An investigation of the factors influencing the choice of healthcare facility in South Africa

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ABSTRACT

The objective of the study was to assess the factors that motivate or demotivate households to choose among the three healthcare facilities, public healthcare, private health care and traditional healthcare facilities in South Africa as revealed by Statistics South Africa. Utilisation of healthcare facilities in South Africa is such that more households prefer public healthcare facilities more than other healthcare facilities. The multinomial logit model was used, with traditional/self-medication category as the reference or baseline category. The results indicated that gender, income, and access to grants were significant in influencing the probability of a household choosing a public healthcare facility, while age, income, grants, salaries/wages/commission, and pensions were significant in influencing the choice of private healthcare institutions. Therefore, the study recommends that due to a large portion of households that are using public health facilities compared to private and traditional facilities, the government must invest more in public healthcare facilities in South Africa.

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Introduction

Access to quality health care services is critically essential for the promotion and maintenance of health, prevention, and management of various diseases, reducing prevention of avoidable disability and untimely death as well as achieving health equity for all as articulated by the Department of Health (DOH) (Klemick et al., 2009; DOH, 2011; DOH, 2018). Different scholars also argue that people should conveniently and confidently have access to health services because when people can access healthcare problems related that comes with various diseases are prevented. Access to health care helps in addressing mental health challenges, social and physical well-being, it also helps in improving the quality of life and stopping unnecessary diseases which can assist in lengthening the life expectancy (Levesque et al., 2013; Kuenburg et al., 2016; Godbole and Lamb, 2018). Malik and Sharma (2017) state that medical centres such as public and private hospitals help ensure that people receive quality and comprehensive healthcare services. They add that health centres help address socio-economic issues by ensuring that people get access to health care and health insurance.

The World Health Organization (WHO) argues that many people are pushed into extreme poverty by bearing the excessive burdens of health spending when they try to have access to healthcare services (Mhlanga & Dunga, 2020; WBG, 2018; WBG, 2016). The South African government has identified poverty, unemployment, and inequality as the three principal evils that the country must

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deal with to bring prosperity. However, poverty is very difficult to deal with in isolation. Policies that target the poor should do so from a multidimensional understanding, considering many dimensions, one of which is access to healthcare (Davis, 2014; Davis & Sanchez-Martinez, 2015). In South Africa, the private and public health systems exist in parallel to provide a broad range of acute, convalescent, and terminal care required by the people.

Malik and Sharma (2017) argue that patients using health facilities, except for those referred to by other centres or emergency cases, do not select a health centre by chance. Dixon-Woods et al. (2006) posit that in the past patients used to depend more on the advice received from the physician, consultant, family members, and friends when choosing a healthcare provider. Malik and Sharma (2017) argue that the lack of knowledge and awareness was the reason people had to depend on other interested groups for advice. However, according to Phillimore et al. (2019), the coming in of digital technology changed the old setup, which altered the market and the individual in terms of how they think. Digital technology helped much in media penetration and increased the level of awareness; as a result, patients are now demanding quality information, therapeutic services, and personalisation of services (Phillimore et al., 2019; Ansari et al., 2020).

Ansari et al. (2020) state that the internet of things (IoT) -based healthcare monitoring systems that use smart gateways between sensor networks and the internet to facilitate household access to healthcare have emerged. This has given the edge for patients to be more cautious in choosing health-care services than before. The information that patients get from the diagnosis of their disease puts pressure on them to make sure that their treatment is appropriate (Ansari et al., 2020; Malik & Sharma, 2017). Technology, on the other hand, also ensures that patients can get their medical records electronically and can also schedule appointments and order prescriptions online (Malik and Sharma, 2017). The online patient portals help in this regard, and they even assist patients to effectively communicate with doctors through instant messaging (Ansari et al., 2020). All this is improving the ability of a patient to choose among a pool of health care providers (Malik and Sharma, 2017; Phillimore et al., 2019).

Given the importance of health care, and how critical access to healthcare is, the WHO consistently encourages countries to achieve universal health coverage (UHC) through sustainable health financing mechanisms. In addition, access to health care is spelt out clearly in the Sustainable Development Goals (SDGs) because of its importance in the achievement of all the goals. Goal 3.8 of the SDGs clearly explains the issue of “UHC, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all” (Squires, 2019:2). The South African Government is working on establishing a National Health Insurance (NHI) system due to concerns of disparities within the national health care system such as unequal access to healthcare amongst different socio-economic groups (Mhlanga & Gairdizirai, 2020; DOH, 2011). The central philosophy of implementation of NHI is to “bring into the fold those people who are not insured, specifically those who are unable to afford medical scheme cover” (DOH, 2018:6; DOH, 2011). The NHI seeks to “find ways to make health care more available to those who currently cannot afford it or whose situation prevents them from attaining the services they need” (DOH, 2018). The other reason is that there is a “discrepancy between money spent in the private sector and that spent in the public sector, which serves about 84 per cent of the population” (DOH, 2018:4).

The Presidential Health Summit (PHS) held in 2018 indicated that quality healthcare in South Africa is fully enjoyed by those that can afford it. South Africa spends about 8.7 per cent of Gross Domestic Product (GDP) on health but almost half of that amount services only 16 per cent of the population (PHS, 2018). Apart from that, the 2018 national general household survey data indicate that 71.5 per cent of households prefer public clinics, hospitals, or other public institutions whenever they need treatment, whether it's injury or sickness (STATSSA, 2018). Therefore, the purpose of this study is to investigate the factors that influence households to choose between the available health facilities, those in the public sector, those in the private sector, and traditional sectors. Knowledge of these factors is essential to influence policy, especially on resource allocation, as well as address the hindrances that may prevent a household from choosing other health care centres from the other.

**Literature Review**

**The South African Healthcare**

The United Nations approximates the population of South Africa to be 59,308,690 as of 2020 (Worldometer, 2021) and the Statistics South Africa (Stats SA) forecasts a population of 60,14 million people in 202(STATSSA 2021). However, most of this population access health services from public institutions run by the government like public clinics and hospitals (Mahlathi and Dlamini, 2015). The healthcare system in South Africa comprises the private sector and the public sector. The public sector is made up of all the institutions run by the government, including public clinics and public hospitals. These public health institutions are divided into primary, secondary and tertiary institutions. The provincial departments are responsible for the management of the public health facilities, and they are the direct employers. The National Ministry of Health is chiefly responsible for the development and coordination of policy. The constitution of South Africa section 27-part (a) of the bill of rights guarantees every access to healthcare services, “Everyone has the right to have access to (a) health care services, including reproductive health care”. However, access to private healthcare depends on the ability to pay the individual (Mahlathi and Dlamini, 2015). The private healthcare sector utilises private surgeries and private hospitals which are mostly located in urban areas. In terms of health expenditure as a share of Gross Domestic Product (GDP), the healthcare sector in South Africa consumes approximately 8.3 per cent as of 2018. This was an average increase of 1.42 per cent when compared with the 6.8 per cent of 2004 (STATSSA 2018).
Health Care Facility Consultation in South Africa

Figure 1 below shows, by province, the 2018 percentage distribution of the type of healthcare facility consulted first by households when members fall ill or are injured.

Figure 1: Type of healthcare facility consulted first by the households when members fall ill or are injured in South Africa; Source: STATSSA (2018)

Empirical Review

Literature on the determinants of demand for choice of the healthcare facility is growing over the years. Yaya et al., (2019) investigated the relationship between socioeconomic status and the choice of health delivery facility by women in Guinea-Bissau. In Guinea-Bissau, the results indicated that the proportion of women delivering at home was higher when compared to those delivering at health facilities. Women who were delivering at hospitals was approximately 39.8 per cent with the figure biased towards the urban population. The results also indicated that educated women were more likely to deliver at health facilities. The results also indicated that women from richer families were also more likely to deliver at hospitals compared to rural areas. The conclusion from the study was that the percentage of women delivering in health facilities was low in Guinea-Bissau compared to those delivering in rural areas. Yaya et al., (2019) believe that one way of scaling the use of hospitals was to improve the socio-economic status. Another study by Hazarika, (2020) also used logistic regression to investigate the choice of a health care facility in Assam a state in Northeastern India. The results from the logistic regression indicated that elder people, low-income earners, less educated and having a large size were the people seeking health from public health facilities. The other conclusion from the logistic regression is that the private healthcare sector in Assam has more doctors, with available counselling and more infrastructure, and basic amenities. On the other hand, it was also revealed that public health institutions are characterised by the uneven presence of doctors, and many clients when compared to private health institutions. Sukirman et al., (2020) also assessed the factors that influence households to choose the different healthcare facilities in Kuantan Singingi regency, Riau Province, Indonesia. Using the Cox regression, the results indicated that Knowledge about pregnancy danger signs, attitude towards healthcare services, and access to healthcare services were the factors influencing women when choosing healthcare facilities for childbirth. The other factor that was highlighted was that attitude was an important factor in influencing the choice of healthcare facilities when delivering. Mhlanga, (2021) also investigated the drives of demand for public healthcare facilities in South Africa. The results from the conditional probability models revealed that unemployed households, households with no businesses and those who do not receive pensions had a greater probability of using public health facilities. Factors that reduce the probability of demand for public healthcare institutions were gender, race, being a property owner and households who were not receiving the grant. The pattern of demand for healthcare in South Africa is that more households use public healthcare facilities compared to private-public households. In another study in Kenya, Murithi (2013) investigated the factors that influence households’ choice of a healthcare provider. Using the multinomial logit model with health
care providers categorised into five groups, namely a public clinic, public hospital, self-treatment, private hospital, and private clinics, the study discovered that distance to the nearest healthcare facility, gender, waiting time and education level were significant variables. The study by Kirduang (2011) in Thailand discovered that the level of income, amount of co-payment, household size, and age of the household head were the significant factors in influencing the choice of the healthcare facility.

In addition, Kamngia et al. (2007) also assessed factors influencing the choice of a health care provider in Cameroon, and the study found that the choice was influenced by consultation fees, age and gender of the household head. On the other hand, Brown et al. (2002) investigated factors that influence university students to choose a health care institution and found that the severity of illness, consultation fee, and religion were the major factors influencing students to choose a health facility. In Zimbabwe, Mugweni et al. (2008) analysed factors influencing pregnant women’s choice of a health provider in Manorondera district. The study concluded that the choice of a healthcare provider was influenced by the occupation level, number of children, and distance from the nearest healthcare facility. Adelekan et al. (2020) intended to describe the impact of the COVID-19 outbreak on modern contraceptives and abortion of pregnant services use in Gauteng Province soon after the lockdown. The study found that primary healthcare use headcounts in the province dropped by approximately 500,000 visits, according to the findings. The result also indicated that over the preceding two years, there has been a tendency of switching contraceptive techniques to those that are less effective. During April 2018 to April 2020, there was a steady decrease in the use of injection methods and a rise in use of the hormonal birth control tablets.

Mbunge (2020) looked at COVID-19’s impact on the South African health system and society. The results of the literature review technique revealed that the absence of PPEs, higher mortality rates, mental health problems, substance addiction, and the resurgence of NCDs are all affecting the South African health system. International border closures, a global demand meltdown, supply interruptions, and a drastic reduction in human and industrial activities during the lockdown all contribute to socio-economic difficulties. The results further reveal that the long-term impacts of the shutdown on psychological services and support culminated in outburst of worry, severe distress, fear, despair, compulsive behaviors, social upheaval, stigmatization, anxiousness, a rise in gender-based assault cases, and prejudice in the allocation of relief food items. The next section explains the technique employed in this investigation.

Research and Methodology

Data

Data for the study was gathered from the 2018 General Household Survey (GHS) dataset from Statistics South Africa.

Multinomial Logit model

The study used the multinomial logit model to assess the determinants of the choice of a healthcare facility by households in South Africa. The model was used because the dependent variable used was polychotomous or multiple category response variables. Households had three choices to make, public healthcare facilities, private healthcare facilities and the traditional or the self-medication category. Using the multinomial logistic regression, the study was seeking to find the probability of a household head to make a choice influenced by several explanatory variables. Each choice stands on its own as an unordered category and the traditional/self-medication category was used as the reference or baseline category. The marginal effect of a given variable falling into each category was generated by the model (Kwak and Clayton-Matthews 2002). Bayaga (2010: 2) also argued that the multinomial logistic regression is “a simple extension of the binomial logistic regression model is the multinomial (polytomous) logistic regression model. When the dependent variable has more than two nominal or unordered categories, it is typical to utilize dummy coding 3 of the independent variables”.

The model

The multinomial logit model is “best understood first in terms of the probability that a respondent i will fall in one of the j = 1,..., J category of the dependent variable. Let \( Y_{ij} \) be a set of \( j = 1, \ldots, J \), Bernoulli random variable such that \( y_{ij} = 1 \) if \( i \) is in category \( j \), 0 if \( i \) is not in category \( j \). With \( y_{ij} \) distributed as a Bernoulli random variable, \( E (y_{ij}) = P (y_{ij} = 1) \). Letting \( P_{ij} = P (y_{ij} = 1) \) for convenience, the multinomial logit can be represented as:

\[
P_{ij} = \frac{e^{x_i B_j}}{\sum_{j=1}^{J} e^{x_i B_j}}
\]

Where \( x_t = (1, x_1 \ldots, x_k) \) and \( B_j = (B_0, B_1 \ldots, B_k) \). When “the numerator and denominator grow large without bound while the ratio remains constant, the Bj become unidentified. Therefore, the restriction is applied. When the restriction is applied” Bj = 0 giving

\[
P_{ij} = \frac{e^{x_i B_j}}{1 + \sum_{j=1}^{J} e^{x_i B_j}} \text{ for categories } j = 1 \ldots J-1
\]

\[
P_{ij} = \frac{e^{x_i B_J}}{1 + \sum_{j=1}^{J} e^{x_i B_j}} \text{ for category } J
\]

Interpreting “the parameter estimates in terms of the probability that i fall in category j giving a change inX_{ik} is given” as:
\[
\frac{\delta P_{ij}}{\delta X_{ik}} = B_{kj} P_{ij} (1 - P_{ij}) - P_{ij} \sum_{h \neq j} B_{kh} P_{ih}
\]

With the identifying restrictions given for category J, the log odd is given as:

\[
\frac{\delta P_{ij}}{\delta X_{ik}} = P_{ij} \sum_{h \neq j} B_{kh} P_{ih}
\]

The “maximum likelihood estimator which is log-likelihood maximized was used because; it guarantees consistent parameter estimates and corrects large sample statistics (Scott et al., 2001). This and Chi-square (X²) distribution were used to test overall model adequacy at 95 % significant level. The marginal effects are interpreted as the change in probability of using a particular kind of health service facilities as one unit change in the explanatory variable occur (Wright 1994). Having “k” health providers, we consider the effect of changing by one unit a regressor on the \(jth\) probability as follows; The formula for marginal effect estimation is given” by:

\[
\frac{\delta P_{rij}}{\delta x_j} = P_{rij} (B_{ij} - \sum_{k=1}^{j} P_{rik} B_{ik})
\]

Where \(P_{rij}\) “is the probability that a respondent \(i\) used a healthcare facility \(j\)th, Where \(j\) serves as the dependent variable 1, 2, and 3 standing for public providers, private providers, and traditional providers. (1 is assigned for belonging to a category, 0 otherwise) \(K = 1…hm\) (total number of respondents), \(B_0\) = intercepts, \(B_i\) = coefficient and \(X\) = value of explanatory or independent variable for the \(i\)-th individual”.

Table 1: Variables used in the Study

<table>
<thead>
<tr>
<th>Variable Symbol</th>
<th>Variable</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Dependent Variable</td>
<td>-Public healthcare facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Private healthcare facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Traditional/Self medication</td>
</tr>
<tr>
<td>X1</td>
<td>Gender</td>
<td>Dummy Variable where 1= Male and 0 =female</td>
</tr>
<tr>
<td>X2</td>
<td>Age</td>
<td>Number of years of the household head</td>
</tr>
<tr>
<td>X3</td>
<td>The Size of the Household</td>
<td>The number of people in the House</td>
</tr>
<tr>
<td>X4</td>
<td>Income</td>
<td>The net household income in rand</td>
</tr>
<tr>
<td>X5</td>
<td>Own House</td>
<td>Dummy variable where 1 is own house and 0 otherwise.</td>
</tr>
<tr>
<td>X6</td>
<td>Access to Grant</td>
<td>Dummy variable where 1 = access to grant and 0 otherwise.</td>
</tr>
<tr>
<td>X7</td>
<td>Salary/Wage/commission</td>
<td>Dummy variable where 1= household receives a salary and 0 otherwise</td>
</tr>
<tr>
<td>X8</td>
<td>Remittances</td>
<td>Dummy variable where 1 household receives remittances and 0 otherwise</td>
</tr>
<tr>
<td>X9</td>
<td>Income from business</td>
<td>The total amount of income a household earns</td>
</tr>
<tr>
<td>X10</td>
<td>Pensions</td>
<td>A dummy variable where 1= household received pension and 0 otherwise.</td>
</tr>
</tbody>
</table>

Source: Author’s Analysis

Table 1 is outlining the variables used in the multinominal logistic regression which are the multiple category response represented by Y, the independent variables like gender, age, household size and many others as shown in the table.

Results and Discussion

Descriptive Statistics

The population included a total of 20908 participants from almost all of South Africa’s provinces. Black Africans made up 80.9 percent of the population, while Coloureds made up 7.1 percent, Indians made up 2.4 percent, and Whites made up 9.5 percent. Table 2 shows the demographic from the study.

Table 2: Distribution of the population

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Proportion out of 20908</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Black</td>
<td>17361</td>
<td>80.90%</td>
</tr>
<tr>
<td>Coloured</td>
<td>1659</td>
<td>7.10%</td>
</tr>
<tr>
<td>Indian</td>
<td>391</td>
<td>2.40%</td>
</tr>
<tr>
<td>White</td>
<td>1497</td>
<td>9.50%</td>
</tr>
</tbody>
</table>

Source: Author’s calculations, based on GHS data In Table 2, Black Africans made up 80.9 percent of the population, while Coloureds made up 7.1 percent, Indians made up 2.4 percent, and Whites made up 9.5 percent. Table 2 shows the demographic from the study. Table 3 displays the gender of the population.
Table 3: Gender Distribution

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11948</td>
<td>58.40%</td>
</tr>
<tr>
<td>Female</td>
<td>8960</td>
<td>41.60%</td>
</tr>
<tr>
<td>Total</td>
<td>20908</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Calculations by the author. Data from the GHS

Table 3 displays the gender of the population. Males make up 11948 (58.4%) of the population, while females make up 8960 (58.4%). (41.6 percent). As a result, the survey’s sample has more males than females.

Multinomil logit results

The multinomil logit result for this study was analyzed using SPSS V26, and results are reported in the section below. Table 2 below presents results from the multinomil regression, in which the dependent variables were categorised into three. These are public health facilities, private health facilities and traditional health facilities.

Table 4: Multinomial Logit Results

<table>
<thead>
<tr>
<th>Parameter Estimates</th>
<th>B</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3.702</td>
<td>1.504</td>
<td>6.063</td>
<td>1</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>Age of household head</td>
<td>.004</td>
<td>.006</td>
<td>.481</td>
<td>1</td>
<td>.488</td>
<td>1.004</td>
</tr>
<tr>
<td>Household size</td>
<td>.019</td>
<td>.043</td>
<td>.200</td>
<td>1</td>
<td>.654</td>
<td>1.020</td>
</tr>
<tr>
<td>Sex of household head (1)</td>
<td>.419</td>
<td>.178</td>
<td>5.523</td>
<td>1</td>
<td>.019</td>
<td>1.520</td>
</tr>
<tr>
<td>Net household income per month in Rand</td>
<td>.300</td>
<td>.000</td>
<td>8.076</td>
<td>1</td>
<td>.004</td>
<td>1.000</td>
</tr>
<tr>
<td>Grants (1)</td>
<td>-.048</td>
<td>.213</td>
<td>3.688</td>
<td>1</td>
<td>.055</td>
<td>.665</td>
</tr>
<tr>
<td>Salaries/wages/commission (1)</td>
<td>-.203</td>
<td>.193</td>
<td>1.115</td>
<td>1</td>
<td>.291</td>
<td>.816</td>
</tr>
<tr>
<td>Remittances</td>
<td>.084</td>
<td>.227</td>
<td>.135</td>
<td>1</td>
<td>.713</td>
<td>1.087</td>
</tr>
<tr>
<td>Pensions (1)</td>
<td>.235</td>
<td>.467</td>
<td>.253</td>
<td>1</td>
<td>.615</td>
<td>1.265</td>
</tr>
<tr>
<td>House ownership (1)</td>
<td>.050</td>
<td>.181</td>
<td>.077</td>
<td>1</td>
<td>.782</td>
<td>1.051</td>
</tr>
<tr>
<td>Income from a business</td>
<td>.123</td>
<td>.237</td>
<td>.269</td>
<td>1</td>
<td>.604</td>
<td>1.131</td>
</tr>
<tr>
<td>Private facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3.591</td>
<td>1.524</td>
<td>5.554</td>
<td>1</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td>Age of household head</td>
<td>.033</td>
<td>.006</td>
<td>29.443</td>
<td>1</td>
<td>.000</td>
<td>1.034</td>
</tr>
<tr>
<td>Household size</td>
<td>.033</td>
<td>.044</td>
<td>.547</td>
<td>1</td>
<td>.460</td>
<td>1.033</td>
</tr>
<tr>
<td>Sex of household head (1)</td>
<td>.195</td>
<td>.181</td>
<td>1.160</td>
<td>1</td>
<td>.282</td>
<td>1.215</td>
</tr>
<tr>
<td>Net household income per month in Rand</td>
<td>.300</td>
<td>.000</td>
<td>5.889</td>
<td>1</td>
<td>.015</td>
<td>1.000</td>
</tr>
<tr>
<td>Grants (1)</td>
<td>1.604</td>
<td>.217</td>
<td>54.589</td>
<td>1</td>
<td>.000</td>
<td>4.973</td>
</tr>
<tr>
<td>Salaries/wages/commission (1)</td>
<td>-.160</td>
<td>.197</td>
<td>34.593</td>
<td>1</td>
<td>.000</td>
<td>.314</td>
</tr>
<tr>
<td>Remittances</td>
<td>.232</td>
<td>.233</td>
<td>.988</td>
<td>1</td>
<td>.320</td>
<td>1.261</td>
</tr>
<tr>
<td>Pensions (1)</td>
<td>-.143</td>
<td>.468</td>
<td>9.118</td>
<td>1</td>
<td>.003</td>
<td>.243</td>
</tr>
<tr>
<td>House ownership (1)</td>
<td>-.179</td>
<td>.184</td>
<td>.943</td>
<td>1</td>
<td>.331</td>
<td>.836</td>
</tr>
<tr>
<td>Income from a business</td>
<td>-.344</td>
<td>.240</td>
<td>2.056</td>
<td>1</td>
<td>.152</td>
<td>.709</td>
</tr>
</tbody>
</table>

Reference category: traditional health facilities; Pseudo R-Square Cox and Snell .189, Nagelkerke .273, McFadden .177. Model Fitting Information, Model Fitting Criteria, Likelihood Ratio Tests, -2 Log Likelihood, Intercept Only, 23123.272, Chi-Square 4327.914, df 20, Sig .000.

Source: Author’s computation

The analysis tried to include many different independent variables to understand the factors that can influence the decision of households when choosing the different healthcare facilities in South Africa. Traditional health facilities were taken as the reference category in the multinomil logistic regression analysis to investigate factors that motivate a household to choose one type of health care facility and not the other. The results from the multicollinearity test indicated that the problem of multicollinearity was not present as the Pearson correlation coefficient was less than 0.8 for the independent variables. Kennedy (2003) argues that non-continuous variables should have a value less than 0.8 because a value of 0.8 and above shows a high correlation coefficient between two independent variables. Among the ten variables that were included in the model, only three variables were significant in influencing the probability of a household choosing a public healthcare facility. These variables are gender, income, and access to grants. Gender was significant in influencing a household’s choice of public healthcare facilities. The results indicate that being female increases the probability of a household choosing public health care institutions like public clinics and public hospitals when they become ill. The variable was significant at a 5 per cent level of significance (P-value, 0.019). The odds ratio of choosing public health institutions was higher for females than for males. Females had an odds ratio of 1.520, which means that the probability of females choosing public health institutions increases by 1.520 when they become ill compared to males. This means that in South Africa, more females use public health institutions compared to private and traditional health centres. These results resonate with the results of the study done in Kenya by Murithi (2013), who also investigated the factors that influence households’ choice of a healthcare provider using the multinomil logit model.
Furthermore, net household income per month in Rand had a significant favourable influence on households’ choice of public healthcare centres compared to private and traditional health centres. The variable was significant at 1 per cent (P < 0.004). The odds of choosing a public health care institution were 1.000. The probability of choosing public healthcare institutions increases by 1.000 when a household becomes ill or when they require health care. In addition, the variable grants had a negative influence on the choice of public health institutions by households when they become ill or require health care. The meaning of the variable was that the probability of choosing public health institutions declines for households who were not receiving grants (households without income from grants) compared to households that were receiving grants (households with income from grants). The variable was significant at 10 per cent (P < 0.055). The odds ratio was 0.665. This means that the probability of choosing public healthcare institutions declines by 0.665 for households that were not receiving grants compared to households that were receiving grants. The variable grant was an essential factor in the South African context since we have households who depend on grants for survival in their day-to-day living. The variables that were significant in influencing the choice of private healthcare institutions are age, income, grants, salaries/wages/commission, and pensions. The variable age of the household head was significant at a 1 per cent level of significance, (P<0.000). The odds ratio was 1.034, the probability of choosing a private health care institution increases by 1.034 when the age of an individual increases by a unit. This can be because of an increase in the income of an individual with a change in age. As the age of the household head increases, holding all other factors constant, income can also increase due to an increase in experience at work.

This can influence households to be able to pay for private healthcare, hence the positive influence on the choice for private health institutions. These findings are in line with Okumagba’s (2011) study, which investigated the determinants of the choice of the health care provider in the Delta State of Nigeria.

In addition, net income per month in Rand was significant at a 5 per cent level of significance, with a p-value of 0.015 and an odds ratio of 1.000. The variable was positive and significant. The probability of choosing private healthcare institutions increases by approximately 1.000 if the income of a household increases by a unit. An increase in income encourages households to demand more private health care institutions, which are typically associated with high-quality health care. Moreover, access to grants was also significant at a 1 per cent level of significance, with a p-value of .000 and odds ratio of 4.973. In this case, households that were not receiving grants had 4.973 higher odds of choosing private health care institutions compared to households that were receiving grants as a source of income. This may be because households that are receiving grants as a source of income generally have low levels of income, which can influence their decision on the form of a healthcare institution to choose when they become ill or require health care. The variable salaries/wages/commission had a significant negative influence on households to choose private healthcare institutions. In this variable, households with income from salaries/wages had a higher probability of choosing private health institutions compared to households without income from salaries. The variable was significant at a 5 per cent level of significance, with a p-value of 0.000 and an odds ratio of 0.314. Lacking income from salaries/wages reduces the probability of households demanding the use of private health facilities. Households with no income coming from salaries and wages had 0.314 odds of choosing private healthcare institutions. The negative influence on households without income coming from salaries/wages can be because of a high number of households that depend on income from their jobs for survival. Apart from employment, households in South Africa have limited options for other sources of income.

Lastly, the variable pension had a significant negative influence on households to choose private health care facilities. In this variable, households that were not receiving pensions had less probability of choosing private health care compared to households that were receiving pensions. The variable was significant at a five per cent level of significance, with a p-value of 0.003 and an odds ratio of 0.243. The meaning of the odds ratio is that households with no income coming from pensions had less probability of choosing private health facilities compared to those with income from pensions. Households without insurance had 0.243 odds of choosing private institutions compared to households with income that comes from pensions.

**Conclusions**

The results indicated that many households in South Africa use public healthcare services more than other healthcare services. The second most used facilities are the private healthcare services and the last are the traditional healthcare services. The objective of the study was to assess the factors that motivate or demotivate households to choose among the three healthcare facilities, public healthcare, private health care and traditional healthcare facilities. The study used the multinomial logit model, with the traditional/self-medication category was used as the reference or baseline category. Only three variables were significant in influencing the probability of a household choosing public healthcare facilities and these variables are gender, income, and access to grants. The variables that were significant in influencing the choice of private healthcare institutions are age, income, grants, salaries/wages/commission, and pensions. The study recommends that the national government should invest more in public health institutions in South Africa. The high figure of approximately 75 per cent of households that are using public health facilities shows that more investment is required in this sector since public facilities are the most used facilities compared to private and traditional facilities. The government of South Africa should also review the grant policy because the probability of choosing private health institutions was lower for households who were receiving grants compared to non-grant recipients. As a result, the government needs to revisit and review the amount of money received by households as grants to ensure that the money can allow them to go to private health facilities when they need medical assistance.
The research used 2018 South African general household statistics. A similar study employing 2019 and 2020 general household data would be good to see the factors impacting healthcare facility choice when the country was afflicted by the Covid-19.

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References


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