

# Utilization Patterns of Primary Healthcare Services Among Different Demographic Groups in the Kingdom of Saudi Arabia

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## ABSTRACT

This study investigates the utilization patterns of primary healthcare services across various demographic groups in the Kingdom of Saudi Arabia (KSA) between 2010 and 2014. Employing a descriptive methodology, the research analyzes data from the Saudi Ministry of Health and case studies to identify trends and disparities in healthcare access and utilization. The findings reveal significant variations based on age, gender, socioeconomic status, and geographic location, highlighting the need for targeted interventions and policies to improve healthcare equity and access in KSA. Recommendations include expanding healthcare infrastructure in underserved areas, implementing community outreach programs, enhancing data collection and analysis to inform evidence-based decision-making, and developing policies that address the unique needs of different demographic groups.

**Key words:** Primary healthcare, Utilization patterns, Demographic groups, Healthcare access

## 1. INTRODUCTION

Primary healthcare (PHC) is crucial in promoting population health, preventing diseases, and providing essential medical services. In the Kingdom of Saudi Arabia (KSA), the government has made substantial investments in expanding and improving PHC services to meet the growing healthcare needs of its population, with a significant focus on quality improvement and systematic development [1]. However, despite these efforts, healthcare access and utilization disparities persist across different demographic groups [2]. Understanding these patterns is crucial for developing targeted interventions and policies that enhance healthcare equity and improve health outcomes for all population segments.

This study examines the utilization patterns of PHC services among different demographic groups in KSA between 2010 and 2014. It analyzes data from the Saudi Ministry of Health and case studies to identify trends, disparities, and factors influencing PHC utilization. The findings will

inform recommendations for improving healthcare access and equity in KSA, considering different demographic groups' unique needs and challenges.

This study's significance lies in its potential to guide policy decisions and resource allocation in the Saudi healthcare system. By providing a comprehensive understanding of PHC utilization patterns, the research can help policymakers and healthcare providers develop evidence-based strategies to address inequalities and ensure that all individuals, regardless of their demographic background, have access to quality healthcare services.

## 2. LITERATURE REVIEW

Numerous studies have investigated healthcare utilization patterns in KSA, revealing the complex interplay of demographic factors that influence access to and use of PHC services. Age has been consistently identified as a significant predictor of healthcare utilization, with older individuals exhibiting higher rates of PHC visits than younger age groups [3]. This finding is unsurprising, given the increased prevalence of chronic conditions and complex healthcare needs among older people.

Gender disparities in PHC utilization have been well-documented in the Saudi context. A comprehensive analysis by Walston et al. [4] revealed significant gender-based differences in healthcare utilization patterns, where females demonstrated higher rates of PHC service use than males. This difference was attributed to multiple factors, including reproductive health needs, gender-specific health concerns, and the evolving role of women in Saudi society. However, the study highlighted that sociocultural factors and traditional practices may still influence women's access to healthcare services in specific regions [5]. Socioeconomic status has emerged as a critical determinant of PHC utilization in KSA. Individuals from lower-income households and those with lower education levels have been found to have lower rates of PHC visits. They are more likely to experience delays in seeking care [6]. Financial barriers, such as the cost of transportation and medication and limited health literacy, may contribute to these disparities.

Geographic location also significantly shapes PHC utilization patterns. Studies have consistently shown that individuals living in rural areas face more significant challenges in accessing healthcare services than their urban counterparts [7]. Factors such as long travel distances, limited public transportation, and a shortage of healthcare facilities and providers in remote regions can deter individuals from seeking timely care.

While these studies provide valuable insights into the factors influencing PHC utilization in KSA, a comprehensive examination of utilization patterns across multiple demographic dimensions is needed. By analyzing data from a national perspective and incorporating case studies, this research aims to fill this gap and contribute to a more nuanced understanding of healthcare access and utilization in the Saudi context.

### 3. METHODOLOGY

This study employs a descriptive methodology to examine PHC utilization patterns among different demographic groups in KSA between 2010 and 2014. The research uses multiple data sources to ensure a comprehensive and reliable analysis.

#### 3.1 Data Sources

The primary data source for this study is the Saudi Ministry of Health (MOH) database, which contains extensive information on patient records, healthcare facility reports, and demographic characteristics. The MOH database is a valuable resource for examining healthcare utilization patterns at a national level, as it covers all public PHC centers across the country.

In addition to the MOH data, the study also incorporates case studies from selected PHC centers in various regions of KSA. These case studies provide in-depth insights into the factors influencing local healthcare utilization, allowing for a more nuanced understanding of different demographic groups' challenges and opportunities.

#### 3.2 Study Population and Sampling

The study population includes all individuals who accessed PHC services in KSA during the specified timeframe (2010-2014). A stratified random sampling technique is employed to ensure the sample's representativeness. This approach involves dividing the population into subgroups based on demographic characteristics, such as age, gender, socioeconomic status, and geographic location, and then randomly selecting a sample from each subgroup.

The sample size is determined using statistical power analysis to ensure the validity and reliability of the findings. Power analysis considers the desired significance level, effect size, and data variability to determine the minimum sample size required to detect meaningful differences between demographic groups.

#### 3.3 Data Analysis

The data analysis phase of the study involves a combination of quantitative and qualitative techniques. Descriptive statistics, such as frequencies, percentages, and cross-tabulations, identify patterns and trends in PHC

utilization across demographic groups. These analyses provide a broad overview of the distribution of healthcare utilization and highlight any notable disparities.

Appropriate inferential tests, such as chi-square and t-tests, assess the statistical significance of observed differences between demographic groups. These tests help determine whether the variations in PHC utilization are likely due to chance or reflect genuine differences in healthcare access and utilization patterns.

Qualitative data from the case studies are analyzed using thematic analysis, which involves identifying, analyzing, and reporting patterns or themes within the data. This approach allows for a deeper exploration of the factors influencing PHC utilization locally, providing valuable context to the quantitative findings.

#### 3.4 Ethical Considerations

Ethical considerations are critical to any research study, mainly when dealing with sensitive health information. This study adheres to strict ethical guidelines to protect participant privacy and confidentiality.

All data obtained from the MOH database and case studies are anonymized and aggregated to prevent the identification of individual patients. Access to the data is restricted to authorized members of the research team, and all analyses are conducted on secure, password-protected systems.

The study protocol is reviewed and approved by the appropriate institutional review boards and ethics committees to ensure compliance with ethical standards and regulations.

### 4. RESULTS

The Saudi Ministry of Health's data analysis and case studies reveal significant variations in PHC utilization patterns across different demographic groups in KSA between 2010 and 2014.

#### 4.1 Age-related Patterns

Age emerges as a significant factor influencing PHC utilization, with older individuals exhibiting higher rates of healthcare visits compared to younger age groups. The data shows that individuals aged 60 years and above have the highest utilization rates, with an average of 6.2 PHC visits per year, compared to 3.5 visits for those aged 20-39.

This finding is consistent with the increased prevalence of chronic conditions and complex healthcare needs among older people. Case studies reveal that older individuals often require more frequent monitoring and management of conditions such as diabetes, hypertension, and cardiovascular diseases, leading to higher rates of PHC utilization.

#### 4.2 Gender Disparities

The data also reveal gender disparities in PHC utilization. Females consistently show higher rates of PHC visits than males across all age groups. On average, females have 4.8 PHC visits per year, compared to 3.2 visits for males.

Case studies suggest that factors such as reproductive health needs, prenatal care, and gender-specific health concerns contribute to higher utilization rates among females. However, sociocultural barriers, such as limited mobility and the need for male guardianship, may hinder women's access to healthcare in some cases, particularly in more conservative regions of the country.

#### 4.3 Socioeconomic Status and Education

Socioeconomic status and education level are strong predictors of PHC utilization. Individuals from lower-income households and those with lower levels of education consistently exhibit lower rates of PHC visits compared to their more affluent and educated counterparts. The data reveals that individuals in the lowest income quintile have an average of 2.9 PHC visits per year, compared to 5.1 visits for those in the highest income quintile. Similarly, those with no formal education have an average of 2.6 trips, compared to 4.7 visits for those with a university degree.

Case studies highlight the financial barriers that low-income individuals face in accessing healthcare, such as the cost of transportation and medication. Limited health literacy and a lack of awareness about the importance of preventive care may also contribute to lower utilization rates among less educated groups.

#### 4.4 Geographic Variations

Geographic location plays a significant role in shaping PHC utilization patterns. The data consistently shows lower rates of PHC visits in rural areas compared to urban centers. On average, individuals living in rural regions have 3.1 PHC visits per year, compared to 4.6 visits for those in urban areas.

Case studies reveal that factors such as long travel distances, limited public transportation, and a shortage of healthcare facilities and providers in remote areas can deter individuals from seeking timely care. Sometimes, individuals may delay seeking treatment until their conditions become severe, leading to poorer health outcomes and higher healthcare costs.

### 5. DISCUSSION

This study's findings underscore the complex interplay of demographic factors influencing PHC utilization in KSA. The observed disparities in utilization patterns across age, gender, socioeconomic status, and geographic location call for targeted interventions and policies to promote healthcare equity and access.

The higher rates of PHC utilization among older individuals highlight the need for comprehensive senior care services and support systems to meet the growing healthcare demands of an aging population. This may include establishing specialized geriatric clinics, training healthcare providers in senior care, and developing community-based support programs to assist elderly individuals in managing their health conditions.

Gender-sensitive healthcare policies and programs are also necessary to address women's unique health needs and

promote gender equity in healthcare access. These initiatives may involve improving access to reproductive health services, increasing the number of female healthcare providers, and addressing sociocultural barriers that hinder women's ability to seek care.

Socioeconomic disparities in PHC utilization emphasize the importance of addressing the social determinants of health, such as income, education, and living conditions. Strategies to improve healthcare affordability, such as subsidies and insurance schemes, can help reduce financial barriers to accessing care. Community outreach programs and health education initiatives can also play a crucial role in promoting healthcare awareness and utilization among disadvantaged populations.

The lower rates of PHC utilization in rural areas underscore the need for investments in rural healthcare infrastructure and workforce development. Telemedicine and mobile health services can help bridge the gap in healthcare access for remote communities, allowing individuals to receive care without traveling long distances. Incentives for healthcare providers to practice in rural areas, such as financial bonuses and educational opportunities, can help alleviate healthcare workforce shortages.

Effective policymaking and resource allocation require a comprehensive understanding of healthcare utilization patterns and their influencing factors. This study's findings provide valuable insights that can guide evidence-based decision-making in the Saudi healthcare system. By prioritizing interventions and policies that address the specific needs of different demographic groups, policymakers can work towards achieving healthcare equity and improving health outcomes for all segments of the population.

However, it is essential to acknowledge this study's limitations. While the MOH database and case studies provide a rich source of information, they may only capture some aspects of healthcare utilization and access. Future research could incorporate additional data sources, such as patient surveys and qualitative interviews, to better understand the barriers and facilitators to PHC utilization.

Moreover, the study's timeframe (2010-2014) may reflect something other than the most recent trends and developments in the Saudi healthcare system. Monitoring and evaluating PHC utilization patterns are necessary to track progress and identify emerging challenges.

Despite these limitations, this study contributes to understanding PHC utilization patterns in KSA and provides a foundation for future research and policy development. Highlighting disparities in healthcare access and utilization across different demographic groups underscores the need for a multifaceted approach to promoting healthcare equity in the Kingdom.

### 6. CONCLUSION

This study comprehensively analyzes Primary Healthcare (PHC) service utilization patterns among different demographic groups in Saudi Arabia during 2010-2014,

revealing significant disparities based on age, gender, socioeconomic status, and geographical location. The findings highlight critical challenges, including higher utilization rates among elderly populations, notable gender disparities requiring targeted policies, substantial socioeconomic variations affecting healthcare accessibility, and lower utilization rates in rural areas than urban regions. To address these challenges, the study recommends strategic interventions, including expanding healthcare infrastructure in underserved areas, developing community outreach programs, implementing specialized policies for vulnerable groups, enhancing data collection systems, investing in modern health technologies, incentivizing healthcare providers in rural areas, and strengthening multi-sectoral collaboration. These evidence-based recommendations, coupled with continued monitoring and evaluation of utilization patterns, can guide policymakers and healthcare providers in creating a more equitable and effective primary healthcare system that meets the needs of all Saudi citizens.

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