

DETERMINANTS OF QUALITY IN THE PROVISION OF PRIMARY HEALTH CARE SERVICES IN THE CITY OF TSHWANE

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Abstract

Orientation: Residents of the City of Tshwane require satisfactory health care services from health professionals working in health facilities. The study has identified three key predictors of satisfactory health services.

Research purpose: The purpose of the study was to assess and evaluate factors that affect the degree of satisfaction of residents of the City of Tshwane on the quality of health care services provided to them by health professionals working in public health facilities operating in the City of Tshwane.

Motivation for the study: The study was motivated by perceived lack of adherence to the integrated development plan (IDP) adopted by the City of Tshwane for ensuring an optimal provision of basic health care services to residents of the City of Tshwane.

Research design, approach and method: The design of the study was descriptive and cross-sectional. A stratified random sample of size 420 heads of households was selected for the study. Quantitative methods were used in the study. Data was collected on 19 indicators of satisfactory performance in the provision of basic health care services in designated public health facilities. Face validity was used for ensuring validity. The Cronbach Alpha test was used for ensuring reliability and internal consistency. Factor analysis was used for identifying key predictors of health service delivery. Diagnostic procedures showed that all fitted models were theoretically reliable.

Main findings: The degree of satisfaction of residents with the quality of basic health services provided to them was significantly influenced by the availability of suitably skilled health professionals, the availability of prescribed medicines, and the length of waiting time, in a decreasing order of strength. The study found that about 65% of respondents who took part in the study were satisfied with the quality of health services provided to them.

Practical/Managerial implications: A recommendation has been made to the City of Tshwane and the South African National Department of Health in which the benefits of adhering to the integrated development plan (IDP) has been explained.

Contribution/Value added: The study has shown that adhering to the integrated development plan (IDP) is an effective method of enhancing the quality of basic health service delivery in the City of Tshwane.

Keywords: City of Tshwane, Health service delivery, Service quality, Perception, Factor analysis

Introduction and background to study

The City of Tshwane provides basic health services to the residents of Tshwane in collaboration with the South African National Department of Health (DOH) at designated health facilities such as clinics and health posts. The City of Tshwane provides Antenatal and Postnatal Health Care services, Anti-Retro Viral Treatment services, Chronic Care services, Dental Care services, Direct Observed Treatment Support services, Emergency Care services, Family Planning services, HIV Counselling and Testing services, Home Based Care services, and Immunisation services to residents of the City of Tshwane at designated health facilities. The study was conducted in order to assess the perception held by residents of the City of Tshwane on the quality of health care services provided to them by employees of the City of Tshwane. The design of the study was descriptive and cross-sectional. A stratified random sample of size 420 heads of households was selected for the study.

Access to basic health services is a basic right of all South Africans (South African Government Communication and Information System 1996, December). The South African National Department of Health (DOH, 2018, April) is also responsible for ensuring the quality of health related services that are provided to all South Africans. The vision of the South African National Department of Health (DOH) is to provide quality and affordable basic health services to all South Africans. The mission of the DOH is to improve the health status of all South Africans through the prevention of illnesses and the promotion of healthy lifestyles and to consistently improve the healthcare delivery system by focusing on access, equity, efficiency, quality and sustainability (South African National Department of Health 2018, April). Employees of the DOH work hand-in-hand with the City of Tshwane in the provision of health related services to the public. The DOH plays a critical role in the provision of suitably trained and equipped health professionals at each health facility in the City of Tshwane. The DOH assists the City of Tshwane by providing health professionals and essential medicines and drugs at each designated health facility. No health service delivery can be provided to residents of the City of Tshwane by the DOH without collaboration with the City of Tshwane. As such, is strategically crucial for the DOH to work closely with the City of Tshwane at all times. The DOH and City of Tshwane use operational and strategic programmes of action that are aligned closely with each other. A review of the literature shows that the same strategy is used in the rest of the world (World Health Organization 2018, April). Both the DOH and City of Tshwane provide workplace training to employees providing health related services to the public in areas that are relevant to the Key Performance Areas (KPA) and Key Performance Indicators (KPI) of employees.

The City of Tshwane (2018, April) provides 19 categories of health related services in 21 health facilities to residents of the City of Tshwane in collaboration with the South African National Department of Health, the Gauteng Provincial Department of Health and the South African Medical Research Council. The services provided are Antenatal and Postnatal health care services, anti-retroviral treatment, chronic care treatment, dental care treatment, direct observed treatment support, emergency medical care services, family planning services, HIV counselling and testing services, homebased care services, vaccination and immunisation services, integrated management of childhood illnesses, out-patient acute curative services, prevention of mother-to-child transmission of HIV, psychiatric services, sexually transmitted infections, sick baby services, weigh-and-advise services, termination of pregnancy services, and tuberculosis treatment services.

The study conducted by Berwick, Kelley, Kruk, Nishtar and Pate (2018) have pointed out that the use of an integrated health services model is ideal for providing satisfactory basic health services to residents of developing cities such as the City of Tshwane. Employees working for the DOH must be adequately skilled and equipped in order to provide satisfactory services to residents of the City of Tshwane. Freedman and Kruk (2014) have shown that people must be served with dignity and respect at all designated health facilities. The authors have recommended the provision of incentives such as workplace training and rewards to top-performing employees working in public health service facilities.

Friedberg, Hussey and Schneider (2010) have shown that the provision of primary health care services must be monitored and evaluated at all times in order to ensure the provision of satisfactory health services to members of the community. The Key Performance Areas (KPA) and Key Performance Indicators (KPI) of health service providers must be aligned with clearly defined health service outcomes. Chinguno (2015) has shown that health planners and policy makers must ensure the availability of an enabling working environment for employees working in service delivery institutions. The author has shown that all stakeholders must protect essential services such as health services in order to save lives.

Acharya, Maru, Schwarz, Citrin, Tenpa, Hirachan, Basnet, Thapa, Swar, Halliday and Kohrt (2017) have argued that strategic partnerships are vital for alleviating resource constraints in the course of health service delivery. The authors have recommended the use of integrated health service plans of action in which the KPA and KPI of health professionals are aligned with the health needs and priorities of communities. Adam (2014) has shown that trust between Tanzanian health care providers and a community member is a key requirement for satisfactory health service delivery. Aghamolaei, Eftekhaari, Rafati, Kahnouji, Ahangari, Shahrzad, Kahnouji and Hoseini (2014) have developed a service quality framework that could be used for ensuring satisfactory health service delivery in hospitals operating in developing municipalities. The key aspects of the framework are guidelines that are recommended by the World Health Organization (WHO).

Ensuring job satisfaction among employees is a key requirement for satisfactory service delivery (Ali 2016).

An ideal method of encouraging and motivating health professionals working in Tshwane health districts is to provide incentives such as workplace training in areas that are related to KPIs and KPAs of employees. Another commonly used method is to provide apprenticeships to employees who lack technical skills. This could be done by way enabling employees to work on 5-year contracts during which trainees acquire formal academic qualifications as well as practical experience. Health professionals who underperform or lack practical skills should be encouraged to empower themselves by utilising workplace training opportunities that are provided to health professionals working for the DOH.

The study will be helpful in assessing the extent to which basic health services are utilised by residents of Tshwane. The assessment and evaluation of health service coverage rates is a key responsibility of health professionals providing essential services to members of the community (Berman 2015). Local municipalities often demand technical and administrative guidance and support from the South African National Department of Health in order to be able to provide satisfactory health services to South African urban and rural communities. The mandate of the DOH cannot be fulfilled unless employees and health professionals working for the DOH are highly skilled in order to do well in their KPAs and KPIs. Health service delivery frameworks proposed by Berman (2015) and Bilyalov (2018) indicate that Government institutions such as the South African National Department of Health need to mentor, train and equip health professionals working in designated health service facilities in local municipalities.

South African local municipalities often experience shortage of highly skilled health professionals who are available for providing basic health services to local communities at designated health facilities. Lack of training opportunities and the likelihood of demotivation among employees undermine the morale of employees. Health professionals working in designated health facilities are required to work hard under trying circumstances. In cases where health professionals lack motivation at work, the quality of health related services gets undermined. Studies conducted by Joseph (2015) have shown that it is always beneficial to keep up the morale and motivation of health professionals by providing them with incentives such as career based workplace training and short courses. It is also helpful to encourage health professionals to use innovative methods of service delivery to clients and stakeholders. Macinko and Harris (2015) have outlined the potential economic benefits of workplace training along with examples of systems that could be used by the DOH in the City of Tshwane.

Studies conducted by Alkema, Chou, Hogan, Zhang, Moller, Gemmill, Fat, Boerma, Temmerman, Mathers, Say (2016) and Aluttis, Bishaw and Frank (2014) indicate that the DOH and the City of Tshwane should be able to improve the quality of health service delivery by providing workplace training to employees of the City of Tshwane and the DOH as an incentive.

Access to basic health services is one of the key provisions of the South African Constitution. The City of Tshwane is home to about 3 million residents, inhabitants and ratepayers (Statistics South Africa 2016). The City aspires to be a leader in health service delivery to residents living in the City. The City of Tshwane has the responsibility of providing adequate health related services to all South Africans at all designated health facilities.

Rationale of study

Very few studies of this kind have been conducted within the DOH. As such, findings of the study are quite valuable to the DOH for improving the quality of basic health services that are provided to residents of Tshwane. It is essential to monitor and evaluate the quality of basic health service delivery in the City of Tshwane (Althoff, Rebeiro, Brooks, Buchacz, Gebo, Martin, Hogg, Thorne, Klein, Gill & Sterling 2014). Workplace training has been found to be helpful for minimising wastage of public finance and resources (Anhang Price, Elliott, Zaslavsky, Hays, Lehrman, Rybowski, Edgman-Levitan & Cleary, 2014). The ability of the DOH to achieve this goal depends on the degree to which it motivates its health professionals at work. Improving productivity by health professionals will enable the DOH to utilise scarce resources optimally.

Objectives of study

The study has the following two specific objectives:

- To assess the perception held by residents of the City of Tshwane about the quality of basic health services that are provided to the public in the City of Tshwane at designated health service centres; and
- To identify and quantify factors that are known to affect the degree of satisfaction of residents of the City of Tshwane with the quality of basic health services that are provided to the public in the City of Tshwane at designated health service centres.

Literature review

The provision of basic health service delivery at the municipal level is a key aspect of governance in South Africa. All citizens of the nation require access to basic health services. Health service delivery requires collaboration between Departments of Health and local municipalities. Basch, Deal, Dueck, Scher, Kris, Hudis and Schrag (2017) define health service delivery as the ability of health care facilities and institutions to provide satisfactory health care services to the population optimally. The authors highlight the need to utilise resources optimally in the course of health service delivery. Improving the quality of health service delivery requires efficient monitoring and evaluation at all designated health care facilities. Basinga, Gertler, Binagwaho, Soucat, Sturdy and Vermeersch (2011) point out that the ability of health facilities to provide satisfactory health care services depends on factors such as the availability of suitably qualified health professionals, the availability of essential medicines and drugs, an enabling working environment, respect for good leadership and good governance, and work-related incentives to top-performing employees.

It is possible to help employees to improve their degree of motivation and commitment at work by identifying a clearly defined task and potential incentives. It is vital to promote positive culture in the organisation as a means of improving overall performance by employees. Workplace training is a strategy that is commonly used by high performance and public service delivery institutions worldwide (Aghamolaei, Eftekhaari, Rafati, Kahnouji, Ahangari, Shahrzad, Kahnouji & Hoseini 2014). According to the authors, employees can acquire the skills and knowledge they need to be more productive at work from workplace training opportunities. This enables them to be more competitive and raise their level of income. Workplace training is also helpful for ensuring job security and career advancement.

According to Acharya, Maru, Schwarz, Citrin, Tenpa, Hirachan, Basnet, Thapa, Swar, Halliday and Kohrt (2017), on the job training is attractive because it needs less investment in time and money for materials, training fees and instructional designs. However, on the job training must be structured in order to be effective. Structured on the job training is defined as the planned process of having experienced employees train novice employees on units of work in the actual work setting (Adam, 2014). On the job training has apparent advantages because the training is conducted when the need arises and without demanding additional resources from the organisation. Structured on-the-job training takes less time to conduct and achieves the objectives compared to other training, such as classroom training and other methods of training.

Chinguno (2015) defines adequate health service delivery as the provision of satisfactory health care services at affordable rates. The task of providing basic health service delivery on a sustainable manner is a duty of all South African local municipalities, as has been stipulated in Section 152(1)(b) of the South African Constitution (South African Government Communication and Information System (1996, December). Health service delivery objectives empower local communities economically. Participation will then encourage them to pay for their services which will then sustain municipalities in terms of service delivery. The constitutional obligations of local municipalities are further extended to various pieces of legislation in order to empower South Africans legally.

According to Ali (2016), it is essential to provide community based basic health services in developing nations such as South Africa. Community participation is vital on all health service delivery programmes. Community members and leaders must be encouraged to participate in the planning and implementation of public health programmes.

According to Hinchcliff, Greenfield and Braithwaite (2014), perceptions of the quality of basic health service delivery vary depending on socioeconomic problems such as unemployment, poverty, leadership quality and respect

for the rule of law. Koltov and Damle (2014) have shown that the alleviation of poverty and unemployment contributes positively to the alleviation of poor health service quality outcomes. Health outcomes and goals must be clearly stated at the start of each budget year in order to allocate the necessary resources that are needed for the implementation of plans. Health professionals must be encouraged to read research articles, newsletters and guidelines published by the World Health Organization (WHO 2018) and the UNICEF (2019) in order to keep themselves familiarised with current trends and best practice principles in public health service delivery. Local municipalities should invest in the establishment and maintenance of libraries so that their employees and visitors could read relevant materials such as quarterly and annual health reports published by the DOH (2018), WHO (2018) and the UNICEF (2019).

The demand for basic health services provided by the DOH has increased sharply since April 1994. The DOH uses massive resources to address issues related to the prevention and cure of communicable diseases in rural and urban areas of South Africa. This fact makes it essential for the DOH to utilize resources effectively and optimally. As such, the provision of skills related workplace training opportunities is strategically beneficial for the DOH. This assessment is consistent with recommendations made by researchers such as Ali (2016) and Berman (2015). The authors state that it is essential for local municipalities to utilise their health budgets optimally based on approved plans of action. The ability to utilise resources such as budget, medicines and employees optimally determines health service coverage rates.

Public health officials must be committed to provide good leadership to members of the community. Public sector employees are often exposed to the likelihood of corruption and underperformance due to a number of challenges. Good leadership is needed to provide proper leadership and guidance to such employees. Failure to do so results in the promotion of lawlessness, corruption, anarchy, the wastage of scarce resources and the abuse of power. Adam (2014) argues that public health practitioners must be encouraged and guided to respect ethical standards and discipline at the workplace. The nature of human beings is such that good leadership is needed in order to discourage unethical behaviour by political office-bearers and public health officials.

Methods and materials of study

The study was exploratory in nature, and descriptive methods were used for performing the analyses of data sets collected from 420 residents of Tshwane as part of the study. Stratified random sampling was used selecting eligible respondents. The five geographical zones of Tshwane (central, east, west, north and south) were used for stratifying the population of Tshwane. Frequency tables, crosstab analyses (Cohen, West & Aiken 2013) and factor analysis (Mertler & Reinhart 2016) were used for data analyses. At each household, heads of households were interviewed. Data collection was conducted by using a structured questionnaire. The questionnaire of study was pre-tested and validated before it was used for data collection. Data was collected from each of the 420 respondents who took part in the study on one dependent variable of study (perception held about the quality of health services provided to residents of Tshwane at designated health service facilities) and 19 predictors of health service delivery.

Y: Perception held by respondents about the quality of basic health services provided to residents of the City of Tshwane (Positive, Negative)

Independent or explanatory variables of study (X_1, X_2, \dots, X_k)

- Gender (Male, Female, Others)
- Age of respondent in years (20 years or less, 21 to 40 years, 41 to 60 years, 61 years or more)
- Marital status (Married, Single, Divorced, Widowed, Living together)
- Geographical zone in City of Tshwane (Central, East, West, North, South)
- Race group (African, White, Coloured, Indian, Asian)
- Number of years in residence (Less than 5 years, 5 to 10 years, More than 10 years)
- Number of people in the household (Five or fewer, More than 5)
- Highest level of education (Grade 12 or less, Certificate, Diploma, Bachelor's degree, Master's degree or above)
- Type of occupation (Civil servant, Entrepreneur, Academic, Tourism, Hotel industry, Transport industry, Health professional, Security industry, Construction industry, Tourism industry, Farming, Faith based)

- institution, others)
- Utilisation of family planning services (Yes, No)
 - Utilisation of Voluntary Counselling and Testing (VCT) services (Yes, No)
 - Utilisation of Termination of Pregnancy (TOP) services (Yes, No)
 - Utilisation of tuberculosis (TB) services (Yes, No)
 - Utilisation of HIV/AIDS services (Yes, No)
 - Utilisation of Antenatal Health Care (ANC) and/or Postnatal Health Care (PNC) services (Yes, No)
 - Utilisation of immunisation (IMM) services (Yes, No)
 - Utilisation of Direct Observed Treatment Support (DOTS) services (Yes, No)
 - Utilisation of Out Patients Department (OPD) services (Yes, No)
 - Utilisation of Emergency Medical Care (EMC) services (Yes, No)
 - Utilisation of psychiatric services (Yes, No)

A structured questionnaire was used for quantitative data collection. In order to ensure content validity (Ritchie, Lewis, Nicholls & Ormston 2013), the questionnaire of study was pre-tested and validated before it was used for data collection. The variables of study were measured by using nominal (yes, no) scales and 5-point ordinal scales (Highly satisfied, Satisfied, Not sure, Dissatisfied, and Highly dissatisfied). Cronbach-Alpha tests were used for ensuring reliability and internal consistency (Ritchie, Lewis, Nicholls & Ormston 2013). All estimated Cronbach Alpha coefficients had magnitudes of 0.75 or above, thereby confirming that all measurement tools and scales used for data collection in the study were reliable and consistent enough (Ritchie, Lewis, Nicholls & Ormston 2013). Quantitative or statistical methods of data analysis were used as a principal method of data analysis in this study. Frequency tables, Pearson's chi-square tests of associations (Cohen, West & Aiken 2013) and factor analysis (Mertler & Reinhart, 2016) were used for performing multivariate data analyses.

Factor analysis

Factor analysis (Mertler & Reinhart, 2016) is a method used for data reduction. The method is quite useful for reducing the number of influential predictor variables to a small and manageable number so that meaningful analysis and interpretation can be done. Influential predictor variables have Eigen values that have magnitudes that are greater than 1. Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure were used to check if there is sufficient correlation between variables and the suitability of a factor analysis. The results confirmed that it was necessary to perform factor analysis (Mertler & Reinhart 2016). Factor analysis produces estimates for Eigen values (retaining those with Eigen values of 1 or greater), scree plots and a Varimax Rotation Component Matrix. Factor analysis produces a score for each factor (a measure of influence). The score is used for identifying influential predictors of satisfaction with the quality of health services provided to residents at designated health facilities. Ethical approval was obtained from the Ethics Committee of Tshwane University of Technology in Pretoria.

Results of study

Table 1 shows that 65% of respondents had positive perceptions about the quality of basic health services that were provided to them by employees of the DOH and City of Tshwane at designated health facilities. The table also shows that the remaining 35% of respondents had negative perceptions about the quality of basic health services provided to them. The table provides percentages for the general characteristics of respondent. The figures shown in Table 1 are normal for a developing municipality in Sub-Saharan African countries by the standards of WHO (2018) and UNICEF (2019).

Table 1: General characteristics of residents (n=420)

Characteristic	Percentage
Perception on the quality of basic health services provided to residents of the City of Tshwane	Positive: 65.00% Negative: 35.00%
Degree of satisfaction with the quality of basic health services provided to residents of the City of Tshwane	Highly satisfied: 5.83% Satisfied: 58.33% Not sure: 27.50% Dissatisfied: 7.50% Highly dissatisfied: 0.83%
Age category of respondents in years	20 years or less: 5.83% 21 to 40: 52.50% 41 to 60: 30.83% 61 or more: 10.83%
Gender of respondent	Male: 50.83% Female: 49.17%
Marital status	Single: 17.50% Married: 46.67% Divorced: 11.67% Widowed: 7.50% Living together: 16.67%
Race category of respondent	African: 76.67% White: 12.50% Coloured: 5.00% Indian: 5.00% Asian: 0.83%
Period of residence in years	Less than 5 years: 15.00% 5 to 10 years: 26.67% More than 10 years: 58.33%
Number of people in household	5 or less: 40.83% More than 5: 59.17%
Highest level of education	Master's degree or above: 15.83% Bachelor's degree: 12.50% Certificate or Diploma: 25.83% Grade 12 or less: 45.83%

Table 2 shows the occupations held by respondents. About 30% of respondents were civil servants who worked in various Government Departments. About 12% of respondents were academics. The percentage of entrepreneurs was about 13%. The percentage of respondents who worked in the construction industry was about 10%. The

percentage of respondents who worked in the transportation industry was about 9%. About 8% of respondents were health professionals.

Table 2: Occupation of residents (n=420)

Characteristic	Percentage
Occupation of respondent	Civil servant: 30.00% Academic: 11.67% Construction: 10.00% Academic: 11.67% Entrepreneur: 12.50% Farming: 5.83% Health professional: 7.50% Hotel industry: 3.33% Security industry: 5.00% Transport: 9.17% Faith based institution: 2.50% Tourism: 2.50%

Table 3 shows a frequency table for the degree to which basic health services were utilised by respondents. Family planning services were utilised by about 58% of respondents.

Voluntary counselling and testing services were utilised by about 64% of respondents. Termination of pregnancy services were utilised by about 42% of respondents.

Tuberculosis services were utilised by about 93% of respondents. HIV and AIDS services were utilised by about 51% of respondents. Antenatal and postnatal health care services were utilised by about 48% of respondents. Immunisation services were utilised by about 83% of respondents. Directly Observed Treatment Services (DOTS) were utilised by about 43% of respondents. Out Patients Department (OPD) services were utilised by about 99% of respondents. Emergency Medical Care (EMC) services were utilised by about 54% of respondents. Psychiatric care services were utilised by about 54% of respondents.

Table 3: Utilisation of basic health services by respondents (n=420)

Type of basic health service	Percentage
Family planning services	Yes: 58.33% No: 41.67%
Voluntary counselling and testing services	Yes: 64.17% No: 35.83%
Termination of pregnancy services	Yes: 41.67% No: 58.33%

Tuberculosis services	Yes: 92.50% No: 7.50%
HIV and AIDS services	Yes: 50.83% No: 49.17%
Antenatal and postnatal health care services	Yes: 48.33% No: 51.67%
Immunisation services	Yes: 83.33% No: 16.67%
Directly Observed Treatment Services (DOTS)	Yes: 42.50% No: 57.50%
Out Patients Department Services (OPD)	Yes: 99.17% No: 0.83%
Emergency Medical Care Services (EMC)	Yes: 54.17% No: 45.83%
Psychiatric care services	Yes: 54.17% No: 45.83%

Table 4 shows estimates obtained from two-by-two crosstab analyses (Cohen, West & Aiken 2013) in which 3 factors that were significantly associated with the quality of basic health services are identified. All 3 factors have P-values that are smaller than 0.05.

Table 4: Factors associated with positive perception about health services (n=420)

Factors associated with positive perception	Observed chi-square value	P-value
Availability of suitably skilled health professionals	5.9097	0.015
Availability of essential medicines and drugs at health facilities	4.1949	0.041
Length of waiting time for services	4.0628	0.044

Table 4 shows that positive perception about health services was significantly associated with the availability of suitably skilled health professionals, the availability of essential medicines and drugs at health facilities, and the length of waiting time for services.

Factor analysis (Mertler & Reinhart, 2016) was used in order to perform data reduction. Factor analysis is a data reduction technique used to reduce a large number of variables to a smaller set of underlying factors that summarize the essential information contained in the variables. Factor analysis was performed by computing a correlation matrix for all variables, by extracting initial factors that affect the degree of satisfaction of respondents with the quality of basic health services, and by rotating extracted factors as a terminal solution.

The procedure produced 3 influential predictor variables that influenced the degree of satisfaction of respondents with the quality of basic health services that were provided to residents of Tshwane. Factor analysis is appropriate in cases where the sample size of study is large and correlations among pairs of variables exceed 0.30 (Mertler & Reinhart 2016). The degree of satisfaction of respondents with the quality of basic health services was significantly influenced by the following 3 influential variables of study:

1. Availability of suitably skilled health professionals
2. Availability of essential medicines and drugs at health facilities
3. Length of waiting time for services

All Cronbach Alpha coefficients had magnitudes of above 0.80, thereby confirming that measurement scales used in the study were reliable enough. Bartlett’s test of Sphericity was used for testing the adequacy of the correlation matrix, and gave an estimate of 0.801, a figure that is greater than 0.75, thereby confirming the suitability of factor analysis for performing data analysis.

Table 5: Goodness-of-fit measures for factor analysis (n=420)

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy	0.808
Observed value of chi-square statistic for KMO test	11181.19
Bartlett's Test of sphericity degrees of freedom	371
P-value for Bartlett's Test of sphericity degrees of freedom	0.000

The results shown in Tables 5 and 6 indicate that estimates obtained from factor analysis are highly reliable. Table 5 shows that factor analysis is suitable as a method of data analysis. Table 6 shows Eigen values corresponding to 3 influential predictors. It can be seen from the table that the 3-factor model used for factor analysis has explained 82.821% of the total variability in the degree to which respondents are satisfied with the quality of services provided to the general public. The table shows the percentage of variation explained by each one of the 3 influential predictor variables of study.

Table 6: Predictors estimated from factor analysis (n=420)

Extracted factor	Eigen value	Percentage of explained variance in viability	Cumulative percentage of explained variance
Availability of suitably skilled health professionals	4.4309	38.117	38.117
Availability of essential medicines and drugs at health facilities	3.8416	26.272	64.389
Length of waiting time for services	2.7418	18.432	82.821

The key finding from factor analysis is that the perception of residents is significantly influenced by the following 3 factors:

1. Availability of suitably skilled health professionals
2. Availability of essential medicines and drugs at health facilities
3. Length of waiting time for services

The 3 factors jointly account for 82.821% of total variability in perception. This figure is above 75%. As such, it can be concluded that the fitted factor analysis model is theoretically reliable.

Discussion of results

The study has identified and quantified key predictors of satisfactory health service delivery in the City of Tshwane. Results obtained from data analyses have shown that about 65% of the 420 respondents who took part in the study were satisfied with the quality of basic health services provided to them by employees of the City of Tshwane and the DOH. About 35% of respondents were dissatisfied with the quality of basic health services that were provided to them. Based on results obtained from two-by-two crosstab analyses and factor analysis, the degree of satisfaction of respondents with the quality of basic health services provided to them was significantly influenced by the availability of suitably skilled health professionals, the availability of prescribed medicines, and the length of waiting time, in a decreasing order of strength.

Access to basic health services is a key right of all South Africans living in the City of Tshwane. For over a decade, the South African Auditor-General has informed all South African municipalities and local governments about the benefits of good governance and respect for the Public Finance Management Act. However, almost all South African municipalities and local governments keep receiving qualified audit reports from the Auditor-General. In many municipalities, there are no monitoring and evaluation programmes that could be used for ensuring value for money. The African National Congress (ANC) routinely calls upon local municipalities to promote good corporate governance principles. However, local municipalities often fail to utilise their resources according to approved plans of action.

The ability to provide satisfactory health services requires good leadership and resources such as work force and budget. Human resource challenges with regards to skills and capacity in municipalities. Many municipalities across South Africa just do not have the people with the requisite technical skills and in cases where they do there is sometimes a shortage of skilled personnel who can assist the municipality in rendering quality services to the people.

Recommendations

Based on the findings of study, the following recommendations are made to the City of Tshwane and the South African National Department of Health so that the current degree of basic health service delivery could be enhanced:

- All basic health service delivery programmes of action drawn up by the South African National Department of Health (DOH) must be sufficiently aligned with the Integrated Development Plan (IDP) adopted by the City of Tshwane for the provision of municipal services to residents of Tshwane.
- Awareness programmes must be promoted in all parts of the City of Tshwane in order to improve health service coverage rates. This should be done in collaboration with the private sector, Non-Government Organisations (NGOs), WHO, UNICEF and relevant stakeholders. Ward committees and community leaders must be encouraged to take part in the promotion of awareness programmes.
- A comprehensive monitoring and evaluation plan should be developed and implemented as a means of assessing and evaluating health coverage rates and health service quality. Assistance should be provided to local councilors who are responsible for monitoring and evaluating the quality of health services provided to residents by equipping them with adequate support, mentoring and skills development training programmes.
- An incentive should be provided to top-performing employees in a form of workplace training in areas that are related to KPAs and KPIs.

Conclusions

Findings of the study have shown that the degree of satisfaction of residents of Tshwane with the quality of basic health services provided to them was significantly influenced by the availability of suitably skilled health professionals, the availability of prescribed medicines, and the length of waiting time. Local municipalities must be actively encouraged and supported to compete with each other as a means of ensuring service excellence and

optimal health service delivery. The World Health Organisation (2018) and the UNICEF (2019) have both pointed out that it is vital to provide basic health services to local communities based on community based primary health programmes of action. Doing so enables full participation by local community members and their leaders. Freedman and Kruk (2014) state that despite well-articulated service delivery principles, South Africa is faced with a number of challenges in terms of poor health service delivery. Haag, Peres, Balasubramanian and Brennan (2017) and Hinchcliff, Greenfield and Braithwaite (2014) have found that perceptions about the quality of basic health service delivery vary depending on socioeconomic problems such as unemployment, poverty, leadership quality and respect for the rule of law. Koltov and Damle (2014) have shown that the alleviation of poverty and unemployment contributes positively to the alleviation of poor health service quality outcomes. Silva, Rodrigues, de la Torre Diez, Lopez-Coronado and Saleem (2015) have shown that local municipalities should ensure the availability of infrastructure and an enabling working environment. The authors have highlighted the need to promote good leadership and good governance at the grassroots level.

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Author's contributions

I declare that I am the sole author of this research article.

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Disclaimer

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