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The Contribution of Income Levels to Access to Healthcare Services by The Elderly in Bagamoyo District, Pwani Region, Tanzania

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ABSTRACT:

Purpose of the Study: This study aimed to evaluate the contribution of income levels to access to healthcare services by the elderly in the Bagamoyo District, Pwani Region.

Research Methodology: The study employed a mixed-method research design under a pragmatic research philosophy. A total of 237 elderly people who were the primary respondents participated in the study after being selected using a multistage, random sampling method. Purposive sampling techniques were used for selecting the key informants. Data was collected using structured questionnaires, key informant interviews, and focus group discussions. Descriptive and inferential statistical analyses were performed using SPSS software.

Findings of the Study: The findings revealed a significant positive relationship between income levels and access to healthcare services among the elderly in the Bagamoyo district. Elderly individuals with higher income levels reported better access to healthcare services compared to those with lower income levels. The study also highlighted the inadequate coverage of health social security provisions and the challenges faced by elderly individuals in rural areas.

Conclusion: The study concludes that income levels play a crucial role in determining access to healthcare services for the elderly in the Bagamoyo district. Addressing the financial barriers and socio-economic challenges faced by the elderly is essential for improving their access to healthcare.

Recommendation: The study recommends the development of comprehensive social protection measures, targeted financial assistance programs, and context-specific interventions to address the healthcare needs of the elderly, particularly those in rural areas with limited income.

KEYWORDS: Income levels, healthcare access, elderly, Tanzania, Bagamoyo district

INTRODUCTION

The impact of income levels on access to healthcare services for the elderly is a critical aspect of this study, as financial constraints can significantly hinder their ability to receive necessary care. Tyagi and Paltasingh (2017) underscore the effect of social and economic factors in determining healthcare access for the elderly, highlighting the influence of income levels alongside other factors such as age, gender dynamics, educational level, and working status. Their research provides a comparative framework for understanding similar dynamics in Tanzania, particularly in the Bagamoyo District, where socio-economic factors likely play a significant role in shaping healthcare access for the elderly population. The study's findings emphasize the importance of considering income levels when designing and implementing healthcare policies and interventions for the elderly, as financial barriers can greatly impede their ability to access essential medical services. Addressing the unique challenges faced by elderly individuals with limited financial resources is crucial for creating a more equitable and inclusive healthcare system that meets the needs of all elderly individuals, regardless of their socio-economic status.

Tanzania's elderly population faces significant socio-economic challenges that impact their access to healthcare services. Morisset and Wane (2012) reveal that, as of 2006, only one percent of senior citizens in Tanzania were covered by public social security facilities, and by 2011, a mere eleven percent were exempted from healthcare costs. This leaves the majority of the elderly population reliant on informal support from their families, which can be insufficient in meeting their healthcare needs. Financial barriers further exacerbate the plight of elderly individuals, hindering their access to essential healthcare services (URT, 2017). The absence of robust family support systems compounds the challenges faced by elderly Tanzanians, leaving many without adequate care and support as they age. These findings highlight the urgent need for comprehensive social protection measures that extend beyond

traditional family support systems and ensure that elderly individuals have access to the healthcare services they require, regardless of their income levels.

The inadequate coverage of health social security provisions in Tanzania poses a significant challenge for elderly individuals seeking access to healthcare services. Despite the existence of policy frameworks aimed at providing healthcare support to the elderly, the implementation of these provisions remains suboptimal (Frumence, Nyamhanga & Amani, 2017). This gap between policy objectives and tangible improvements in elderly healthcare outcomes on the ground is particularly evident in rural areas, such as the Bagamoyo District, where many retirees reside after their active working lives. Rural healthcare facilities often lack dedicated spaces and specialized medical personnel for elderly consultation, along with insufficient supplies of drugs and medical equipment, further compounding the challenges faced by elderly patients seeking care. The study's findings underscore the need for a comprehensive approach to addressing the healthcare needs of the elderly population, one that takes into account the specific challenges faced by those living in rural areas.

The significance of income levels in determining access to healthcare services for the elderly in Tanzania cannot be overstated. As highlighted by the United Nations' World Population Prospectus of 2008, the proliferation of the elderly population in countries like Kenya has led to a corresponding increase in the demand for healthcare services tailored to meet the unique needs of this demographic group (United Nations, 2009). However, current research often overlooks the unique challenges faced by elderly populations in rural versus urban settings, the effectiveness of existing policies aimed at elderly care, and the potential for community-based health initiatives to bridge these gaps. The study's findings emphasize the need for a more nuanced understanding of the socio-economic determinants of healthcare access for the elderly, one that takes into account the diverse experiences and challenges faced by elderly individuals across different settings.

STATEMENT OF THE PROBLEM

Among the most pressing barriers to healthcare access for Tanzania's elderly population is the lack of social security coverage. With only 4% of older individuals benefiting from social security schemes, primarily those who were previously employed in the formal sector, Tanzania's elderly population lacks financial protection, which is crucial for accessing healthcare services (HelpAge International, 2018; Mpeta, Mdendemi, Mkelenga, & Macha, 2023). Financial insecurity is particularly acute in rural regions, where poverty levels are higher and out-of-pocket expenses for healthcare can be prohibitive. Moreover, even those elderly individuals who manage to secure healthcare access often face critical shortages of essential medicines in public health facilities, further limiting the quality of care they receive (Abdu, 2018; Tungu, Amani, Hurtig, Dennis Kiwara, Mwangu, Lindholm, & San Sebastiån, 2020).

Existing literature has investigated various determinants of healthcare access for the elderly, focusing largely on factors like geographic accessibility and quality of care (Abdu, 2018). However, significant gaps remain in understanding the broader socio-cultural and economic factors influencing access. Although studies have highlighted the potential benefits of health insurance, there is limited research on how income disparities impact the ability of elderly individuals to seek and receive medical care (Amani, Hurtig, Frumence, Kiwara, Goicolea, & San Sebastiån, 2021; Mpeta et al., 2023). To address these gaps, this study aimed to evaluate the determinants of healthcare access for elderly individuals in Bagamoyo District, focusing specifically on the influence of income levels.

RESEARCH OBJECTIVES

To evaluate the contribution of income levels to access to healthcare services by the elderly in Bagamoyo District, Pwani Region, Tanzania.

RESEARCH HYPOTHESIS

Hypothesis (H): The Contribution of Income Levels to Access to Healthcare Services

The hypothesis posited that income levels significantly has contribution access to healthcare services for the elderly. Given that income influences the ability to afford healthcare services, this hypothesis examined the direct and indirect financial barriers faced by elderly individuals.

Null Hypothesis (H_o): Income levels do not have significant contribution to access to healthcare services by the elderly.

Alternative Hypothesis (H_a): Income levels have significant contribution to access to healthcare services for the elderly.

The hypotheses decision rule was evaluating whether the regression results support the hypothesis. The indicator was if the regression coefficients of the variables show any effects on access to healthcare services by the elderly in Bagamoyo district.

THEORITICAL REVIEW

This study is anchored in the Social Determinants of Health (SDH) Theory, originally propounded by Dahlgren and Whitehead (1991) and later developed by Tarlov (1996). The theory views health as a phenomenon determined by a range of social factors, including peace, social justice, food, income, balanced ecology, sustainable resources, and equity. According to Tarlov (1996),

inequalities in the quality of housing, education, social acceptance, employment, and income are closely linked to disease, thereby influencing health outcomes. The SDH theory embeds three interrelated concepts addressing the root causes of health inequality: the psychological/behavioral aspect suggesting that psychological stress leads to unhealthy conditions; the social causation theory positing that individuals with higher socio-economic status maintain better health; and the life-course perspective explaining how the accumulation of social, economic, and environmental exposures throughout life influences health outcomes (World Health Organization, 2010).

In the context of healthcare access for the elderly in Bagamoyo District, the SDH theory offers a comprehensive framework for analyzing the various social and economic factors that influence their ability to receive necessary care. The theory's emphasis on income, education, and social status aligns closely with the conditions faced by elderly individuals in rural Tanzania, many of whom experience financial insecurity and social isolation. These determinants shape whether elderly individuals can afford healthcare, understand their medical needs, and access timely treatment.

The second concept of the SDH theory, which posits that individuals with higher socio-economic status are more likely to maintain good health, is particularly relevant to the research objective of this study, which examined the effects of income levels on access to healthcare services by the elderly in Bagamoyo District. Elderly individuals with higher income levels are better positioned to afford healthcare expenditures, including the cost of medical treatment, transportation to healthcare facilities, and essential medications. In contrast, those with lower income levels face significant barriers to accessing even basic healthcare services (Braveman et al., 2011).

Moreover, the SDH theory's life-course perspective adds depth to the analysis by considering how a lifetime of exposure to poverty, low-quality education, and insecure employment accumulates to create profound health disparities in old age. Elderly individuals in Bagamoyo who have experienced these lifelong disadvantages are at a much higher risk of developing chronic illnesses and having limited access to healthcare resources in their later years (World Health Organization, 2018).

EMPIRICAL REVIEW

Income levels significantly influence elderly individuals' access to healthcare services in developing countries like Tanzania. Studies highlight that higher income correlates with better healthcare access and outcomes among elderly populations (Mariana, 2017). Conversely, lower income often leads to barriers in accessing essential medical care, including medications and treatments, which can exacerbate health conditions (Braveman, Egerter, and Williams, 2011). However, Mariana's study provides a broad overview but lacks specific analysis on how income levels affect healthcare access at the individual level in rural Tanzanian settings. Research by Wilkinson and Marmot (2003) underscores the social determinants of health, noting that economic factors play a pivotal role in shaping health outcomes. They argue that income inequality leads to disparities in healthcare access, with low-income individuals often facing more significant health challenges due to limited access to medical services and preventive care.

In Tanzania, despite government efforts such as special healthcare packages under the National Social Security Fund (NSSF) and National Health Insurance Fund (NHIF), income-related challenges persist. These include financial constraints that limit elderly individuals' ability to afford healthcare services, even with subsidized options available (URT, 2017). The shortage of geriatric specialists and inadequate healthcare facilities further exacerbate these challenges, particularly in rural areas where income disparities are more pronounced. Future studies should evaluate the effectiveness of these programs and identify strategies to overcome these challenges, ensuring that policies translate into improved health outcomes for the elderly.

Previous research often overlooked the specific impact of income on healthcare access for elderly populations in developing countries. While studies like Noblin and Ashley (2017) emphasized the role of health literacy in healthcare behaviours, they did not fully explore how income levels interact with literacy and other social determinants to influence healthcare access in low-resource settings. Similarly, research by van der Hoeven, Kruger and Greeff (2012) highlighted that socioeconomic status, including income levels, significantly impacts healthcare utilization patterns, but did not delve into the specific mechanisms by which income influences access to care.

This study aimed to fill this gap by examining how income levels directly affect elderly individuals' access to healthcare services in Bagamoyo District, Pwani Region, Tanzania. By focusing on income as a determinant of healthcare access, this research contributes to a deeper understanding of the barriers faced by elderly populations with limited financial resources. It seeks to identify specific challenges related to income that hinder healthcare access and propose targeted interventions to improve equity in healthcare delivery. By addressing these gaps, this study aims to inform policy reforms that enhance healthcare affordability and accessibility for elderly populations in similar developing country contexts. It underscores the critical need for sustainable healthcare financing models and improved infrastructure to ensure that income disparities do not undermine elderly individuals' right to adequate healthcare. Moreover, it builds on the insights from studies which advocate for health interventions that are sensitive to the socioeconomic contexts of the populations they serve (Gwatkin, Rutstein, Johnson, Suliman, Wagstaff, and Amouzou, (2000).

In general, the existing literature provides a foundation for understanding the relationship between income and healthcare access. However, there remains a need for focused research on the specific challenges faced by elderly populations in low-income settings,

particularly in rural areas of developing countries. This study's findings are expected to contribute to a more nuanced understanding of these issues, thereby supporting the development of more effective and equitable healthcare policies.

CONCEPTUAL FRAMEWORK

The conceptual framework serves as a visual representation of the intricate relationships between income levels and healthcare access for elderly individuals in Bagamoyo District. The following diagram illustrates the interconnected factors that shape the elderly population's ability to access healthcare services.

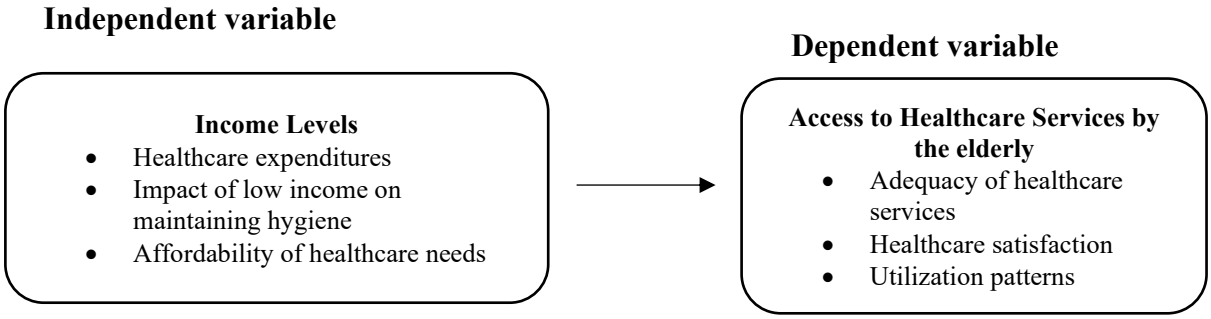

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

The study employed a mixed-method research design under a pragmatic research philosophy, targeting elderly individuals aged 60 years and above in Bagamoyo district. A sample size of 310 elderly respondents was determined guided by Krejcie and Morgan's (1970) statistical formula and sample size table, suitable for a population just under 1,600 individuals. This relative sample size was dispersed across the selected health facilities in the district according to each facility's monthly elderly attendance. However, only 237 elderlies who were primary respondents participated in the study. The study utilized multistage sampling to select 14 health facilities across 10 wards, followed by random sampling for elderly respondents and purposive sampling for 15 key informants and 11 focus group discussion participants. Data were collected through structured questionnaires, key informant interviews, and focus group discussions. After obtaining necessary ethical approvals, data analysis combined descriptive and inferential statistics using SPSS software, while qualitative data underwent thematic analysis to examine the relationship between income levels and healthcare access among the elderly.

RESULTS AND DISCUSSIONS

Effects of Income Levels on the Access to Healthcare Services by the Elderly

This section examines how income levels affect healthcare access among elderly individuals in Bagamoyo district, focusing particularly on their sources of income, employment status, and financial sufficiency for healthcare needs.

Table 1: Sources of Income and Income Sufficiency Among Elderly Respondents

Income Characteristics	Frequency	Percent (%)
Source of Income		
Children	105	44.7
Agricultural/business	42	17.9
Pension	29	12.3
Investments	17	7.2
Well-wishers	6	2.6
None	36	15.3
Income Sufficiency for Healthcare		
Very sufficient	4	1.7
Sufficient	38	16.3
Uncertain	3	1.3
Not sufficient	155	66.5
Not sufficient at all	33	14.2

The findings reveal complex patterns in income sources and their adequacy for healthcare access among elderly residents in Bagamoyo District. A significant proportion (44.7%) rely on their children for financial support, highlighting the crucial role of intergenerational support in ensuring elderly healthcare access. As one respondent noted, "My children help me with money, but sometimes they don't have enough themselves. I feel guilty asking them for help, but I have no choice when I'm sick." This dependence on children often creates emotional complexities and can lead to delayed healthcare seeking when family resources are strained. Another 17.9% maintain some financial independence through agricultural or business activities, with one respondent sharing, "I sell produce from my farm. When I am not sick, I save some money for a time when I may need treatment." However, a concerning 15.3% report having no income source, forcing them to rely heavily on community health workers and informal support systems.

Regarding income sufficiency, an overwhelming 80.7% of respondents report that their income is either not sufficient or not sufficient at all to meet their healthcare needs, revealing significant financial barriers to healthcare access. These findings align with existing literature on income's role in healthcare access in developing countries. Studies by Mariana (2017) and Braveman et al. (2011) emphasize how financial constraints significantly impact healthcare utilization, particularly among elderly populations. The findings also support research by Mwaikambo (2015) and Gachuhi (2018) highlighting the critical role of family support in elderly healthcare access in Sub-Saharan Africa. However, this study extends previous findings by revealing the complex interplay between formal and informal financial support systems in Bagamoyo, where traditional family support structures intersect with modern healthcare needs. The results suggest that successful healthcare interventions must consider both strengthening family support networks and developing formal financial safety nets to ensure sustainable healthcare access for the elderly.

REGRESSION ANALYSIS AND HYPOTHESIS TESTING RESULTS

To examine the effects of income levels on healthcare access among elderly individuals in Bagamoyo district, a regression analysis was conducted using proxy variables that captured various dimensions of economic status and financial constraints. These included an income index measuring healthcare expenditure capacity, perceived income sufficiency, and indicators of financial barriers to healthcare access.

Table 2: Linear Regression Results of Income Levels and Healthcare Access

Variable	Coefficient	Std. Error	t-value	p-value
Income Index	0.025	0.013	1.9	0.059
Income Sufficiency	0.685	0.355	1.93	0.055
Financial Barriers	-1.132	0.23	-4.91	0.000
Constant	14.112	1.199	11.77	0.000
R-squared: 0.167	N: 234	F-test: 15.387	Prob > F: 0.000	

The analysis tested the hypothesis that income levels significantly influence access to healthcare services among the elderly (H_0: Income levels do not have significant effects on access to healthcare services by the elderly in Bagamoyo district; H_1: Income levels have significant effects on access to healthcare services by the elderly in Bagamoyo district). The results reveal significant relationships between income levels and healthcare access. Higher income levels are associated with better healthcare access, as shown by the positive coefficient (0.025, $p=0.059$) for the income index and perceived income sufficiency (0.685, $p=0.055$). However, financial barriers significantly impede healthcare access, demonstrated by the strong negative coefficient (-1.132, $p<0.01$). The model explains 16.7% of the variance in healthcare access ($R^2=0.167$), with the overall model being statistically significant ($F=15.387$, $p<0.000$). Based on these findings, we reject the null hypothesis and conclude that income levels have significant effect on access to healthcare services by the elderly in Bagamoyo district. Qualitative data supports these findings, as evidenced by one key informant's observation: "It becomes challenging, and some elderly individuals fail to buy alternative medicines when the prescribed drugs are unavailable" (R6, November 2023).

These findings align with existing literature on socioeconomic determinants of healthcare access. Studies by Van Doorslaer et al. (2006) and McKinnon et al. (2017) similarly emphasize income's crucial role in healthcare access, particularly among vulnerable populations. The strong negative impact of financial barriers supports research by Schoeni et al. (2007) and Seligman et al. (2010) highlighting how economic hardships affect healthcare utilization. This conclusion aligns with the Social Determinants of Health Theory and research by Braveman et al. (2011) and Mariana (2017), emphasizing the need for targeted financial support mechanisms to improve elderly healthcare access in resource-constrained settings.

CONCLUSIONS

Based on the comprehensive analysis of income's contribution to healthcare access among elderly individuals in Bagamoyo district, several key conclusions emerge. The study found a significant positive relationship between income levels and healthcare access, with regression analysis revealing that increased income corresponds to better healthcare access ($\beta = 0.025$, $p = 0.059$). However, financial barriers significantly impede healthcare access ($\beta = -1.132$, $p < 0.01$), with 80.7% of respondents reporting insufficient income for healthcare needs. The findings revealed a heavy reliance on family support, with 44.7% of elderly individuals depending on their children for financial assistance, highlighting the crucial role of intergenerational support in healthcare access. Yet, this dependence often creates emotional and practical challenges when families face financial constraints. The study's results emphasize the complex interplay between formal and informal financial support systems, suggesting that while income significantly influences healthcare access, the relationship is mediated by broader social and economic factors.

RECOMMENDATIONS

The study recommends a comprehensive approach to address the financial barriers affecting elderly healthcare access in Bagamoyo district. Given that income levels significantly influence healthcare access and of elderly individuals report insufficient income for healthcare needs, policymakers should develop targeted financial support mechanisms, including expanded health insurance coverage and transportation subsidies. These interventions should be complemented by strengthening community-based support systems, particularly for elderly individuals lacking formal insurance coverage. Local governments and NGOs should establish financial aid programs that provide immediate assistance for healthcare needs while reducing the burden on family support networks.

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