing community networks (Milken Institute, 2022). Somali women have reported that they had difficulty understanding medical procedures, illness prevention, and disease management information, and incorporating prayer and the Qur'an for Muslims or the bible for Christians into the treatment plan may assist. HL program providers may request that a Qur'anic reader from the community reads to participants and provide support and comfort. The process will be smoother if trained Somali

community health workers explain concepts in preventative health, outreach, and clinic orientations (Burgess & The Somali Health Board, 2020).

These ideas indicate that those who present HL programs to ethnic peoples in the US require training to do so effectively. Coughlin et al. (2020) advised that interventions should include plain language, simple design, and graphic displays. HL presentations containing those aspects have resulted in shared decision-making improvements in disadvantaged populations with LHL. Further research suggested that appropriately designed and culturally competent information could contribute to reductions in critical illnesses and other health disparities (Coughlin et al., 2020).

Previous research has illustrated a gap in the literature regarding what is known about LHL and HTN among Somali immigrants. Therefore, I plan to address the HL needs of Somali women with HTN within this study. I assessed the health literacy of women with HTN who live in the United States to determine whether LHL negatively impacts the way Somali women monitor the disease and take care of their health. This study will contribute to the literature on poor immigrant HL (Vamos et al., 2020; Walters et al., 2020) and explain why education is essential for immigrants' overall health. Results may encourage public health directors to advocate for better HL programs for Somalis, the broader immigrant population, and all in the United States.

Summary

Chapter 2 reviewed research on health literacy and HTN in general and its effect on Somali women, in particular, as this study aims to discover how immigrant Somali

women living in the United States perceive HTN, how deficient and sufficient HL impacts them, and the barriers they have faced since their HTN diagnosis. The literary review focused on the causes and effects of HTN, LHL, the historical, cultural, socioeconomic, and linguistic reasons, among others, for LHL in ethnic communities, and the resulting health risks. Previous research on HL and HTN shows that immigrants are not well served as reports tend to focus on either LHL or the impact of HL on lifestyle to point out that interventions are required (Coughlin et al., 2020; Mohamed et al., 2022; Shahid et al., 2022).

This study filled a research gap by exploring the lived experience of HL among Somali women with HTN in the United States. I demonstrated how HL and HTN management are linked, assess the need to increase the quality of HL programs for refugees, and discover how one may achieve that goal, as this study contributed to developing HL programs geared towards immigrants. Chapter 3 discusses the research rationale and design, methodology, recruitment, participants, data collection procedures, and the study's data analysis plan.

Chapter 3: Research Method

This qualitative study assessed the HL of Somali immigrant women aged at least 18 years old living in the United States with HTN, their relationship with HL, and how they manage their HTN. The primary section of this chapter includes the methodology section, research design and rationale, the role of the researcher, and issues of trustworthiness and ethical considerations. This study addresses the three aforementioned research questions.

RQ1: What is the perception of hypertension for immigrant Somali women living in the United States?

RQ2: How does adequate or inadequate health literacy impact Somali immigrant women in the United States with hypertension?

RQ3: What are the barriers faced by Somali immigrant women with hypertension?

Research Design and Rationale

A qualitative approach was used to examine the lived experiences of Somali immigrant women and explore how they perceive, describe, feel about, and talk about HTN to others. The qualitative approach was more suitable than the quantitative method, as the goal of this study was to explore and understand the meaning that individuals ascribe to a social or human problem. The quantitative method would not be appropriate, considering that this study required primary data collected through in-person interviews. This study involved collecting detailed and subjective information rather than numerical,

objective, and quantitative data.

Role as a Researcher

As the researcher, I served as the primary instrument in both constructing and understanding the goals and meaning of this research. This role encompassed my positionality, social identity, experiences, beliefs, prior knowledge, assumptions, ideologies, working epistemologies, biases, and overall perspective of the world (see Ravitch & Carl, 2021). Data collection was conducted through semi-structured interviews with participants according to an established protocol.

As the researcher, I had no previous or personal relationships with the participants, and I remained aware of the importance of gaining trust and comfort to facilitate the best interview outcome.

The interview process started with an introduction to myself, the purpose of the interview, background of the study, and my interest in the participants' individual experiences as Somali immigrant women living with hypertension. I emphasized that there were no right or wrong answers and stated that follow-up questions would be asked as needed. During the interviews, I took notes that were helpful to reference later. The participants were assured that the interviews were confidential, and they would therefore not be identified as a respondent. Lastly, participants had the right to end the interview at any time and were not obligated to discuss any information that they found uncomfortable.

Methodology

Participant Selection Strategy

The target population for this study consisted of Somali immigrant women aged 18 years or older living in the United States. The sampling strategy occurred through purposeful sampling. The participants were required to meet the following criteria: (a) speak English, (b) be diagnosed with HTN, (c) self-identify as Somali (d) be 18 years of age or older, (e) reside in the United States, and (f) have immigrant status. Five participants were recruited in total. Recruitment occurred via direct and indirect outreach. I posted flyers and contact cards with the study information at faith-based and nonprofit organizations where Somali immigrant women spend their time, such as churches, grocery stores, and restaurants. I spoke to the owners of each establishment for permission to post the study details. I also utilized social media recruiting to reach this population. Upon receiving expressions of interest from participants, I provided them with finalized details on the study and informed them when they could expect to meet for their interview.

In qualitative research, data saturation occurs when the themes within the data are saturated, indicating that further data collection is unnecessary (see Creswell, 2013). I determined a sample size of five participants for this study, which met the requirements for processing and analyzing the interview data collected.

Instrumentation

The data collection instrument for this study consisted of semi-structured

interviews. I designed open-ended questions to guide the interview responses. I adhered to the validity standards of credibility, transferability, dependability, and comfortability, as these values are shared across paradigms to fully assess validity. Although validity in qualitative research can only be partially ensured, I prioritized validity throughout the research process, viewing it as both a process and a goal (Ravitch & Carl, 2021).

Procedure for Recruitment, Participants, and Data Collection

This study received approval from the Institutional Review Board (IRB), and participants' consent was obtained before the interviews. Each audio-recorded interview lasted approximately 30 minutes per participant. According to Walden's IRB criteria, I used a transcription service downloaded to my laptop during the interviews. I let each participant know that they were not obligated to complete the interviews and had free will to withdraw at any time. I provided a \$75 gift card as consideration for their time. To protect the privacy and confidentiality of each participant, pseudonyms were used.

Data Analysis Plan

Qualitative data analysis often involves both inductive approaches (coming from the data) and deductive approaches (coming from other sources, such as theory or prior research coding processes; Ravitch & Carl, 2021). I used both strategies to first test the HBM theory and then to explore the new theories identified. I began by familiarizing myself with the data. Next, I categorized the identified themes for each research question to determine what data related to each question. Once all transcripts were reviewed, key information was compared and assessed for meaning. The thematic analysis was the

qualitative approach used to systematically identify the codes and themes.

NVivo was used for coding the interviews, identifying themes, and analyzing the data. NVivo allows for related group expressions, which I relied on for coding and identifying themes.

Trustworthiness

Credibility, transferability, dependability, and confirmability are all required to ensure the trustworthiness of a study. Qualitative studies are not transferable to other situations or populations; therefore, my study described the contextual factors that most significantly shaped the research. I interpreted my data and embedded authenticity throughout my analysis and write-up. Dependability requires a well-reasoned argument for how I collected my data, and the data was consistent with my argument (see Ravitch & Carl, 2021). To ensure confirmability, I considered questions such as the following: Who can I engage in the research process to challenge my thinking? Would someone else reach similar conclusions/interpretations? How might they differ? (Ravitch & Carl, 2021).

Ethical Procedures

I obtained Walden University IRB approval before collecting data. Participant consent was obtained via an email stating "yes" to their consent before the interviews occurred. Lastly, participants were asked for permission to record the interview; if they were not comfortable with being recorded, the interview did not take place. At the end of the interview process, I thanked each participant and informed them how to obtain their

gift card.

After the interviews and data collection, I stored the data in a confidential, password-protected file on my computer. I used my laptop, allowing no outside access and thus minimizing the risk of a data leak. I stored all written data in a file cabinet in my home office, to which only I have access. Data collected during the study will be kept for five years, after which I will delete all electronic files and dispose of hard copies via a shredder.

Summary

Chapter 3 has provided an overview of the methods and research design used in this study. My role as the researcher, potential issues of trustworthiness, and ethical concerns were discussed. Chapter 4 now presents the results of the study.

Chapter 4: Findings

The purpose of this study was to assess the HL of Somali immigrant women with HTN. The following research questions guided this study:

RQ1: What is the perception of hypertension for immigrant Somali women living in the United States?

RQ2: How does adequate or inadequate health literacy impact Somali immigrant women in the United States with hypertension?

RQ3: What are the barriers faced by Somali immigrant women with hypertension?

Hypertension (HTN) is one of the most serious health threats among adults (Janchai et al., 2021). Low health literacy (HL) refers to poor knowledge about health management, which can worsen the impacts of HTN (Coughlin et al., 2020). Adult African Americans and immigrants in the United States are considered vulnerable groups who are at risk of health complications linked with HTN (Hussein et al., 2023). Somali Americans, especially women, tend to have relatively high rates of uncontrolled HTN (Hussein et al., 2023). This qualitative study explored the experiences of Somali immigrant women living in the United States with HTN to assess what this population understands about the importance of HL and any negative impact on their understanding of HTN.

This chapter presents the study findings, which were built upon the data and the context of this study. The context of this study is described through the study sample of

five Somali immigrant women with HTN residing in the United States. The data were collected from individual interviews and analyzed thematically. The data collection and analysis processes are reported in this chapter. The rigor of the applied methodology is described through the evidence of trustworthiness. Next, the findings are presented in the form of themes accompanied by descriptions and excerpts from the data. The chapter concludes with a summary.

Sample of the Study

The participants in this study were five Somali immigrant women living in the United States. All participants were diagnosed with HTN and met the inclusion criteria of English proficiency, immigrant status, and at least 18 years old. The participants varied in their duration of residence in the United States, ranging from as recent as two years to as long as 30 years. Their professional backgrounds included various white-collar roles in accounting, hotel management, data analysis, and administrative assistance. Two participants were married, two were single, and one was divorced. Only two participants reported having children. The time since HTN diagnosis ranged from one to three years, indicating relatively recent identification of the condition among the group. Further details about each participant are provided in the following sub-sections and in Table 1. This information was elicited from the participants using the first five questions in the interview guide (Appendix A).

Andrea

Andrea is a Somali woman who immigrated to the United States two years prior

to this study; she reported working as an accountant at the time of the interview. Andrea is married but does not have children. She was diagnosed with hypertension in 2024.

Hazel

Hazel is a divorced mother of two daughters who has lived in the United States for 15 years. She works in hotel management, a role she described as frequently demanding interpersonal communication and organizational skills, which contributes to her stress levels. Hazel was diagnosed with HTN in 2022.

Parker

Parker has lived in the United States for six years. She is a single Somali immigrant woman with no children. Parker is employed as an accountant and was diagnosed with hypertension in 2024.

Fallon

Fallon has lived in the United States for 30 years. She is married with one child and works as an administrative assistant. Fallon was diagnosed with HTN in 2022 and reported being familiar with the American healthcare system.

Tara

Tara is a single Somali immigrant woman who has lived in the United States for 12 years. She works as a data analyst. Tara does not have children and was diagnosed with hypertension in 2024.

Table 1: Demographic Characteristics of Somali Immigrant Women Participants

Characteristic	Number of Participants	Percentage
Years Lived in the U.S.		
2–5	2	40%
6–15	2	40%
Over 15	1	20%
Marital Status		
Single	2	40%
Married	2	40%
Divorced	1	20%
Has Children		
Yes	2	40%
No	3	60%
Occupation		
Accountant	2	40%
Hotel management	1	20%
Administrative assistant	1	20%
Data analyst	1	20%
Year Diagnosed with HTN		
2022	2	40%
2024	3	60%

Data Collection

The data collection consisted of individual semi-structured interviews. Upon securing the approved Walden Institutional Review Board (IRB) form, flyers were distributed to predominantly Somali communities to advertise the call for participants. The flyers contained a brief introduction to the purpose and nature of the study, the participant inclusion criteria, and the researcher’s university email address. Interested individuals were instructed to send an email to the researcher. To confirm that the prospective participant met the inclusion criteria, the researcher responded to each email

with questions about the potential participant's age, ability to speak in English, HTN diagnosis, self-identity as Somali immigrant status, and residency in the United States. Individuals who failed to meet all the criteria were thanked for their interest in the study, while potential participants who met all the criteria were asked for their preferred interview schedule and were given a copy of the informed consent form. They were asked to read the terms and conditions of participating in this study and, if they agreed, to sign the form.

As a result of the current attitude toward immigrants and their reluctance to speak to a researcher, the number of participants was smaller than expected, with only five interviewees. The five Somali immigrant women with HTN residing in the United States met the inclusion criteria, signed the informed consent form, and were selected for the study. All the interviews were conducted via Zoom and were audio-recorded. An interview guide (Appendix A) served as a tool to maintain standards and alignment in eliciting responses from the participants. Part of the interview protocol involved restating the contents of the informed consent form at the beginning of each interview to emphasize the participants' protection and help them feel comfortable sharing their insights about their experiences with HTN as a Somali immigrant woman.

While the participants were asked the same set of 15 questions about their demographics and experiences with HTN, the semi-structured nature of the interviews also allowed for probing and follow-up questions to enrich the collected data. The interviews took a maximum of 30 minutes each. No unusually remarkable incidents

occurred during the interactions with the participants. At the end of the interviews, the participants were thanked for their contribution to the study and were rewarded with a \$75 gift card, as indicated in the informed consent form.

Verbatim transcripts were produced by a transcription service. Each transcript was saved in a Microsoft Word file with Times New Roman font style, 12 pt. font size, and single-spacing. I then read the transcripts and wrote a summary of the content. The transcripts were imported into NVivo 15 for storage, management, and organization during the analysis. The transcripts were also backed up in an encrypted cloud service accessible only to the researcher. All the information collected from this data will be permanently deleted five years after the publication of this study.

Data Analysis

The data analysis procedures were based on Clarke et al.'s (2015) six-step thematic analysis framework: (a) data familiarization, (b) code generation, (c) initial theme identification, (d) theme review, (e) theme naming and definition, and (f) report production (Clarke et al., 2015). The analysis process was iterative, and these steps were followed in a cyclical format until the themes had been refined and finalized. The analysis was completed with the researcher as the sole investigator, using NVivo 15 as a tool for data storage, management, and organization.

Data familiarization involved reading the transcripts several times to build a first impression of the recurring ideas in the data. I read the finalized transcripts in three rounds. The first round involved reading the transcripts from start to end without the

distractions of notetaking to absorb the contents of the data. The second round involved annotating and noting potential codes from chunks of texts that seemed relevant to the participants' experiences of HTN and HL. The third round checked to ascertain if any other chunks of texts could be developed into potential codes.

Code generation involved further reading and re-reading of the transcripts in search of meaningful units in the data (Clarke et al., 2015). Using NVivo, I highlighted chunks of texts that represented the participants' perceptions and experiences of HTN and HL; I then assigned a descriptive label summarizing the contents of the highlighted texts to form one unit of meaning or code. Coding thus entailed breaking the data down into small units of meaning; for instance, Andrea stated, "Well, it's just high blood pressure" when describing her perception of HTN, and this statement was subsequently assigned the code *high blood pressure*. The iterative nature of coding meant that any other participant statement that referred to HTN as high blood pressure was assigned to the same code. Overall, this code recurred five times across all five transcripts.

Identifying initial themes from the codes formed the start of the process of rebuilding the data. Initial themes consisted of groups of codes clustered by categorical meaning. For example, the codes *high blood pressure* and *headache or dizziness* both pertained to the participants' perceptions of the symptoms that characterized HTN; therefore, these codes were grouped under the initial theme *characteristics of HTN*. NVivo's hierarchy feature provided a visual representation of which codes were grouped under an initial theme.

The initial themes were reviewed to identify candidate themes that accurately reflected the participants' perceptions of HTN and HL. I checked that each theme was sufficiently supported by data collected from the participants to ground the findings within the data. Several initial themes were collapsed into a broader idea as the themes were re-contextualized to this study by relating them to the research questions. This process of connecting the initial themes into a broader theme was completed with the aid of NVivo's hierarchy feature. When the selection was expanded and the side panel was opened in NVivo, the codes, initial themes, and coded texts under a theme were visible, which aided in grounding the themes within the data. A thematic map (see Figure 1) was illustrated to represent the relationships among the initial themes as part of the theme review and validation process.

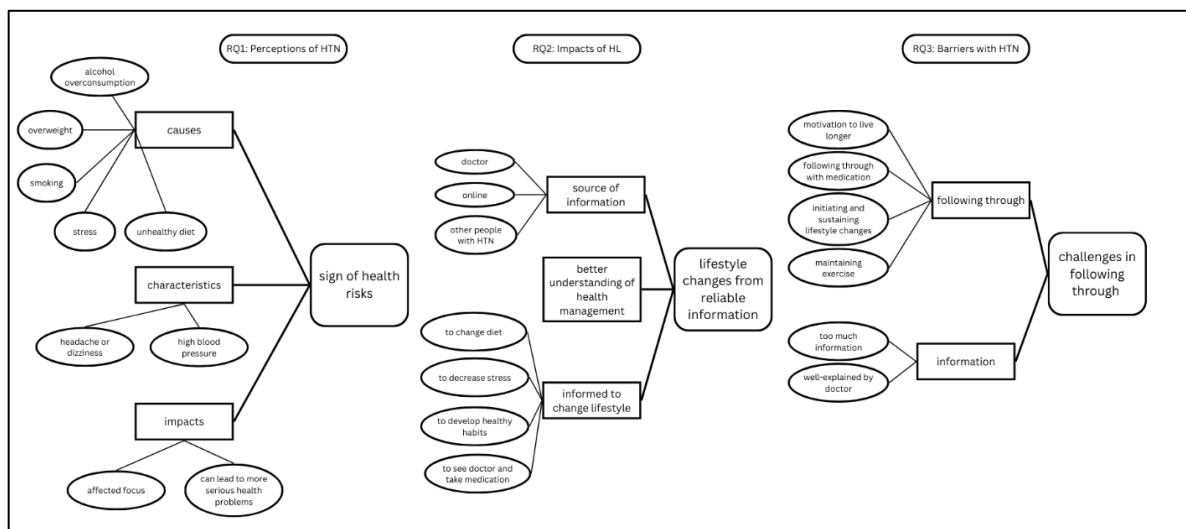


Figure 3: Thematic Map

The final step of the analysis involved producing a report of the findings. The three final themes are presented later in this chapter.

Evidence of Trustworthiness

Trustworthiness in qualitative research refers to the strategies that researchers use to demonstrate the quality, rigor, and integrity of their work (Ravitch & Carl, 2021). The foundational work of Lincoln and Guba (1985) has shown that trustworthiness is evaluated through several key criteria: credibility, transferability, dependability, and confirmability. These criteria, when met, will prove that the research process was transparent, reflexive, and ethically grounded (Ravitch & Carl, 2021). This section outlines evidence of the trustworthiness of this study.

Credibility

The credibility criterion is characterized by the accuracy with which the findings represent the participants (Ravitch & Carl, 2021). Credibility was strengthened through a reflexive approach throughout the research process. The planning phase involved meticulous alignment of the research elements, especially the research purpose, problem, and questions with the chosen methodology. The purposeful sampling strategy enabled the selection of participants with experiences relevant to the research phenomenon, which entailed collecting data aligned with the elements of this study. A reflexivity journal was utilized to document the thought processes behind each step of the research process as well as my own assumptions, positionality, and emotional responses during data collection and analysis. This documentation provided transparency to the research procedures. During the analysis, I applied Clarke et al.'s (2015) suggestion of being open and aware of the researcher's influence on the emergence of codes and themes, playing

an insider-outsider role instead of aiming for objectivity. To accurately represent the participants' insights, I followed Clarke et al.'s (2015) six-step thematic analysis protocol and iterative coding. Themes were developed inductively and refined through cycles of reflection and re-engagement with the transcripts. Verbatim quotes were used to support the development of the themes, demonstrating that they emerged from the participants' words instead of my interpretation alone.

Transferability

Transferability refers to the applicability of the study findings to another context (Lincoln & Guba, 1985). Detailed contextual information about the participants and research setting increased the transferability of the study, allowing readers to assess whether the findings are applicable to other contexts. I provided detailed accounts of the recruitment process, inclusion criteria, and demographic backgrounds to contextualize the findings. I also presented the participants' descriptive information and experiences in detail and in their own words to provide insights into the social, cultural, and emotional experiences of Somali immigrant women with HTN residing in the United States.

Dependability

The dependability criterion was attributed to the consistency of the study findings over time (Lincoln & Guba, 1985). Dependability was established by maintaining a systematic and reflexive research process that was well-documented and traceable. All research procedures were reported in a step-by-step process, and all materials used in the study were included in the appendices. During the analysis, I used a reflexivity journal to

document how codes and themes evolved in response to the data and reflexive insights. The use of NVivo 15 to aid in data storage and management resulted in traceable and systematic identification of patterns in the data. The use of NVivo in the analysis is detailed in the data analysis section. The researcher revisited the data as much as possible to increase the refinement of the codes and themes.

Confirmability

Confirmability refers to the degree of neutrality and objectivity in the research, allowing other researchers to validate the findings (Lincoln & Guba, 1985). I applied practices that ensured that the findings were shaped by the participants' voices instead of my own personal ideas. Clarke et al. (2015) note that complete neutrality is neither possible nor desirable in qualitative studies, advocating for transparency in the reflexive analysis process. I acknowledged and examined my influence on the data interpretation using a reflexive journal and frequent consultations with the dissertation committee. The reflexive journal included documentations of how my own values, experiences, and assumptions interacted with the data. The dissertation committee provided comments that helped identify potential blind spots and confirmed that the interpretations were grounded in the data. Additionally, direct quotes from the participants were used in the write-up of the findings to support the emergence of the themes and demonstrate the link between the data and findings.

Findings

The analysis revealed three key themes representing the participants' experiences

of HTN and HL: (a) Somali immigrant women perceived HTN as a sign of health risks if an unhealthy lifestyle is sustained, (b) reliable information can lead to lifestyle changes among Somali immigrant women with HTN, and (c) Somali immigrant women with HTN experienced challenges in following through with healthy lifestyle changes.

Theme 1: Somali Immigrant Women Perceived HTN As a Sign of Health Risks if an Unhealthy Lifestyle Is Sustained

The first theme is a reflection of the participants' understanding of HTN. The participants first described their understanding of HTN, followed by their perceptions of HTN's causes and health impacts. The participants' responses revealed that they perceived HTN as a current health issue and as a warning of potentially more severe health complications if unhealthy habits are not addressed.

Interview Question 6

The sixth interview question asked, "What do you think hypertension is?" All five participants described their perceptions of HTN. The participants' descriptions were categorized by their perceptions of the characteristics, causes, and impacts of HTN. All five participants linked HTN with the characteristic of having high blood pressure. Hazel stated, "Basically, [HTN is] high blood pressure" and explained "I think it's when pressure, when blood pressure kind of like increases, like it moves in your veins in a speed that it shouldn't be moving at." Apart from describing HTN as being characterized by high blood pressure, Fallon added that people with HTN tended to have high cholesterol, while Andrea further stated that she personally experienced headaches and

dizziness linked with HTN.

Interview Question 7

The seventh interview question asked, “What do you think causes hypertension?” All five participants disclosed their perceptions of the causes of HTN, which were primarily centered on an unhealthy lifestyle. Four of the five participants cited stress as a leading cause of HTN. Andrea shared, “Well, I’m going to say the stress part does affect it negatively, because I am one to just do stressful things.” Hazel was unsure but mentioned the plausibility of stress causing HTN: “I think maybe, I don’t know if stress causes it, but I think it does.” Both Parker and Tara expressed with certainty that stress causes HTN, citing their own personal experiences.

In addition to stress, the participants also suggested various reasons for developing HTN. Andrea and Hazel noted how an unhealthy diet can lead to HTN. Andrea specified, “I think it’s like just unhealthy diet. I mean, too much of salt.” In relation to having an unhealthy diet, two participants stated that being overweight also contributes to HTN. Hazel shared, “Our weight does influence that.” Fallon additionally stated that being overweight and lacking physical activity can cause HTN. Fallon also noted that the unhealthy habit of smoking can lead to HTN. Andrea and Hazel similarly cited the unhealthy habit of alcohol overconsumption as being a probable cause of HTN. Andrea replied, “Probably alcohol too, because I do take a lot of alcohol before.”

Interview Question 8

The eighth interview question asked, “How do you think it affects your health?”

Three participants shared their perceptions of the negative impacts of HTN on their health if unhealthy habits were maintained. Hazel and Parker noted that HTN is a sign of more severe health problems and a signal to start making lifestyle changes. Hazel detailed the potential health risks that could develop from HTN: “It does increase my risk, it does give me higher risk of contracting something else, maybe a little bit more serious, like heart diseases, maybe heart attacks, strokes, even having complications during pregnancies.” Parker and Tara revealed that HTN affected their productivity, as they suffered from blurry vision and lack of ability to focus. Tara stated, “I can hardly focus well on the computer screen. Like I was having issues.”

Theme 2: Reliable Information Can Lead to Lifestyle Changes Among Somali Immigrant Women With HTN

The second theme relates to the participants’ practices in accessing information about HTN. The participants’ descriptions of these practices included seeking different sources and then evaluating the reliability of the information they gathered. Reliable information was then used to inform lifestyle changes.

Interview Question 9

The ninth interview question asked, “Where do you get most of your information about hypertension?” All five participants stated that they obtained information about their HTN condition from reliable sources. According to all five participants, their most reliable source of information was their doctor. Hazel described that her doctor educated her about HTN by talking to her and giving her flyers to read: “They have these flyers

that talk about it.” Andrea responded that she listened to her doctor, sought appointments whenever she felt like she needed one, and asked for clarifications when she did not understand something about her condition. Hazel, Parker, Fallon, and Tara reiterated that they obtained information about HTN from their doctors, but they also acknowledged seeking information from various sources online. Tara described searching for information online out of curiosity but noted that she would consult her doctor for factual guidance: “Well, from my doctor and a few times I go online... Well, just out of curiosity, because I would trust my doctor more than online.” Parker shared that she asks her doctor to verify information that she finds online: “Well, it's mostly from my doctor and then when I see stuff about it online, I do ask my doctor about it to be on the right track, because everything online cannot be trusted.” On the other hand, Fallon stated that she searched for information online to add to her doctor’s guidance: “I do look up online different websites that I use to just get more in-depth information or like second opinion type.”

Hazel was the only participant who reported that, in addition to her doctor, she found other people with HTN to be reliable sources of information. She sought information from a social media community of people with HTN as well as talking to her family and friends with HTN. Hazel shared, “It's mostly from people that are going through this or have maybe close relatives or friends that go through this. So, they pretty much have a good idea on what's going on.”

Interview Question 10

The 10th interview question asked, “What do you think about the information on hypertension that is available to you?” Four participants shared that they thought the information on HTN available to them was helpful, while one participant expressed confusion over the variety of accessible information. Andrea, Hazel, Parker, and Tara simply stated that the information that they had obtained about HTN was “helpful.” Andrea explained that the information on exercise and healthy diet was particularly helpful for her. Hazel shared that the information about HTN was helpful for their family and friends who also suffered from the condition. Fallon expressed that the array of available information can lead to confusion: “Sometimes it could be confusing. I think that there's so many new studies coming out that it's hard to keep up with a little bit.”

Interview Question 11

The 11th interview question asked, “How do you think the information you get affects how you understand your condition?” Two participants noted having a better understanding of health management, while one participant reported being scared into changing her unhealthy habits. Parker articulated, “Well, I think it helps me understand more [on how to manage HTN].” Fallon disclosed having a broader understanding of HTN, especially its causes. Hazel admitted that some information about the health problems caused by HTN scared her into changing her unhealthy habits; she expressed, “It makes me feel a little bit scared, because there's some that have really serious conditions. So, it does make me kind of want to take care of myself better so that I don't

get to that extent.”

Interview Question 16

The 16th interview question asked, “What information has your healthcare provider given you about how to manage your hypertension?” The reliable information sought by the participants informed them to change their lifestyle and improve their health management. All five participants stated that they had adopted a healthy lifestyle after learning about the impacts of a poor lifestyle on their health. Andrea detailed,

I am not one to do workout, like exercises, but it did recommend exercises and not taking salts. I don't want to take a lot of salts, and then I love my food salty.

So, it told me not to do that. And to sleep more. Although I do not like it, I mean, I've reduced my salt intake a lot, and then I've been sleeping well too. So, I would say it's been helpful.

Parker stated that she had learned to manage her condition, especially in terms of monitoring her weight. The participants shared that they were also serious about maintaining their doctor's appointments and medication. Andrea noted, “I am on regular doctor visits, and I've been taking diuretics.”

The participants also discussed learning to improve their diet. Hazel stated, “I do have like a healthier diet that I follow now.” Tara focused on changing her diet and reducing her alcohol intake; she also stated that she “strictly watched” her consumption. Andrea revealed that her diet primarily consisted of fruits recommended by her doctor.

Theme 3: Somali Immigrant Women With HTN Experienced Challenges in Following Through With Healthy Lifestyle Changes

The third theme emerged from the participants' collective experiences of the barriers to changing their lifestyle.

Interview Question 13

The 13th interview question asked, "What is your current management plan for your hypertension?" All five participants reported experiencing barriers with HTN in terms of following through with their lifestyle change. The main issue was initiating and sustaining the change. Hazel described going through an adjustment period, especially with her diet and exercise routine. According to Hazel, this adjustment was a barrier that she overcame over time:

I would say it's not that difficult for now, but it was difficult when I first began, like the adjustment, like having to change my lifestyle. I can't eat this. I can't eat too much of this. Like the way I said I had to exercise because before this, I'd never been to a gym ever in my life, but I had to adjust to that. So, I'd say the difficult part kind of came up when all this began, but now I'm kind of adjusting to it and getting used to it.

Interview Question 14

The 14th interview question asked, "What part of hypertension do you find most difficult?" Four participants discussed the barrier of living a stressful life. Tara explained, "Like I said, I have no kid, I have no husband... but I do try to make money. And my job

is kind of a complicated one.” Andrea noted that fulfilling several responsibilities inevitably led to stress, which she found difficult to overcome:

Well, I'm going to say the stress part does affect it negatively, because I am one to just do stressful things... And it's hard not to let it when you're trying to do so much on your own, right? I can't handle it too... And so, I was told to cut down on stress.

According to the participants, new routines were also challenging to maintain. Part of their new routine involved exercise. Hazel and Parker revealed that they did not necessarily like to exercise, but they understood its benefits in helping them manage HTN. Hazel described, “Yeah, it's like kids having to eat their vegetables. They don't like it, but it's good for them, so they have to.” Parker elaborated,

The fact that I have to keep exercising regularly. I cannot just stop because I am seeing progress. Even if it's not one thing I would love to do, I just have to do it regardless. So that's something I don't really like.

Parker added that she also found challenges in maintaining taking her medication for HTN and heart disease: “I am not one for like medications, so it's really not so good for me.” Fallon reported finding exercising challenging because of her physical limitations caused by HTN: “Just like the boundaries that I have to use when doing physical activities. My daughter plays a lot of sports, and I always want to play with her, but sometimes I can feel it coming.”

Interview Question 15

The 15th interview question asked, “What factors in your life have an impact on how you manage your hypertension?” Two participants stated that they made efforts to overcome their barriers with HTN because they were motivated to live longer. Fallon shared that her father’s passing had made her more conscious of her health: “My father passed away about three years ago... so I think that [I focus more on] getting regular health checkups, you know, not relying on food so much for comfort.” Hazel disclosed wanting to live longer to fulfill her obligations and achieve her goals and dreams with her children: “I have kids to take care of, and I have goals and dreams to achieve. Those are like my motivation to manage this.”

Summary

The purpose of this study was to assess the HL of Somali immigrant women with HTN. Five Somali immigrant women diagnosed with HTN and residing in the United States were selected as the sample of this study. The participants were interviewed to elicit their insights about their experiences with HL and HTN. The interview data were analyzed thematically, resulting in three themes that answered the research questions.

The first research question addressed the participants’ understanding of HTN and its impacts on their health. The participants revealed their understanding of HTN to involve high blood pressure that could be an early indicator of potentially serious health complications, especially if unhealthy behaviors like poor diet, stress, or lack of exercise persisted. The second research question encompassed the impacts of HL on the

participants. The findings showed that the participants understood reliable and unreliable information and sought health knowledge only from credible sources, which included their doctors and people who also have HTN. Information from reliable sources was used to adopt a healthy lifestyle to manage HTN. The third research question examined the barriers the participants faced in managing HTN. The participants described several barriers to long-term behavioral changes, including difficulty adjusting to new routines, job-related stress, a dislike for exercise or medication, and physical limitations. The participants reported being able to overcome these barriers over time or with the motivation to live longer.

The discussion and interpretation of these findings, along with their implications and recommendations for future research, are presented in Chapter 5.

Chapter 5: Discussion

The purpose of this qualitative study was to evaluate and address the health literacy (HL) levels of Somali women with hypertension (HTN) living in the United States. The research involved assessing HL for the women living with HTN to determine whether low HL negatively impacted the ways in which they care for and monitor the disease. The study was guided by the health belief model (HBM). A qualitative design was used for this research, which comprised a total of five semi-structured interviews. This study was conducted in response to a knowledge gap in understanding how Somali immigrant women in the United States manage HTN in the context of health literacy.

The findings revealed three main themes: a) Somali immigrant women perceived HTN as a sign of health risks if an unhealthy lifestyle is sustained; b) reliable information can lead to lifestyle changes among Somali immigrant women with HTN; and c) Somali immigrant women with HTN experienced challenges in following through with healthy lifestyle changes. These findings are further interpreted in the following section. This chapter also discusses the limitations of the study, offers recommendations for future research and practice, and outlines implications for positive social change. The chapter ends with a conclusion.

Interpretation of the Findings

The findings that emerged from this study provide valuable insights into how Somali women living in the United States understand and manage their hypertension, particularly in relation to their health literacy. This section offers an interpretation of the

results in the context of existing scholarly literature and the six HBM constructs: perceived susceptibility, perceived severity, perceived barriers, perceived benefits, self-efficacy, and cues to action. The below subsections are organized according to each research question.

RQ1: What is the perception of hypertension for immigrant Somali women living in the United States?

The participants in this study frequently described hypertension as a challenging and serious illness, noting its potentially severe outcomes such as a heart attack, stroke, or even death. The participants' perceptions are reflected by two HBM constructs: perceived susceptibility and perceived severity (Joho, 2021). The participants' understanding that hypertension can be associated with silent symptoms aligns with the existing literature, which states that diseases such as HTN are often poorly understood yet perceived as dangerous by many immigrant populations (Lovric et al., 2022).

In contrast, the findings in the current study also highlighted that the participants did not always base their understanding of HTN on the biomedical nature of the disease; in fact, some participants described HTN as being stress-inducing and emotional, which is consistent with the cultural health beliefs commonly held among African immigrants (Ude, 2022). This finding contrasts with the Western biomedical model, which describes hypertension as a physiological disease that requires clinical management (CDC, 2021a). This study's findings align with those of Mohamed et al. (2022), who found that Somali

immigrants often categorize and conceptualize disease through emotional and spiritual perspectives.

This study not only reinforces prior research indicating that Somali immigrants often conceptualize hypertension through emotional and spiritual perspectives (Mohamed et al., 2022) but also expands this understanding by illustrating how stress and cultural interpretations of illness directly shape perceived susceptibility. Unlike previous studies, which have primarily documented awareness of hypertension risk, this research highlights how Somali women attribute that risk to psychosocial rather than biomedical factors. This finding provides nuanced insights into the ways in which cultural framing affects self-management health behaviors.

RQ2: How does adequate or inadequate health literacy impact Somali immigrant women in the United States with hypertension?

In this study, participants' health literacy was found to be highly variable and dependent on their trust in others, such as their physicians or community members. The participants displayed little reliance on written or digital information, especially if such information was not available in their mother tongue of Somali. This finding supports existing research showing that cues to action are often determined by trust in others, particularly healthcare professionals, which can often act as triggers (Green et al., 2020).

Previous research has identified that minority groups often face linguistic and structural barriers to health literacy, which impacts their ability to act on guidance or accurately interpret their condition (Fleary & Ettienne, 2019). Similarly, other researchers

have noted that culturally tailored health literacy education can improve the self-management of hypertension among some populations (Warren-Findlow et al., 2019).

The current findings support these conclusions, as many participants in this study reported challenges with following appointment and medication instructions because of their language difficulties.

Nonetheless, the participants in this study expressed a preference for receiving in-person and oral instruction over online or written materials. This finding is supported by research by Murphy et al. (2019), who found that limited proficiency in English and over-reliance on interpreters can constrain the ability of Somali refugees to acquire health literacy. Consequently, the current findings suggest that health literacy cannot be assessed based only on an individual's ability to read or write in English and can differ across different culturally mediated contexts.

As the researcher, I noted some level of disconnect between awareness and action in this study. Although some of the participants were able to articulate the importance of introducing several lifestyle changes, many of them lacked the necessary resources and confidence to apply these changes to practice. These challenges suggest a lack of self-efficacy, which is one of the key constructs of HBM. This finding is also supported by Liu et al. (2020), who argue that effective development of health literacy includes not only active comprehension but also conscious healthy choices.

These findings confirm previous research demonstrating that language barriers and trust in healthcare providers significantly affect health literacy among immigrant

populations (Fleary & Ettienne, 2019; Murphy et al., 2019). Nevertheless, this study goes beyond prior work by showing that Somali women's health literacy is highly contextual and relational, relying heavily on oral and interpersonal exchanges rather than written or digital resources. This finding highlights the importance of considering cultural practices in designing interventions and shaping preferences for in-person guidance.

RQ3: What are the barriers faced by Somali immigrant women with hypertension?

Participants identified several barriers that impacted their ability to effectively self-manage their hypertension. These barriers included financial constraints, cultural dietary habits, stress, and medication side effects. This finding directly relates to the construct of perceived barriers, which are the obstacles that prevent an individual from being able to engage in healthy behaviors (Etheridge et al., 2023). In this study, the participants reported having limited access to fresh produce, resistance to taking medication, psychosocial stress and ongoing trauma, and difficulties in making healthy dietary changes.

Past research has highlighted that many African immigrant populations (including Somalis) often face food insecurity, engage in limited physical activity, and consume high-sodium diets, all of which can make self-management of hypertension more difficult (Ahmed et al., 2019). Likewise, Rengganis et al. (2020) found that psychosocial stress is a common occurrence among immigrant populations. They argue that stress can be a significant contributor to higher blood pressure and can diminish the desire to follow designated treatment plans (Rengganis et al., 2020).

Many of the participants in this study reported having a fear of taking daily medications and worrying about potential side effects. This finding is supported by Darvishpour et al. (2022), who found that perceived barriers are the main cause of hypertension treatment non-adherence among immigrant females. Even though the participants in this study were aware of the perceived benefits of using the medication, they chose to resist taking it as a result of their lived experiences. This finding highlights the complex interplay between different HBM constructs.

Previous studies have noted common barriers such as dietary habits, stress, and fear of medication side effects among African immigrants (Ahmed et al., 2019; Darvishpour et al., 2022). The current study has contributed to this knowledge by demonstrating how these barriers intersect with faith, family obligations, and lived experiences of trauma to influence treatment adherence among Somali women. By situating these barriers within their broader cultural and psychosocial contexts, this study offers a more comprehensive framework for understanding the unique challenges faced by Somali women managing hypertension in the United States.

Other Emerging Themes

A common theme that emerged across all three research questions was the influence of faith, family, and motivation of the participants' behavior on hypertension self-management. Many of the participants reported that their main motivation to change their behavior and take medication was to stay healthy for their children or as part of their religious responsibilities. This finding aligns with the constructs of self-efficacy and cues

to action, where faith and family act as the main motivators to drive behavioral change (Abrahamowicz et al., 2023).

Research by Njeru et al. (2020) demonstrates that Somali immigrants are influenced by their close social networks and communities when making decisions about their health or disease management. The current study found evidence to support these findings, as religious responsibilities and family were considered the main motivators for change. The present study contributes to the existing literature by showing that these motivators can act as a form of empowerment even in cases of limited health literacy.

Based on these findings, it is possible that future interventions will be more successful if they integrate the social and spiritual context into practice. Stormacq et al. (2020) argue that health interventions are typically more effective when they are community-based and culturally appropriate. If the key values of the Somali immigrants are successfully integrated into health literacy interventions, they have a greater possibility of being successful in the long term. This study extends past literature, such as Njeru et al. (2020) and Abrahamowicz et al. (2023), by highlighting how faith and family obligations not only serve as motivators but also function as culturally specific cues to action that can support limited formal health literacy. By integrating these findings with the health belief model, the research offers a framework for developing community-based, culturally aligned interventions that move beyond traditional approaches to health education.

Limitations of the Study

The current study has made significant contributions to understanding how Somali immigrant women in the United States perceive and manage hypertension in the context of HL. Despite these contributions, several limitations should be addressed. Identifying and reflecting on these limitations helps contextualize the current findings and evaluate their reliability and transferability.

Sample Size and Characteristics

The first limitation relates to the small sample size used in the current study. There was a noticeable reluctance from immigrants to respond to the study invitation or sign up for an interview, which led to the decision to summarize data from the five participants. Although the primary goal of qualitative research is not statistical generalizability, the sample size of five participants may have limited the range of perspectives represented in this research. The current sample of five participants yielded recurring themes; however, it is not possible to be certain that data saturation was fully achieved, as additional participants might have contributed new perspectives. A larger sample could have provided broader insights into health literacy, barriers, and experiences across diverse contexts.

The current sample focused solely on adult Somali immigrant women living in the United States; as a result, it provided no direct male perspectives. The perspectives of men about the influence of faith, family, and other intergenerational dynamics were beyond the scope of this study, limiting its ability to explore the impact of collective or

family-based decision-making on health matters, which are common in collectivist societies such as Somalis (Putman & Noor, 1993). Although these male perspectives went beyond the scope of the current study, it is worth noting that their exclusion may have potentially limited the broader understanding of how hypertension and health literacy are managed within Somali households.

Language Barriers

Another significant limitation stems from the language barrier. All interviews were conducted in English, and all participants possessed a good level of conversational English. Nonetheless, it should be acknowledged that language barriers may still have influenced the depth of the data collected. In some instances, participants may have experienced difficulties in fully articulating their thoughts, which they would have otherwise been able to convey in their native language. Though Somali immigrants were interviewed, not interviewing them in the Somali language may have constrained some of the responses, leading to a potential loss of cultural richness in the data analysis.

Previous research has noted that even immigrants who are fully bilingual may still experience difficulties in accurately expressing themselves in English (Murphy et al., 2019). I attempted to overcome this barrier by allowing the participants an opportunity to expand upon their responses, but some elements may have still been lost in translation. Likewise, cultural aspects of language (such as metaphors and idioms) may not have been accurately represented when translated into English, potentially limiting the interpretation of the findings.

Context-Specific Findings

The current findings are transferable only to specific contexts, which limits their generalizability. The study was based on the experiences of Somali immigrant women living in the United States, which may differ significantly from the experiences of the same population living in more remote locations in the United States. The experiences of Somali immigrant women are largely dependent on access to healthcare and community resources, which can vary by location. Likewise, the significant variability in state-level healthcare policies across the country impacts the existing community and social services.

As the study focused exclusively on the participants' experiences in managing hypertension, the findings cannot be transferable to other conditions, such as mental health, diabetes, or cardiovascular disease. The experiences of the participants in this study were based solely on their understanding and management of HTN, which means that the findings cannot be generalized beyond this condition. It is important to note this limitation, as Somali immigrant women may experience other health-related issues that continue to remain underexplored.

Social Desirability Bias

This study relied entirely on self-reported data collected through semi-structured interviews. Using this type of data collection introduces the risk of social desirability bias, which is characterized by participants presenting themselves in a more favorable light than reality. For example, some of the participants may have overstated their

adherence to medication or lifestyle changes, when their views on medication may be inconsistent with the medical recommendations.

This is a common issue among immigrant populations, who are at higher risk of feeling pressure to adapt to Western expectations or avoid judgment from others (Coughlin et al., 2020). Some of the participants in the current study may have provided answers that they deemed to be more desirable to my expectations. Although I attempted to address this limitation by offering the participants an opportunity to answer open-ended questions, the risk of bias cannot be eliminated and should therefore be noted.

Recommendations

The limitations identified above provide direction for future research and practice. These recommendations can help improve overall health literacy and hypertension management among Somali immigrant women in the United States. The following recommendations are informed by the design and context of the study.

Increased Sample Representation

Future researchers can improve the representativeness of the study by increasing and diversifying the sample. Increasing the number of participants and their characteristics can enhance the depth of the experiences reported by the participants. Future researchers could achieve this goal by recruiting participants based in different regions across the United States, including both rural and urban settings. Similarly, future researchers could account for the different socioeconomic backgrounds of the participants. Broader sampling would improve the transferability of the findings and

capture a more comprehensive understanding of health literacy among Somali immigrant households.

Adopting a Different Methodological Approach

Managing hypertension is a complex and long-term process that is difficult to capture in one study. Future researchers could address this issue by adopting a longitudinal design that captures the long-term changes in health literacy, treatment adherence, and health outcomes of the participants. Alternatively, future researchers could adopt a mixed-methods approach that combines interviews with quantitative HL assessments to triangulate the data and explore perceived and actual health literacy. Adopting these methodological approaches could enhance the credibility of the findings and reduce the risk of social desirability bias.

Incorporating Interpretational and Cultural Support

Future researchers could consider recruiting a native-speaking Somali interpreter to act as a linguistic and cultural liaison during interviews and focus groups, thus ensuring that messages are not lost in translation. As discussed before, conducting the study in English meant that some of the cultural messages, expressions, metaphors, and other meanings were potentially lost in translation. Incorporating an interpreter would allow researchers to capture more culturally insightful and deeper insights, thus increasing the authenticity of the findings. Murphy et al. (2019) also support this approach, arguing that limited English proficiency is a factor commonly associated with low health literacy among immigrant populations.

Including Men and Multigenerational Sample

Another recommendation for future researchers is to expand the study to include men and multigenerational household members. Including these participants would allow future researchers to understand how family dynamics influence the ways in which HTN is understood and managed among Somali households. Somalia is known to be a collectivist community, where various beliefs and behaviors are shared among household and community members (Murphy et al., 2019). Future researchers could capture these dynamics by including these participants, thus addressing the gender and generational gaps in HL and the related interventions.

Exploring Other Conditions

Finally, it is important to explore the understanding and management of other prevalent diseases affecting Somali immigrant populations. Diabetes, mental health disorders, and cardiovascular disease are common illnesses within immigrant populations, yet little is known about how Somali immigrants understand and manage these diseases within their communities. Future researchers could also conduct comparative studies examining the similarities and differences in health literacy across various diseases, thus revealing potential interventions that may be effective across a broader range of health problems.

Implications

This study has important implications at multiple levels, including positive social change, methodology, and theory. The following sections explore each of these implications and outline recommendations for practice.

Positive Social Change

Positive social change can be promoted at multiple levels: individual, familial, community, and systemic. The current study has contributed to promoting positive social change by providing a more culturally informed understanding of the health literacy and management of hypertension among Somali immigrant women. By focusing on Somali immigrant women, this research has broadened the understanding of chronic disease management among immigrant populations in the United States.

The findings from this study highlight the need for interventions that empower Somali immigrant women to make more informed health decisions. This empowerment could be achieved through early illness recognition, healthier lifestyle choices, and better medication adherence. Introducing such interventions would target individuals with limited HL and help them understand their needs, thus leading to overall improvements in health outcomes.

At the family level, the findings from this study emphasize the important role played by Somali women in decision-making and caretaking within their households. It is crucial to equip Somali immigrant women with the necessary knowledge and resources to allow them to make decisions that benefit the health and well-being of their family

members. This knowledge could lead to improved household health literacy, which can continue to be passed on through generations.

At the community level, the study's findings stress the importance of faith, community networks, and culture within health-related education. This finding suggests that the most effective interventions are those that fully incorporate those relationships. Initiatives that are delivered by trusted community figures or faith institutions can help enhance information-sharing and trust in the medical system, thus increasing engagement in hypertension management.

Finally, at the policy level, this study has stressed the significance of several barriers that prevent Somali immigrant women from effectively understanding and managing their disease. Such barriers include language, cultural misalignment, and poor health communication. Understanding these barriers can help better inform public health policy and reduce the HL disparities among immigrant populations.

Methodological Implications

This study highlighted the effectiveness of qualitative descriptive approaches in exploring the understanding and self-management of chronic diseases among culturally distinct populations. The use of semi-structured interviews allowed me to capture the emotions, cultural contexts, and beliefs of Somali immigrant women regarding hypertension. It was essential to maintain reflexivity and positionality in order to ensure full transparency of the data and minimize interpretive bias. The study also demonstrated that qualitative methods are highly effective in exploring lived experiences and

contextual factors, which provide insights into the data that may be overlooked by quantitative methodologies.

Theoretical Implications

The findings from this study build upon the existing health belief model. The data revealed some of the ways in which immigrant populations navigate structural and cultural barriers affecting their HL. Each of the six constructs presented by the HBM was observed in the participants' answers. The current study highlighted that the constructs within the HBM need to be interpreted across a broader cultural context, meaning that some of the constructs may be rooted in family or religious motivations rather than social factors. By including these dimensions, health behavior models can be strengthened to reflect the importance of various intersectional influences, such as religion, gender, and acculturation.

Empirical Implications

This study has contributed to the limited scholarly research on Somali immigrant women and their lived experiences with HL and chronic disease management. Several other studies have explored general health disparities among African immigrant populations, but only a few have focused on the direct impact of health literacy on hypertension self-management among Somali immigrant women. The current study has emphasized that the health literacy of Somali immigrant women is primarily shaped by social role expectations and interpersonal dynamics.

Conclusion

This study has explored the role of health literacy in shaping the understanding and self-management of hypertension among Somali immigrant women in the United States. The current study has expanded upon the existing health belief model by outlining some of the multiple ways in which barriers, interpersonal dynamics, and cultural beliefs shape the health literacy and behaviors of Somali immigrant women. Although participants generally understood the seriousness of hypertension, their behaviors were primarily guided by cultural narratives and associations. Several significant barriers emerged, alongside strong motivation, thus demonstrating the complexity of health behaviors among Somali immigrant women. This research has made an important contribution to the existing literature on chronic disease management, health literacy, and health behavior among immigrant populations. By incorporating the voices of Somali immigrant women, this study has assisted in amplifying the experiences of a population that has been largely excluded from mainstream health research. The findings of this research provide insights that can support the expansion of HBM and provide methodological guidance for future researchers and practitioners.

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Appendix A: Interview Guide

My name is Tawanna Morris and thank you for meeting with me today. I am a Walden University Student in Public Health specializing in Community Health. I am interested in your individual experiences as a Somali immigrant woman with living with hypertension. Everything you say is invaluable and I want to emphasize there are no right or wrong answers. I will conduct the interview in English unless there are concerns.

Interview Format

The interview will last 45-60 minutes. I will audio record the session, and all your responses will be confidential. If you would like to end the interview at any time, you can do so, and you do not have to discuss anything that makes you uncomfortable.

1. How long have you lived in the United States?
2. Are you married?
3. Do you have children?
4. What is your occupation?
5. When were you first diagnosed with hypertension?
6. What do you think hypertension is?
7. What do you think causes hypertension?
8. How do you think it affects your health?
9. Where do you get most of your information about hypertension?
 - a. How do you receive this information? (verbal, videos, on-line, etc.).
10. What do you think about the information on hypertension that is available to you?

11. How do you think the information you get affects how you understand your condition?
12. When speaking with your healthcare provider, how well do you understand the information they give you about hypertension?
13. What is your current management plan for your hypertension? (i.e. medication, regular doctor's visits, diet changes, etc.).
14. What part of hypertension do you find most difficult?
15. What factors in your life have an impact on how you manage your hypertension?
16. What information has your healthcare provider given you about how to manage your hypertension?

Appendix B: Consent Form

CONSENT FORM

You are invited to take part in a research study about Somali immigrant women with hypertension. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study seeks 15-20 volunteers who are:

- Speak English
- Should be at least 18 years old
- Diagnosed with Hypertension
- Self-identify as Somalian
- Reside in the United States
- Have legal immigrant status

This study is being conducted by a researcher named Tawanna Morris, who is a Doctoral student at Walden University.

Study Purpose:

The purpose of this study is to explore health literacy of Somali immigrant women with hypertension.

Procedures:

This study will involve you completing the following steps:

- Complete a confidential audio recorded interview (45-60 minutes per participant).

Here are the interview questions:

1. How long have you lived in the United States?
2. Are you married?
3. Do you have children?
4. What is your occupation?
5. When were you first diagnosed with hypertension?

6. What do you think hypertension is?
7. What do you think causes hypertension?
8. How do you think it affects your health?
9. Where do you get most of your information about hypertension?
 - a. How do you receive this information? (verbal, videos, on-line, etc.).
10. What do you think about the information on hypertension that is available to you?
11. How do you think the information you get affects how you understand your condition?
12. When speaking with your healthcare provider, how well do you understand the information they give you about hypertension?
13. What is your current management plan for your hypertension? (i.e. medication, regular doctor's visits, diet changes, etc.).
14. What part of hypertension do you find most difficult?
15. What factors in your life have an impact on how you manage your hypertension?

Voluntary Nature of the Study:

Research should only be done with those who freely volunteer. So, everyone involved will respect your decision to join or not. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:

Being in this study could involve some risk of the minor discomforts that can be encountered in daily life such as sharing sensitive information. With the protections in place, this study would pose minimal risk to your wellbeing.

This study offers no direct benefits to individual volunteers. The aim of this study is to benefit society by better understanding the Somali women population and how they understand and care for their hypertension. Once the analysis is complete, the researcher

will share the overall results by emailing you a summary.

Payment:

\$75 Visa Gift card

Privacy:

The researcher is required to protect your privacy. Your identity will be kept confidential, within the limits of the law. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the dataset would contain no identifiers so this would not involve another round of obtaining informed consent. Data will be kept secure by storing all information in a password protected laptop that will be kept locked in an office file cabinet. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You can ask questions of the researcher by cell phone 312-465-9295 or email smithtawanna98@yahoo.com or tawanna.morris@walden.edu If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 612-312-1210. Walden University's approval number for this study is 11-11-24-0730171. It expires on November 10, 2025.

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Obtaining Your Consent

If you feel you understand the study and wish to volunteer, please indicate your consent by replying to the email with the words I Consent.