

PUBLIC SATISFACTION WITH HEALTHCARE SERVICES IN TABUK CITY: A CROSS-SECTIONAL SURVEY

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Abstract

Background: The growing population, increased life expectancy, high prevalence rate of chronic illness and comprehensive health insurance are factors that increase the demand for acceptable healthcare services. Measuring and ensuring client satisfaction is one of the most crucial features of identifying the success of healthcare organizations.

Purpose: The main purpose of this study is to identify public satisfaction with healthcare services



in Tabuk City.

Method: A descriptive cross-sectional survey was used. 700 participants were recruited. The study instrument was composed of 34 Likert-scale items in addition to ten questions related to demographic data. The Statistical Package for Social Science (SPSS) version 23 was used. Simple descriptive statistics were used to characterize the participants. Furthermore, suitable inferential statistics were used to compare differences in means between groups.

Results: 651 participants completed and returned the questionnaire, with a response rate of 93%. The mean age of participants was 37.3 (SD 12.5 years). Fewer than half of the participants (47.8%) were dissatisfied with the healthcare services received. However, the mean total satisfaction score was low at 5.7 (SD 2.11) out of ten. There were significant differences between groups in terms of nationality ($U=17413.0$, $p<0.001$) and type of patient ($U=27915.50$, $p=0.04$). Also, the Kruskal-Wallis test revealed significant differences between groups in terms of the level of education ($H=26.559$ $p<0.001$) and income ($H=11.824$ $p=0.008$).

Conclusion: The overall satisfaction level was low. The current study's result may help improve the quality of delivered healthcare services.

Keywords: *Saudi Arabia, healthcare services, healthcare quality, public satisfaction.*

Introduction

Health security is one of the basic human needs (Caballero & Amul, 2014). Accordingly, to meet this basic need, the Saudi Ministry of Health (SMOH) provides comprehensive and free-of-profit healthcare services for all citizens (Walston et al., 2008). Healthcare services are also provided by the following sectors: the Armed Forces Hospital (AFH), National Guard Hospitals (NGH), Security Forces Hospital (SFH), and the private sector, distributed throughout the Kingdom of Saudi Arabia (KSA) (Almalki et al., 2011). By 2020 the number of hospitals in KSA had reached 504, with a number of beds 75,596, a rate of 22.4 beds per ten thousand population (Ministry of Health, 2022).

The growing population, increased life expectancy, the high rate of chronic illness, and the comprehensive health insurance provided by the KSA government are all factors increasing the demand for healthcare services (Al-Hanawi, Alsharqi, Almazrou, Vaidya, & Policy, 2018). Therefore, in response to the health needs of society, and with technological progress, healthcare services are expanding in turn to meet the demand (Velikj-Stefanovska & Stefanovska-Petkovska, 2014). As the Kingdom of Saudi Arabia launched the Health Transformation Program, which in turn is expected to help in the achievement of the National Vision 2030. The program aims to reform the Kingdom's health sector into a complete, effective, and integrated health system focused on individual and societal health (including citizens, residents, and visitors). Moreover, the program intends to expand the provision of e-health services and digital solutions, improving access to health services through optimal coverage and a comprehensive and equal geographical distribution (Alasiri & Mohammed, 2022).

Measuring and ensuring client satisfaction is one of the most essential aspects of identifying the success of healthcare organizations (Manzoor, Wei, Hussain, Asif, & Shah, 2019). Like most

other psychological concepts, satisfaction is difficult to define but easy to understand (Al Sharif, 2008). The concept of satisfaction is not an established phenomenon waiting to measure, but a judgment of people shaped over time as a reflection of their experience (Al Sharif, 2008). Thus, the client's satisfaction is the goal of the healthcare system and reflects its quality (Hassali et al., 2014; Hussain, Rehman, Ikramuddin, Asad, & Farooq, 2018; Merkouris et al., 2013). Understanding the patient's behavior as represented by his commitment to the treatment plan and reviewing the health facility and recommending it to other people is one of the means of measuring patient satisfaction (Hassali et al., 2014; Merkouris et al., 2013).

Globally, in a study conducted in Ghana with 1,381 participants, the authors found that 38.3% of the participants were not satisfied with the healthcare service, while 14.6% were neither satisfied nor dissatisfied (Amoah, Nyamekye, & Owusu-Addo, 2021). Another study conducted in Uganda classified healthcare services into private and public hospitals (Ochan, Aaron, Aliyu, Mohiuddin, & Bamaïyi, 2018) revealed that 83.8% were satisfied with private hospitals. Furthermore, they found that 71.3% were satisfied with public hospitals. In a study conducted in China, (Zhang et al., 2020) found large differences in the public's satisfaction with the healthcare system, related to demographic and socioeconomic factors, regional location, traits, urban-rural, the abundance of local health resources, and the environment. Furthermore, (Abd Sa'adoon, 2008) found that the healthcare services provided by facilities were unsatisfactory to 222 (49.1%) of the participants. A high percentage of discontent is linked to a lack of education, unemployment, male gender, and being single. There was a strong statistical link between age, education, marital status, employment status, and satisfaction with healthcare services. Regionally in Jordan, (Qadire & Alkhalaileh, 2017) found that 58.8% of the participants were not satisfied with healthcare services. Locally, a study conducted with primary healthcare clients in Riyadh showed that 80% of the 1,741 participants were satisfied with health services; however, 50% were dissatisfied with the establishment, and 44.4% were dissatisfied with the waiting time (Almutairi, 2017).

In the Tabuk region, there are 15 hospitals with a capacity of 2,565 beds and more than 94 facilities that provide various health services, including examinations, treatment, surgery, rehabilitation, and primary care. These serve approximately 968,414 people (Ministry of Health, 2022). The population of Tabuk City is expected to double in the near future in response to huge ongoing projects, putting intense pressure on the healthcare system in terms of quality and availability (NEOM, 2020). One of the most famous projects in the Tabuk region is the Neom project, which aims to establish an integrated system for the health sector and vital technologies that transcend the traditional boundaries of healthcare (NEOM, 2020).

Nevertheless, there is a paucity of published articles on public satisfaction with healthcare services in KSA, and no authors have studied public satisfaction in the Tabuk region. This study's main purpose was to identify public satisfaction with healthcare services in Tabuk City. It will answer the following questions:

1. Are the public satisfied with the healthcare service they received?

2. Are there significant differences between the services provided by healthcare sectors based on certain demographic characteristics?

Method

Design

A descriptive cross-sectional survey was used to identify public satisfaction with health services.

Sample and sampling technique

A convenience sampling technique was used to recruit the sample to participate in the current study. The estimated sample size was 700 individuals living under Tabuk governance, 18 years old and above, and receiving healthcare services during the last month before the data collection.

Instrumentation

The questionnaire for the satisfaction survey was developed by (Qadire & Alkhalaileh, 2017). There were 34 variables, each measured on a 10-point scale ranging from 0 (not at all satisfied) to 10 (very satisfied). Questionnaire variables included satisfaction with medical and nursing services, communication, information provision, the administrative process (admission and discharge), and hospital amenities and services. Mean total scores ranged from 0 to 10. According to the authors, the instrument is valid and reliable. Cronbach's Coefficient Alpha was high at .97. The research tool was approved for content and face validity. Four questions were added to identify satisfaction with emergency department services.

Data collection procedure

Data was collected by the research team through a direct approach to the study participants, who were asked to fill out the questionnaires and return them to the team. For illiterate participants, the researcher filled out the questionnaires using a short interview approach.

Ethical considerations

This study received ethical approval from the University of Tabuk Ethics Committee at Tabuk University (UT-205-56-2022) on March 03, 2022. A cover letter explaining the nature of the study and the rights of participants was attached to the research instrument. Completing the questionnaire was considered an agreement to participate in the study. Anonymity and confidentiality were assured throughout and after the study. No name or identification data was required; the participants were assured that participation was voluntary, and they could withdraw from the study at any time without any consequences.

Data analysis plan

The Statistical Package for Social Science (SPSS) version 23 was used to analyze the data. Simple descriptive statistics such as means, frequencies, and standard deviation (SD) were used to characterize the participants. Suitable inferential statistics were used to compare differences in means between groups of variables, such as Shapiro-Wilk and Kolmogorov-Smirnov normality test, Kruskal-Wallis test, and other appropriate tests.

Results

Seven hundred questionnaires were distributed; 651 were completed and returned, with a response rate of 93%. The mean age of participants was 37.3 (SD 12.5 years); two-thirds were

below 40 years of age, and 54.8% were male. The majority of participants (87.1%) were Saudi. Around half of the respondents had bachelor's degrees. Most of the participants received healthcare services from the Ministry of Health. Demographic data is presented in Table 1. *Insert table 1*

Satisfaction ratings

According to the authors of the instrument, a score of six on every single variable or a total mean score of 6 is required to consider the participant as "satisfied". The results of the current study showed that less than half of the participants (47.8%) were not satisfied with the received healthcare services. The mean total satisfaction score was low at 5.7 (SD 2.11) out of the maximum of 10. Mean scores for each variable of the satisfaction questionnaire are presented in Table 2. The table shows that the participants were dissatisfied with communication with healthcare workers (Mean= 3.36, SD 2.95), also they were dissatisfied with meeting and discussing their healthcare status with the family (Mean= 4.24, SD 3.60), the time designated to individuals by the physician (Mean= 4.28, SD 3.04), and availability of emergency public relations staff (Mean= 4.58 SD 2.34). Participants were moderately satisfied with the healthcare institution's tidiness (Mean= 7.70, SD 2.78), the nursing care (Mean= 7.62, SD 3.13), availability of medical equipment and machines (Mean= 7.47, SD 2.94), the institution's infrastructure (Mean= 7.23, SD 2.84), and cost of medical care (Mean= 6.94, SD 3.25). Overall, the satisfaction scores for all variables in the questionnaire were between 3.36 and 7.7. *insert table 2*

Differences in satisfaction scores according to socio-demographic characteristics

Tests of Normality

To test the normal distribution of scores Shapiro-Wilk and Kolmogorov-Smirnov normality tests were conducted; the result revealed left skewness, which means that the scores were not normally distributed. In this case, and along with the inequality of sample size in the groups, the assumptions of the t-test were violated.

The nonparametric Mann-Whitney test was therefore performed to compare the total mean ranks of the total scores regarding gender, nationality, type of patient, age, and living area. The results showed no significant differences in the mean ranks concerning age and living area, while there was a significant difference in terms of gender ($U = 47552.0$, $p = 0.039$): female (mean rank = 342.76) compared to male (mean rank = 312.20). Furthermore, there was a significant difference in terms of nationality ($U = 17413.0$, $p < 0.001$), this result indicating that residents were more satisfied with healthcare services than Saudi nationals. The results also showed a significant difference in terms of the type of patient ($U = 27915.50$, $p = 0.04$), indicating that inpatients were more satisfied with healthcare services than outpatients; see, Table 3. *Insert table 3*

As stated above, the mean scores were not normally distributed, and the sample size in the groups was not equal, so the assumptions of ANOVA were violated. The nonparametric Kruskal-Wallis test was used to test the significant differences in the mean rank of the total satisfaction scores concerning the health sector, visit frequency, level of education, and income. No significant differences were found in terms of the health sector or visit frequency. However, there were

significant differences between groups in terms of the level of education ($H = 26.559$ $p < 0.001$), and income ($H = 11.824$ $p = 0.008$). The Bonferroni correction post hoc test was conducted to see the Pairwise Comparisons of income, the results revealing that people with an income below 5000 SR were more satisfied than those with 5000-9999 SR and 10000-19999 SR. the Bonferroni correction post hoc test was also conducted to ascertain the Pairwise Comparisons of the level of education, the results revealed that people with secondary education or below were more satisfied than people with a bachelor's degree and those with higher education levels; see Table 4. *Insert table 4*

Discussion

The results of the current study showed that 47.8% of the participants were not satisfied with the healthcare services that they had experienced. The mean of the total satisfaction score was low, these findings are supported by the findings of (Qadire & Alkhalaileh, 2017) who found low satisfaction levels among participants. Moreover, (Ahmad, Mohd, & Anees, 2018) in their study conducted in Malaysia indicated that more than half of the participants were dissatisfied with the healthcare services they received. Conversely, a study conducted in Kuwait found that participants were satisfied with their medical services (Alazmi & Almutairi, 2018).

The results of the current study revealed that participants were dissatisfied with the communication with healthcare workers, although this may be a result of many factors that affect communication generally such as language and cultural differences. These results agreed with those of Alshammari and his colleagues, who indicated that language and cultural differences affect client satisfaction (Alshammari, Duff, & Guilhermino, 2019) and (Qadire & Alkhalaileh, 2017) who found that participants were dissatisfied with communication with healthcare and administrative workers. On the other hand, (Almutairi, 2017) found that the satisfaction rate was 72.7 % with the communication services in primary healthcare centers; this may be justified by the availability of Saudi staff in these centers. (Al-Hanawi et al., 2018) also found that participants were fairly satisfied with the level of service they received. However, dissatisfaction with the information provided about health conditions and diagnosis, the physicians' attention to the description of symptoms, the information provided about managing pain, the information provided about lab tests and treatment, communication with healthcare workers, and communication with administrative staff suggest that there were problems in the communication process. This is expected, given that approximately 45% of the healthcare workers were non-Saudi (Senitan & Gillespie, 2020).

In the Mann-Whitney U test, the results of the current study showed that females were more satisfied than males. These findings supported (Alazmi & Almutairi, 2018) who found that females were significantly more satisfied than males regarding healthcare services. In contrast, (Mohamed et al., 2015) found that males were more satisfied than females with healthcare services. (Horodnic, Apetrei, Luca, & Ciobanu, 2018) also found that males were more satisfied than females. However, other studies revealed no significant differences in satisfaction levels between male and female patients (Al-Wathinani et al., 2022; Ayu Adnya Dewi, Darma Yanti, & Saputra,

2020; Karaca & Durna, 2019; Qadire & Alkhalaileh, 2017). Regarding nationality, residents' satisfaction level was higher than Saudis' in this study. This may be because the residents were from a low-income country that had low satisfaction levels. Also, their expectation of healthcare services may reflect their judgment of the services received. These results differed from the findings of (Al-Wathinani et al., 2022), who found that Saudi participants were more satisfied than residents. Regarding the type of patient, inpatients were more satisfied than outpatients. These results are congruent with those of (Ayu Adnya Dewi et al., 2020), who found higher satisfaction levels among hospitalized patients.

In the Kruskal-Wallis test, regarding income, participants with 5000 or above were less satisfied than those with less than 5000. This result is supported by the findings of (Ahmad et al., 2018) who found that low-income participants were more satisfied with health services than middle- and high-income participants. This may be related to the free cost of services. Also, regarding the level of education, those with a low educational level were more satisfied than those with degrees, a result similar to the findings of (Qadire & Alkhalaileh, 2017) who found less satisfaction with health services among educated participants than those with lower-educated participants. This may be because educated people are aware of their rights and seek excellent care if they are to be satisfied. In contrast, (Biresaw, Mulugeta, Endalamaw, Yesuf, & Alemu, 2021) found educated participants were more satisfied than illiterate participants.

Conclusion

This study reveals that a high percentage of Tabuk inhabitants were dissatisfied with the quality of the healthcare they received., and the major contributing to this dissatisfaction being communication. On the other hand, the participants most satisfied with the healthcare services provided low income and education levels, came from outside Tabuk, or were inpatients. Thus, our results are of importance both in the improvement of healthcare policy and the services provided to the public. First, healthcare providers should be familiar with the issues that may have an impact on patient satisfaction. Furthermore, the issues with a positive impact should be strengthened, and those with a negative impact eliminated. Second, the study's findings could be used to help policymakers design policies that are in accordance with contemporary healthcare reforms. Also, the identified determinants of patient satisfaction should inform indicators when developing satisfaction measurement tools, whether in clinical or research settings. In healthcare settings, it should be typical practice to measure patient satisfaction. Therefore, it appears that good patient communication is a prerequisite for healthcare practice and a goal to strive for.

Limitations and recommendations

The first limitation of this study is that the type of sampling technique used was a convenience sample, limiting generalization. The second limitation is that a self-administered questionnaire may affect the response of participants. Therefore, the authors recommend that further research should use the random sample method in assessing satisfaction levels and clarifying the main sources of dissatisfaction.

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Table 1. Sociodemographic description of the study population (n = 651)

| | N | Frequency (%) |
|---------------------------|-----|---------------|
| Gender | | |
| Female | 294 | 45.2 |
| Male | 357 | 54.8 |
| Nationality | | |
| Saudi | 567 | 87.1 |
| Residence | 84 | 12.9 |
| Age | | |
| less than 40 | 432 | 66.3 |
| 40 or above | 219 | 33.7 |
| Living area | | |
| Tabuk | 559 | 85.9 |
| Rural | 92 | 14.1 |
| Education | | |
| Secondary and less | 211 | 32.4 |
| Diploma | 67 | 10.3 |
| Bachelors | 337 | 51.8 |
| Graduates | 36 | 5.5 |
| Reason for visit | | |
| Chronic | 137 | 21.0 |
| Acute | 289 | 44.4 |
| Others | 225 | 34.6 |
| Patient Type | | |
| Outpatients | 523 | 80.3 |
| Inpatients | 128 | 19.7 |
| Health Sector | | |
| Ministry of Health | 404 | 62.1 |
| Military Medical services | 152 | 23.3 |
| *MOI Medical services | 30 | 4.6 |
| Private sector | 65 | 10.0 |
| Income | | |
| less than 5000 | 333 | 51.2 |
| 5000-9999 | 160 | 24.6 |
| 10000-19999 | 131 | 20.1 |
| 20000 or above | 27 | 4.1 |
| Visit frequency | | |
| Regular Visiting | 140 | 21.5 |

| | | |
|-----------|-----|------|
| Always | 165 | 25.3 |
| Sometimes | 246 | 37.8 |
| Once | 100 | 15.4 |

*MOI: Ministry of Interns

Table 2. Participants' satisfaction mean scores for the questionnaire variables

| Item | Mean | SD |
|---------------------------------------------------------------------|------|------|
| Nursing care | 7.62 | 3.13 |
| Pain reduction and management | 5.09 | 2.96 |
| Information provided to you about side effects | 4.97 | 3.19 |
| Referral to a specialized physician | 5.17 | 3.12 |
| Information provided about your health status and prognosis | 5.92 | 3.12 |
| Availability of beds | 6.46 | 3.31 |
| Meeting and discussing your health status with family | 4.24 | 3.60 |
| Speed with which your symptoms were treated | 5.13 | 3.27 |
| Physicians' attention to your description of the symptoms | 5.84 | 3.27 |
| The way in which tests and treatment were performed | 6.07 | 3.06 |
| Availability of physicians | 6.55 | 3.18 |
| Availability of nurses | 5.39 | 2.90 |
| Coordination of your medical care | 5.81 | 3.10 |
| Time needed to make the diagnosis | 6.22 | 3.17 |
| Information provided about how to manage your pain | 5.09 | 3.07 |
| Information given to family and including them in your care | 6.44 | 3.42 |
| Information given to you about lab tests and treatment | 5.93 | 3.10 |
| How thoroughly the physician assessed your symptoms | 6.00 | 3.20 |
| The way your tests and treatment were followed up by your physician | 5.05 | 3.13 |
| Availability of medical equipment and machines | 7.47 | 2.94 |
| Communication with healthcare workers | 3.36 | 2.95 |
| Communication with administrative workers | 4.92 | 2.12 |
| Institution infrastructure | 7.23 | 2.84 |
| Commitment to the appointments | 6.67 | 3.17 |
| Time designated to you by the physician | 4.28 | 3.04 |
| Healthcare institution tidiness | 7.70 | 2.78 |
| Cost of medical care | 6.94 | 3.25 |
| Availability of medications | 5.53 | 3.01 |

| | | |
|-------------------------------------------------------------|------|------|
| Quality of internal pharmacy services | 6.45 | 2.90 |
| Ease of administrative process (e.g., admission, discharge) | 5.45 | 2.83 |
| Time for triage (case classification) | 5.87 | 3.15 |
| Availability of a specialist in the emergency department | 4.61 | 3.12 |
| Availability of emergency public relations staff | 4.58 | 2.34 |
| Speed of diagnosis in the emergency department | 5.78 | 3.28 |
| Overall score | 5.71 | 2.51 |

Table 3. Mann Whitney U test results analyzing the difference in mean total satisfaction score between two groups

| Variable | N | Mean Rank | Mann-Whitny U | df | P-value |
|------------------------|-----|-----------|---------------|----|---------|
| Gender | | | 47552.000 | | .039 |
| Female | 294 | 342.76 | | | |
| Male | 357 | 312.20 | | | |
| Nationality | | | 17413.000 | | .000 |
| Saudi | 567 | 314.71 | | | |
| Resident | 84 | 402.20 | | | |
| Type of patient | | | 27915.500 | | .004 |
| Outpatients | 523 | 315.38 | | | |
| Inpatients | 128 | 369.41 | | | |

Table 4. Comparisons of score distribution analyzing the difference in mean total satisfaction score between groups

| RN variable | n | Kruskal-Wallis H | df | P-value |
|---------------------------|-----|------------------|----|---------|
| Health Sector | | 4.639 | 3 | .200 |
| Ministry of Health | 404 | | | |
| Military Medical services | 152 | | | |
| MOI Medical services | 30 | | | |
| Private sector | 65 | | | |
| Visit frequency | | 1.476 | 3 | .688 |
| Regular Visiting | 140 | | | |
| Always | 165 | | | |
| Sometimes | 246 | | | |
| Once | 100 | | | |
| Level of education | | 26.559 | 3 | .000 |
| Secondary and less | 211 | | | |
| Diploma | 67 | | | |

| | | | | |
|----------------|-----|--------|---|-------|
| Bachelors | 337 | | | |
| Graduates | 36 | | | |
| Income | | 11.824 | 3 | 0.008 |
| less than 5000 | 333 | | | |
| 5000-9999 | 160 | | | |
| 10000-19999 | 131 | | | |
| 20000 or above | 27 | | | |