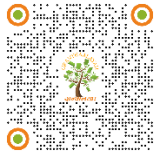


THE IMPACT OF HEALTH INSURANCE ON THE QUALITY OF HEALTHCARE SERVICES IN GOVERNMENT HOSPITALS IN DAMMAM CITY

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ABSTRACT

This study aimed to investigate the impact of health insurance on healthcare services in Ministry of Health hospitals in Dammam City from the perspective of health insurance beneficiaries. The study examined various aspects, including the integration of healthcare services, the reliability of healthcare services, responsiveness to healthcare services, the treatment by healthcare service providers, healthcare service procedures and systems, and healthcare service awareness. The study also aimed to determine the significance of differences in the impact of health insurance on the quality of healthcare services related to variables such as gender, age, income level, and educational qualifications. The study employed a descriptive-analytical approach, with a sample consisting of 250 individuals selected through convenient sampling from health insurance beneficiaries in Ministry of Health hospitals in Dammam City.

The study found statistically significant ($p \leq 0.05$) positive impacts of health insurance on healthcare services in Ministry of Health hospitals in Dammam City in terms of integration of healthcare services, reliability of healthcare services, responsiveness to healthcare services, treatment by healthcare service providers, healthcare service procedures and systems, and healthcare service awareness. There were also statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on the quality of healthcare services related to gender (favoring males), monthly income (favoring those with monthly income less than 5000 Saudi Riyals), age (favoring individuals under 30 years old), and educational qualifications (favoring individuals with a high school diploma or lower).

Keywords: Health Insurance, Healthcare Services, Ministry of Health

1. INTRODUCTION

Health insurance is vital in healthcare, providing organizational and administrative support to meet citizen needs. It operates on the principle of "large numbers," aggregating risks from a diverse group who pay premiums, thereby creating a substantial financial reserve for treating insured individuals. Key principles regulating health insurance include insurable interest, utmost good faith requiring full disclosure of material information, and the principle of contribution where insured parties bear some costs. The policy details covered and excluded

diseases, determined scientifically and in collaboration with medical institutions. Health insurance benefits the healthcare sector significantly by maintaining financial stability in healthcare institutions, covering most treatment costs, improving service quality, ensuring sustainability, and aiding government agencies like the Ministry of Health in creating a comprehensive healthcare database. This database assists in decision-making and forecasting medical needs and the expansion capacity of medical institutions.

Indeed, the focus on health insurance and related healthcare services is not new, but what is novel is the use of scientific methods and modern statistical techniques to leverage health insurance in a way that positively reflects on the quality of healthcare services. Additionally, establishing appropriate standards for health insurance to achieve this goal is crucial. Health services provided by health insurance need continuous monitoring and analysis through field surveys of beneficiaries to understand their evaluation of the quality of these services and its reflection on their level of satisfaction. Thus, the primary objective of the current research is to explore the influence of health insurance on the quality of healthcare services. This includes an applied study on beneficiaries at the Ministry of Health hospitals in Dammam to assess how health insurance affects the comprehensiveness, reliability, and responsiveness of healthcare services. The study also aims to understand the beneficiaries' perspectives on the treatment they receive from healthcare service providers. Additionally, it seeks to identify if variables such as gender, age, income level, and educational qualification significantly influence the impact of health insurance on the level of healthcare services provided.

2. HEALTH INSURANCE CONCEPT AND QUALITY OF HEALTHCARE SERVICES

Health insurance, an integral part of the healthcare system, is essentially the treatment provided to the insured during illness, with costs either partially or wholly covered by insurance companies or the government [Aid and Al-Raymi, \(2018\)](#). The World Health Organization describes health insurance as a mechanism to finance some or all healthcare costs, safeguarding individuals from the high expenses of medical treatments [Banerjee et al. \(2021\)](#). This organization also broadens the concept of health beyond mere absence of disease, encompassing physical, mental, and social well-being, and perceives health insurance as pivotal in enhancing all dimensions of health [Sultani & Ilham \(2015\)](#).

Healthcare services encompass a wide array of offerings including diagnostic, therapeutic, rehabilitative, social, and specialized psychological services, provided by various healthcare departments. These services extend to routine and specialized laboratory tests, emergency and ambulance services, and encompass nursing and pharmaceutical services [Hammouri et al. \(2021\)](#). The World Health Organization sets the benchmark for quality in healthcare services, emphasizing compliance with standards, safety, social acceptability, and cost-effectiveness, ultimately affecting disease rates, mortality, disability, and malnutrition [Allen et al. \(2021\)](#). Quality in healthcare, therefore, involves a set of well-designed policies and procedures that aim to deliver healthcare systematically and objectively, enhancing patient care and addressing health issues effectively [Shriah & Ibrahim \(2013\)](#).

3. THE CHARACTERISTICS OF HEALTHCARE SERVICES

The characteristics of healthcare services, akin to other public services, include their intangibility, making them hard to conceptualize or experience before purchase. This necessitates indicators to gauge service quality, such as location, provider, and equipment. The simultaneity of production and consumption, the inseparability of the beneficiary from the service during its delivery, and the heterogeneity in service delivery, underscore the unique nature of healthcare services. These services are non-storable and non-ownable, and their provision is continuous, focusing on the holistic care of individuals [Hammad & Abdullah \(2021\)](#), [Eid \(2016\)](#), [Al-Taie and Al-Musawi \(2020\)](#).

4. THE IMPORTANCE OF HEALTH INSURANCE AND ITS IMPACT ON HEALTHCARE SERVICES

Health insurance plays a profound role in contemporary society, offering comfort and psychological stability to beneficiaries while contributing significantly to the national economy. It provides financial liquidity to healthcare service providers, promoting economic stability, and enhancing the quality of healthcare services. It ensures flexibility, accessibility, and affordability of care [Al-Rawashdeh & Ziad \(2010\)](#), [Perreira & Oberlander \(2021\)](#). Achieving the objectives of health development, characterized by clarity, adoption, flexibility, transparency, and participation, is made possible through a well-structured health insurance system that involves all relevant stakeholders [Arhab & Muhammad \(2017\)](#).

In today's world, health insurance is a top priority for nations due to its far-reaching impact on health, economic, and social policies. A well-organized health insurance system reflects a country's level of development, enhances individual productivity and efficiency, and offers a sense of security, particularly for individuals with limited incomes, in the face of rising medical costs [Adlan \(2019\)](#). Healthcare management faces the challenge of providing high-quality, cost-effective services, complicated by financial constraints and limited resources, especially in public hospitals [Qurayshi & Al-Hajj \(2012\)](#). The increasing need for healthcare services, driven by emerging and complex diseases, has intensified the focus on healthcare expenses in developing countries' budgets [Hammad & Abdullah \(2021\)](#).

Health insurance and healthcare services are central to the health systems of many countries. National development plans hinge on having a healthy and efficient workforce, prompting insurance companies to improve service quality and meet customer needs [Al-'Utaybi \(2019\)](#). Healthcare has shifted its focus from merely providing care to understanding patients' growing awareness and demands for high-quality services, emphasizing patient satisfaction and loyalty [Qasi \(2014\)](#). Ensuring the quality of healthcare services remains a paramount concern, with institutions striving to meet patient expectations and needs while understanding the criteria by which patients evaluate service quality [Sultani & Ilham \(2015\)](#).

5. TYPES AND DOCUMENTS OF HEALTH INSURANCE

Health insurance policies encompass a diverse range of forms, each tailored to specific needs and circumstances. These policies, as identified by [Al-Taie and Al-Musawi \(2020\)](#), are essential in providing financial coverage for various health-related expenses. Hospitalization policies cover costs associated with hospital stays, including room charges, radiography, planning, laboratory analyses, nursing, and

necessary medications. Surgical Expenses policies specifically address the financial demands of surgical operations. Regular Medical Treatment policies typically cover doctors' fees, including their visits to hospitals or homes, and are often bundled with other insurance coverages. For more serious medical conditions or accidents, Major Medical Treatments policies step in, compensating for the high costs incurred, with a predetermined amount being the responsibility of the insured per incident. Lastly, Disability Income policies provide financial relief for loss of income due to illness or injury, which results in temporary or permanent cessation of work.

6. HEALTH INSURANCE IN SAUDI ARABIA

In Saudi Arabia, the evolution of health insurance has seen significant changes. [Mahmud \(2013\)](#) identifies three main types of health insurance in the country. First is social insurance, managed by the General Organization for Social Insurance, which primarily covers work-related injuries. The second involves direct contracts between companies and hospitals, offering healthcare to employees or healthcare programs for premiums. However, this system often operates outside regulatory frameworks. The third and most prevalent form is private health insurance, managed by third-party insurance companies and includes both commercial and cooperative models. Saudi Arabia's involvement in health insurance is relatively recent, dating back about 15 years with the introduction of the Cooperative Health Insurance System. Before this, as mentioned by [Barai \(2016\)](#), there were limited forms of health insurance, including partial coverage for work-related injuries and occupational diseases through the Social Insurance Institution, as well as private sector health insurance provided directly through company-owned hospitals or private contracts.

The social insurance system in Saudi Arabia has roots dating back over fifty years, with Royal Decree No. M/22 dated 9/6/1389 AH (15/11/1969 AD) serving as its initial foundation. It initially focused on occupational hazards and has evolved significantly over the years. In 2005, the Cooperative Health Insurance System was expanded to cover non-Saudi employees in the private sector, benefiting approximately 3.3 million workers and involving 24 Ministry of Health hospitals. The system is poised to extend its coverage to all citizens through the Ministry of Health's "Balsam" project, transforming these hospitals into private-sector-style institutions. These developments align with Saudi Arabia's Vision 2030 and its Health Sector Transformation Program, which aims to provide comprehensive, integrated healthcare to all residents. Oversight is carried out by the Ministry of Health in collaboration with regional councils, taking into consideration geographic, demographic, and disease pattern factors in healthcare planning. The Ministry emphasizes patient involvement in healthcare decisions, as reflected in the Patient and Their Families Rights Document [Digital Government Authority. \(2021\)](#). The Health Sector Transformation Program, a key part of Vision 2030, aims to restructure the health sector into an efficient and integrated system. It focuses on individual and community health, embracing value-based care principles for transparency and financial sustainability. The program highlights public health, disease prevention, improved access to health services, expanded electronic health services, and enhanced service quality and patient satisfaction. It underscores Saudi Arabia's commitment to establishing and strengthening integrated healthcare systems across the Kingdom [Unified National Platform. \(2021\)](#), [Ministry of Health \(2022\)](#).

7. PREVIOUS STUDIES

Numerous studies have investigated the relationship between health insurance and the quality of healthcare services. [Al-Rawashdeh & Ziad \(2010\)](#) conducted a study in Jordan and found low levels of healthcare services for health insurance beneficiaries, recommending improvements, especially in the public sector, and addressing issues like personal relationships and nepotism in hospital management. [Qurayshi & Al-Hajj \(2012\)](#) assessed health insurance efficiency in Algerian hospitals and emphasized the importance of applying quality standards. [Ali \(2013\)](#) focused on Sudan and found that medical insurance improved healthcare quality and patient satisfaction, suggesting increased attention to healthcare services and budget improvements. [Sultani & Ilham \(2015\)](#) used the Servqual model to assess healthcare services in private hospitals in Batna, Algeria, recommending enhancements. [Al-Mansour \(2016\)](#) in Saudi Arabia identified social factors affecting job satisfaction and satisfaction with health insurance, emphasizing resource provision and service level improvement. [Ghadeer & Fiyadh \(2016\)](#) revealed low quality of health insurance services on the Syrian coast, emphasizing material aspects but stressing the need to meet client expectations. [Sadki \(2018\)](#) found demographic and functional differences in the perception of service quality among healthcare providers in Aleppo. [Ahmad \(2018\)](#) in Sudan showed high adherence to service quality standards. [Erlangga et al. \(2019\)](#) indicated improving health insurance plans in low- and middle-income countries and their positive impact on healthcare services. [Hammad & Abdullah \(2021\)](#) found generally good quality of health insurance services in the White Nile state but identified areas for improvement. [Qin et al. \(2021\)](#) in China revealed increased satisfaction and social integration among migrants with health insurance. Overall, these studies underscore the importance of health insurance service quality and suggest the need for ongoing improvement and development to better serve patients and beneficiaries.

8. RESEARCH METHODOLOGY

The research employed a descriptive analytical approach, utilizing both descriptive and analytical methods to assess healthcare services from the perspective of health insurance beneficiaries in the Ministry of Health hospitals in Dammam. The study's population comprised all health insurance beneficiaries in these hospitals during the period from January to May 2022. A sample of 250 individuals was selected through convenient sampling. The research developed a health services level assessment scale consisting of 32 statements across six dimensions, drawing on previous studies like those by [Mahmud \(2013\)](#), [Arhab & Muhammad \(2017\)](#), [Ahmad \(2018\)](#), and [Hammad & Abdullah \(2021\)](#). The scale, which used a five-point Likert scale, underwent content validity evaluation by three Ph.D. holders from Saudi universities. Internal consistency reliability was assessed through a pilot study involving 60 health insurance beneficiaries in Dammam's Ministry of Health hospitals, with all items demonstrating statistical significance ($\alpha \leq 0.05$) and an overall Cronbach's alpha value of 0.95, indicating acceptable reliability for the study's objectives.

[Table 1](#) shows that the study sample had a higher proportion of males (71.9%) compared to females (28.1%). According to monthly income level, the highest proportion of the sample was in the category of those earning 10000 SAR and above, slightly exceeding half of the sample at 51.4%. The lowest proportion was in the income category "Less than 5000 SAR" at 17.6%. Regarding age, the highest proportion of the sample was in the "30-39 years" age category at 58.1%, while the

lowest was in the "Less than 30 years" category at 16.7%. The results also show that the highest educational qualification proportion was among bachelor's degree holders at 51.9%, and the lowest was among those with high school education or less at 13.8%.

Table 1

Table 1 Sample Characteristics According to Study Variables

Variable	Categories	Frequency	Percentage
Gender	Male	151	71.9%
	Female	59	28.1%
Monthly Income Level	Less than 5000 Saudi Riyals	37	17.6%
	From 5000 to less than 10000 Saudi Riyals	65	31.0%
	10000 Saudi Riyals and more	108	51.4%
Age	Less than 30 years	35	16.7%
	30-39 years	122	58.1%
	40 years and above	53	25.2%
Educational Qualification	High school or less	29	13.8%
	Bachelor's degree	109	51.9%
	Postgraduate studies	72	34.3%
	Total	210	100.0%

9. RESULTS

After analyzing the data using the Statistical Package for the Social Sciences (SPSS), the following results were obtained:

Results related to the impact of health insurance on the comprehensiveness of healthcare services from the perspective of health insurance beneficiaries in the Ministry of Health hospitals in Dammam. Arithmetic means and standard deviations of the sample's responses to the dimension were first calculated. Table 2 shows the results related to the impact of health insurance on the comprehensiveness of healthcare services, forming a crucial source for understanding the effect of health insurance on the quality and integration of healthcare services. The results indicate that health insurance has a significant positive impact on the treatment of healthcare service providers, with an arithmetic mean of 3.909, suggesting that providers treat patients with health insurance better, enhancing their overall experience.

Moreover, the results show that health insurance significantly positively affects the procedures and system of healthcare services, with an arithmetic mean of 3.818, indicating its importance in improving the efficiency and overall organization of healthcare services. Additionally, the results suggest a high positive impact of health insurance on responsiveness to healthcare services, with an arithmetic mean of 3.694, possibly indicating improved service delivery speed and increased overall patient satisfaction.

On the other hand, health insurance shows a moderate impact on the reliability of healthcare services, with an arithmetic mean of 3.650, indicating the presence of challenges or disparities in service quality or availability. Finally, the results

demonstrate a moderate impact of health insurance on the comprehensiveness of healthcare services, with an arithmetic mean of 3.643, suggesting room for improvement in coordination among healthcare providers. Overall, these results reflect the importance of health insurance in improving and developing healthcare systems to ensure high-quality healthcare for patients.

Table 2

Table 2 The Impact of Health Insurance			
Dimension	Arithmetic Mean	Standard Deviation	Level
Treatment of healthcare service providers	3.909	0.790	High
Procedures and system of healthcare services	3.818	0.791	High
Responsiveness to healthcare services	3.694	0.958	High
Reliability of healthcare services	3.650	0.826	Medium
Comprehensiveness of healthcare services	3.643	0.885	Medium
Awareness of healthcare services	3.623	1.004	Medium
Scale average	3.72	0.985	High

Results related to statistically significant differences at ($\alpha \leq 0.05$) in the impact of health insurance on the level of healthcare services attributed to variables such as gender, age, income level, and educational qualification

9.1. SIGNIFICANCE OF DIFFERENCES ACCORDING TO GENDER

The arithmetic means and standard deviations of the sample's responses to the scale statements were calculated according to the gender. The "t" test for independent samples was then used to determine the significance of the differences between these means, as shown in the [Table 3](#). The table indicates statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on the level of healthcare services attributed to the gender variable, with the differences favoring males.

Table 3

Table 3 Results of the t-test for the Significance of Differences Attributed to the Gender					
Gender	Arithmetic Means	S. Deviations	t-Value	Degrees of Freedom	Level of Significance
Male	3.899	0.763	5.491	208	0.000
Female	3.271	0.695			

9.2. SIGNIFICANCE OF DIFFERENCES ACCORDING TO MONTHLY INCOME

[Table 4](#) shows statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on the level of healthcare services attributed to the monthly income. The results of Scheffe's test for post-hoc comparisons indicated that the differences were between the income group earning less than 5000 Saudi Riyals and the groups earning more than 5000 Saudi Riyals, favouring those earning less than 5000 Saudi Riyals.

Table 4**Table 4 Significance of Differences in the Impact of Health Insurance According to the Monthly Income**

Variable Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Level of Significance
Between Groups	14.534	2	7.267	12.801	0.000
Within Groups	117.512	207	0.568		
Total	132.046	209			

9.3. SIGNIFICANCE OF DIFFERENCES ACCORDING TO AGE:

Table 5 indicates statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on the level of healthcare services attributed to the age. Scheffe's test for post-hoc comparisons showed that the differences were between the age group under 30 years and the age groups over 30 years, favoring the under 30 age group.

Table 5**Table 5 Significance of Differences According to the Age**

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Level of Significance
Between Groups	9.434	2	4.717	7.963	0.000
Within Groups	122.612	207	0.592		
Total	132.046	209			

9.4. SIGNIFICANCE OF DIFFERENCES ACCORDING TO EDUCATIONAL QUALIFICATION

Table 6 indicates statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on the level of healthcare services attributed to the educational qualification. Scheffe's test for post-hoc comparisons revealed that the differences were between those with a high school education or less and those with a bachelor's degree and higher education, favoring those with a high school education or less.

Table 6**Table 6 Significance of Differences According to the Educational Qualification**

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Level of Significance
Between Groups	7.639	2	3.820	6.355	0.002
Within Groups	124.407	207	0.601		
Total	132.046	209			

10. DISCUSSION AND CONCLUSION

The results indicate a statistically significant impact of health insurance on the comprehensiveness of healthcare services from the perspective of beneficiaries in the Ministry of Health hospitals in Dammam. There was also a significant effect on the reliability, responsiveness, and treatment by healthcare service providers, as well as on the procedures and system of healthcare services and awareness of healthcare services. The sixth hypothesis of the study was thus accepted. These results can be interpreted from several aspects: the importance of health insurance in providing psychological comfort and stability to beneficiaries, contributing effectively to improving the level of healthcare services, offering suitable and affordable healthcare [Al-Rawashdeh & Ziad \(2010\)](#), [Perreira et al. \(2021\)](#). The growing importance of health insurance reflects a nation's development, with better

health insurance services leading to increased productivity and efficiency, especially important for lower-income individuals due to rising medical costs [Adlan \(2019\)](#).

The results can also be understood in the context of Saudi Arabia's healthcare system, which aims to provide comprehensive and accessible healthcare to all residents. The country is working on providing a complete network of healthcare services, with the Ministry of Health clarifying patients' rights and responsibilities, which helps improve service levels and patient trust in health facilities [Digital Government Authority. \(2021\)](#). The Health Sector Transformation Program, part of Saudi Vision 2030, focuses on continuously developing healthcare services and addressing challenges related to health services by enhancing their quality and efficiency [Ministry of Health \(2022\)](#).

Previous studies, such as those by [Qin et al. \(2021\)](#), [Hammad & Abdullah \(2021\)](#), [Erlangga et al. \(2019\)](#), and [Ahmad \(2018\)](#), have found similar results regarding the positive impact of health insurance on healthcare services, though [Al-'Utaybi \(2019\)](#) found lower satisfaction levels among insurance company clients. The results revealed statistically significant differences ($\alpha \leq 0.05$) in the impact of health insurance on healthcare services due to gender, favoring males, and monthly income, favoring those earning less than 5000 Saudi Riyals. Younger age groups (under 30) saw health insurance as less necessary than older individuals did.

11. RECOMMENDATIONS

Based on the study's findings, the researcher makes the following recommendations for those responsible for the health insurance system in Saudi Arabia:

- 1) Increase focus on achieving Saudi Vision 2030's goals related to developing healthcare services, establishing committees and departments within the Ministry of Health for this purpose.
- 2) Reevaluate the health insurance system to provide comprehensive protection against all diseases.
- 3) Encourage hospitals to establish pages for receiving patient inquiries and complaints, with prompt attention and responses.
- 4) Review the patient appointment system to better suit patients' needs and circumstances.
- 5) Involve patients in implementing healthcare programs in Saudi Arabia.
- 6) Encourage doctors to play a more active role in explaining medications to patients, especially regarding side effects.

CONFLICT OF INTERESTS

None.

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