

# Achievement of Total Quality Management by Using National Accreditation Standards in Royal Care International Hospital, Khartoum State- Sudan (Case Study: Service Providers and Service Recipients)

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**Abstract:** This study aimed to know the achievement of total quality management by using national accreditation standards in Royal Care International Hospital, Khartoum state- Sudan. The study was conducted during the period between 2018- 2019. The questionnaire was used as a data collection tool, which was designed according to the requirements of the study, two types of questionnaire were designed, questionnaire for service providers and other questionnaire for service recipients. Each questionnaire was contained four axes. A random sample of service providers and recipients was selected and 200 questionnaires were distributed to service providers and 88 questionnaires were distributed to service recipients, all questionnaires were collected and were valid for analysis. The statistical packages for the social sciences version 22 were used to conduct the analysis. The validity and consistency of the study questions (for the four hypothesis) were calculated by the Alpha Kronbach test. The study showed that there was a statistically significant relationship at the level of significance (0.05) between the achievement of total quality management and the implementation of national accreditation standards (management, safety, patient safety, patient care and social services) for both service providers and recipients (patient and co-patient) in Royal Care International Hospital. The study concluded that the application of national accreditation standards achieves the total quality management at Royal Care International Hospital and this has a very high impact on both service providers and recipients.

**Keywords—** Achievement; Total Quality Management; National Accreditation Standards; Royal Care International Hospital

## 1. INTRODUCTION

For the past two decades, the total quality management (TQM) is considering one of the most prominent developments in management. It was started in Japan in the early 1980s and then spread to the Western countries and Australia. TQM topics became very important in the 1990s, after that many companies for the reason to develop and improve their businesses, were looking to apply TQM and use it [1]. TQM is defined by Sadikoglu and Olcay as a management philosophy concerned with people and work processes that focuses on customer satisfaction and improves organizational performance [2]. Health organizations face many challenges that can be classified into four major areas: increases in the cost of health services, rapidly growing technology dependence, pressure on health organizations to decrease costs and improve quality to cope with the international organizations that establish standards and give licenses [3,4] and satisfying patients' needs, a major demand requiring hospitals to maintain high quality services [5]. The aim of the quality management programs in hospitals is challenges force health planners to adopt a system that can

manage health care in a measurable way to offer a high quality service [6]. The system that can cope with all of these challenges and resolve all health organization's problems is TQM [7]. TQM is also known as continuous quality improvement (CQI) [8], quality improvement (QI) [9], quality management (QM) and total quality control (TQC) [9]. The key principles of TQM include the following: customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, and continual improvement systems, education, and training, freedom through control, unity of purpose and employee involvement and empowerment [10].

## 2. Materials and methods

### 2.1 Study design:

It is descriptive study.

### 2.2 Study area:

The study was conducted at Royal Care International Hospital, Khartoum State- Sudan.

### 2.3 Study population:

The study was conducted on service providers and service recipients at Royal Care International Hospital.

## 2.4 Sample size:

The targeted samples of this research were 88 service recipients and 200 service providers who had respond to the questionnaire.

## 2.5 Study period:

The study was conducted during the interval from September 2018 to September 2019.

## 3. Methods

### 3.1 Data collection methods:

Questionnaire was used as the basic tool in this study. The quantitative survey consisted of questionnaire contain three hypothesis that cover the research questions which distributed for personnel included and limited to laboratory technicians. The study depends on the questionnaire as a key to offer gathering information from the study population, as for questionnaire advantages including:-

- 1.can be applied to get information on the number of individuals.
2. The low cost and ease of application.
3. Ease of put the questionnaire questions
4. The questionnaire save responder time and give him a chance to think, this effect the reliability and validity of the answers, stability means that measures give the same results if used more than once under similar conditions.

Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials.

Validity is defined as the extent to which the instrument measures what it purports to measure and calculate in many ways represents the easiest being the square root of the reliability coefficient.

$$\text{Validity} = \sqrt{\text{Reliability}}$$

### 3.2 Questionnaire design:

The following five steps of questionnaire design process were followed:

Firstly, the information was determined to be drawn from the research objectives, questions and hypothesis with consideration to who will be able to supply the information. Secondly, the structure and the length of the questionnaire were determined, the questionnaire was self-administrated and thus the gave clear instructions with direct and simple questions. Thirdly a draft questionnaire was prepared considering the content, format, layout ...ect. Fourthly, the questionnaire was pre-tested and revised. Fifthly, the questionnaire reliability and validity were assessed.

### 3.4 Data analysis:

The data obtained were analyzed using the Statistical Package for Social Sciences (SPSS). To achieve the objectives of the study, statistical methods were used the frequency distribution of the answers, the percentages, chi-square test for the significance of differences between the test results considering all other variables, the half-fractionation method using the Spearman-Brown equation,

Alpha-Kronbach equation, the method of re-applying the test, method of equivalent images and Gutman's equation. Then data were presented in tables.

### 3.5 Ethical considerations

Study permissions were obtained from College of Graduate Studies- Sudan University of Science and Technology, then from Management of Royal Care International Hospital.

## 4. Results

The values of validity and reliability were calculated to identify the sample of the service recipients and the values were very high, which indicates the validity and reliability of the answers in the hypothesis of the study (table 1). The majority of respondents 84 (95.5%) were, co-patients and then a patient with a frequency of 4 (4.5%) (table 2). It was clear from the table (3) below that the most frequent occurrences of the academic qualification was 48 (54.5%) for B.Sc., followed by M.Sc. 20 (22.7%), secondary 13 (14.8%) and diploma 7 (8%). It was clear from the table (4) below that the most frequent occurrences of relative relation were others with a frequency of 30 (36.1%), a mother with a frequency of 24 (28.9%), a father with a frequency of 15 (18.1%), a spouse with a frequency of 11 (13.5%) and a child with a frequency of 3 (3.6%). The most frequent categories of stay were the category (1-5) days with a frequency of 56 (65.1%), the category (6-10) of the frequency of 24 (27.9%), then the category (16-20 and with a frequency of 5 (5.8%) and the category (11-15) with a frequency of 1 (1.2%) (table 5). It was clear from table (6) below that the most frequent reason for admission to the hospital was to receive treatment with 50 recurrences at 56.8%, then surgery with 35 recurrences at 39.8%, and other at 3 recurrences at 3.4%. The most frequent occurrences of how many times have been admitted to the hospital so far was more than 3 times with a frequency of 32 by 36.4%, then once with 31 recurrences by 35.2%, then twice with 17 recurrences by 19.3%, then three times with 8 recurrences by 9.1% (table 7). The most frequent treatment of your receptionist was excellent with a frequency of 47 (53.4%), good with a frequency of 25 (28.4%), and unacceptable with a frequency of 3 (3.4%) (table 8). It was clear from table (9) below that the most frequent iteration procedures were good at 30 (34.1%), excellent (26) at 29.5%, unacceptable at 17 (19.3%) and acceptable at 15 (17%). Validity and reliability of questionnaire of service providers were shown in table (10). The most common age group of service providers was 20-30 years with a frequency of 72.9%, followed by the age group 31-40 years with a frequency of 38 (19.1%), and 41-50 years with a frequency of 11 (5.5%) then 51 and above with frequency of 5 (2.5%) (table 11). It was clear from the table (12) below that the most frequent occurrences of academic qualification of service providers were 114 (57.3%). It was clear from the table (13) below that the most frequent categories of years of experience of service providers were the category (1-5 years) with a frequency of

107 (55.2%). Table (14) below showed that the most frequent occurrence of job title of service providers was a nurse with a frequency of 56 (28%). Descriptive analysis of the first hypothesis of the service recipient was shown in table (15). The result of Chi-square analysis of the first hypothesis of service recipient was shown in table (16). Descriptive analysis of the second hypothesis of service recipient was shown in table (17). The result of Chi-square analysis of the second hypothesis of service recipient was shown in table (18). Descriptive analysis of the third hypothesis of service recipient was shown in table (19). The result of Chi-square analysis of the third hypothesis of service recipient was shown in table (20). Descriptive analysis of the fourth hypothesis of service recipient was shown in table (21). The result of Chi-square analysis of the fourth hypothesis of service recipient was shown in table (22). Descriptive analysis of the first hypothesis of service providers was shown in table (23). The result of the Chi-square analysis of the first hypothesis of service providers

was shown in table (24). Descriptive analysis of the second hypothesis of service providers was shown in table (25). The result of Chi-square analysis of the second hypothesis of service providers was shown in table (26). Descriptive analysis of the third hypothesis of service providers was shown in table (27). The result of the Chi-square analysis of the third hypothesis of service providers was shown in table (28). Descriptive analysis of the fourth hypothesis of service providers was shown in table (29). The result of the Chi-square analysis of the fourth hypothesis of service providers was shown in table (30).

**Table 1:** Validity and reliability test of questionnaire of service recipient

| Hypothesis            | Number of phrases | Alpha value | Value | Result    |
|-----------------------|-------------------|-------------|-------|-----------|
| The first hypothesis  | 10                | 0.879       | 0.938 | Very high |
| The second hypothesis | 16                | 0.919       | 0.959 | Very high |
| The third hypothesis  | 7                 | 0.876       | 0.936 | Very high |
| The fourth hypothesis | 5                 | 0.859       | 0.963 | Very high |

**Table 2:** Frequency distribution of responder type of service recipient

| Responder type | Frequency | Percentage (%) |
|----------------|-----------|----------------|
| Patient        | 4         | 4.5            |
| Co-patient     | 84        | 95.5           |
| Total          | 88        | 100.0          |

**Table 3:** Frequency distribution of academic qualifications of service recipient

| Academic qualifications | Frequency | Percentage (%) |
|-------------------------|-----------|----------------|
| Without secondary       | 0         | 0.00           |
| Secondary               | 13        | 14.8           |
| Diploma                 | 7         | 8.0            |
| B.Sc.                   | 48        | 54.5           |
| M.Sc.                   | 20        | 22.7           |
| Total                   | 88        | 100            |

**Table 4:** Frequency distribution of relative relation of service recipient

| Relative relation | Frequency | Percentage (%) |
|-------------------|-----------|----------------|
| Father            | 15        | 18.1           |
| Mother            | 24        | 28.9           |
| Spouse            | 11        | 13.3           |
| Child             | 3         | 3.6            |
| Others            | 30        | 36.1           |
| Total             | 83        | 100.0          |

**Table 5:** Frequency distribution of hypnosis and hospital stay of service recipient

| Hypnosis duration (day) | Frequency | Percentage (%) |
|-------------------------|-----------|----------------|
|-------------------------|-----------|----------------|

|       |    |       |
|-------|----|-------|
| 1-5   | 56 | 65.1  |
| 6-10  | 24 | 27.9  |
| 11-15 | 1  | 1.2   |
| 16-20 | 5  | 5.8   |
| Total | 86 | 100.0 |

**Table 6:** Frequency distribution of the reason for admission to the hospital of service recipient

| Cause of admission  | Frequency | Percentage (%) |
|---------------------|-----------|----------------|
| Surgery             | 35        | 39.8           |
| Receiving treatment | 50        | 56.8           |
| Other               | 3         | 3.4            |
| Total               | 88        | 100.0          |

**Table 7:** Frequency distribution of how many times has been admitted to the hospital so far of service recipient

| Number of admission   | Frequency | Percentage (%) |
|-----------------------|-----------|----------------|
| Once                  | 31        | 35.2%          |
| Twice                 | 17        | 19.3%          |
| Three times           | 8         | 9.1%           |
| More than three times | 32        | 36.4%          |
| Total                 | 88        | 100.0          |

**Table 8:** Frequency of the receptionist's treatment to you of service recipient

| Treatment of receptionist | Frequency | Percentage (%) |
|---------------------------|-----------|----------------|
| Excellent                 | 47        | 53.4           |
| Good                      | 25        | 28.4           |
| Acceptable                | 13        | 14.8           |
| Unacceptable              | 3         | 3.4            |
| Total                     | 88        | 100.0          |

**Table 9:** Frequency distribution of speed of entry procedures

| Speed of actions | Frequency | Percentage (%) |
|------------------|-----------|----------------|
| Excellent        | 26        | 29.5           |
| Good             | 30        | 34.1           |
| Acceptable       | 15        | 17.0           |
| Unacceptable     | 17        | 19.3           |
| Total            | 88        | 100.0          |

**Table 10:** Validity and reliability of questionnaire of service providers

| Hypothesis            | Number of phrases | Alpha value | Validity value | Result    |
|-----------------------|-------------------|-------------|----------------|-----------|
| The first hypothesis  | 19                | 0.910       | 0.954          | Very high |
| The second hypothesis | 7                 | 0.801       | 0.895          | Very high |
| The third hypothesis  | 22                | 0.903       | 0.950          | Very high |
| The fourth hypothesis | 5                 | 0.845       | 0.919          | Very high |

**Table 11:** Frequency distribution of age of service providers

| Age groups (years) | Frequency | Percentage (%) |
|--------------------|-----------|----------------|
| 20-30              | 145       | 72.9           |
| 31-40              | 38        | 19.1           |
| 41-50              | 11        | 5.5            |
| 51 and above       | 5         | 2.5            |
| Total              | 199       | 100.0          |

**Table 12:** Frequency distribution of academic qualification of service providers

| Qualification         | Frequency | Percentage (%) |
|-----------------------|-----------|----------------|
| Without secondary     | 0         | 0              |
| High secondary school | 11        | 5.5            |

|         |     |       |
|---------|-----|-------|
| Diploma | 21  | 10.6  |
| B.Sc.   | 114 | 57.3  |
| M.Sc.   | 41  | 20.6  |
| Ph.D.   | 12  | 6.0   |
| Total   | 199 | 100.0 |

**Table 13:** Frequency distribution of years of experience of service providers

| Years of experience | Frequencies | Ratio (%) |
|---------------------|-------------|-----------|
| less than one year  | 25          | 12.9      |
| 1-5 years           | 107         | 55.2      |
| 6-10 years          | 35          | 18.0      |
| 11 and above        | 27          | 13.9      |
| Total               | 194         | 100.0     |

**Table 14:** Frequency distribution of job title of service providers

| Job title             | Frequency | Ratio (%) |
|-----------------------|-----------|-----------|
| Administrative        | 23        | 11.5      |
| Doctor                | 42        | 21.0      |
| Nurse                 | 56        | 28.0      |
| Pharmacist            | 4         | 2.0       |
| Laboratory technician | 22        | 11.0      |
| Receptionist          | 31        | 15.5%     |
| Financial accountant  | 5         | 2.5%      |
| Other                 | 17        | 8.5%      |
| Total                 | 200       | 100.0     |

**Table 15:** Descriptive analysis of the first hypothesis of service recipient

| No. | Phrase   | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result           |
|-----|--|----------------|---------------|---------------|---------------|-------------------|------------------|
|     |  | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |                  |
| 1   | The hospital provides reception and emergency services and is managed according to a fixed system and is known by service providers. | 24<br>27.3     | 45<br>51.1    | 12<br>13.6    | 3<br>3.4      | 4<br>4.5          | I agree          |
| 2   | A qualified 24-hour emergency team is available.   | 35<br>40.2     | 32<br>36.8    | 14<br>16.1    | 3<br>3.4      | 3<br>3.4          | I strongly agree |
| 3   | Diagnostic services (radiology, analysis, blood bank) are available near reception and emergency services.                           | 39<br>44.8     | 32<br>36.8    | 14<br>16.1    | 2<br>2.3      | 0<br>0            | I strongly agree |
| 4   | The hospital has internal transports (trolleys, wheelchairs, stretchers) in good numbers and in good condition.                      | 38<br>43.2     | 37<br>42      | 8<br>9.1      | 4<br>4.5      | 1<br>1.1          | I strongly agree |
| 5   | There is a system of medical records that includes written, applied, well-kept and well-arranged procedures in a                     | 37<br>42       | 34<br>38.6    | 15<br>17      | 1<br>1.1      | 1<br>1.1          | I strongly agree |

|    |  |            |            |            |            |            |                  |
|----|--|------------|------------|------------|------------|------------|------------------|
|    | safe place.  |            |            |            |            |            |                  |
| 6  | The hospital achieves speed of treatment and flexibility in administrative procedures.   | 31<br>36   | 22<br>25.6 | 12<br>14   | 12<br>14   | 9<br>10.5  | I strongly agree |
| 7  | Mechanisms are in place to ensure the confidentiality and accessibility of patient information in the medical record.                                    | 37<br>42   | 29<br>33   | 20<br>22.7 | 2<br>2.3   | 0<br>0     | I strongly agree |
| 8  | A special patient relations office to facilitate communication between companions and physicians regarding their patients' cases.                        | 26<br>29.5 | 23<br>26.1 | 30<br>34.1 | 7<br>8     | 2<br>2.3   | Neutral          |
| 9  | The hospital has a social worker   | 13<br>14.8 | 24<br>27.3 | 39<br>44.3 | 5<br>5.7   | 7<br>8     | Neutral          |
| 10 | The patient is educated and trained to coexist with his illness or training facilities and educated the patient's condition during and before discharge. | 25<br>28.4 | 14<br>15.9 | 22<br>25   | 11<br>12.5 | 16<br>18.2 | I strongly agree |
|    | Total  | 305        | 292        | 186        | 50         | 43         | 876              |
|    | Ratio  | 35%        | 33%        | 21%        | 6%         | 5%         | 100%             |

**Table 16:** The result of Chi-square analysis of the first hypothesis of service recipient

| No. | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result           |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------------|
| 1   | The hospital provides reception and emergency services and is managed according to a fixed system and is known by service providers. | 3.9318 | .98021             | 69.386     | 4                  | .000              | I agree          |
| 2   | A qualified 24-hour emergency team is available.   | 4.0690 | 1.00918            | 54.552     | 4                  | .000              | I strongly agree |
| 3   | Diagnostic services (radiology, analysis, blood bank) are available near reception and emergency services.                           | 4.2414 | .80645             | 39.207     | 3                  | .000              | I strongly agree |
| 4   | The hospital has internal transports (trolleys, wheelchairs, stretchers) in good numbers and in good condition.                      | 4.2159 | .87689             | 76.432     | 4                  | .000              | I strongly agree |
| 5   | There is a system of medical records that includes written, applied, well-kept and well-   | 4.1932 | .84225             | 68.364     | 4                  | .000              | I strongly agree |

|    |  |        |         |        |   |      |                  |
|----|--|--------|---------|--------|---|------|------------------|
|    | arranged procedures in a safe place.   |        |         |        |   |      |                  |
| 6  | The hospital achieves speed of treatment and flexibility in administrative procedures.   | 3.6279 | 1.37239 | 19.465 | 4 | .001 | I strongly agree |
| 7  | Mechanisms are in place to ensure the confidentiality and accessibility of patient information in the medical record.                                    | 4.1477 | .85150  | 30.818 | 3 | .000 | I strongly agree |
| 8  | A special patient relations office to facilitate communication between companions and physicians regarding their patients' cases.                        | 3.7273 | 1.04746 | 34.614 | 4 | .000 | Neutral          |
| 9  | The hospital has a social worker   | 3.3523 | 1.06177 | 44.955 | 4 | .000 | Neutral          |
| 10 | The patient is educated and trained to coexist with his illness or training facilities and educated the patient's condition during and before discharge. | 3.2386 | 1.45424 | 7.568  | 4 | .109 | I strongly agree |

**Table 17:** Descriptive analysis of the second hypothesis of service recipient

| No. | Phrase  | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result           |
|-----|---|----------------|---------------|---------------|---------------|-------------------|------------------|
|     |   | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |                  |
| 1   | The hospital has well-known procedures for medical consultation among different specialties of inpatients.          | 22<br>25.6     | 35<br>40.7    | 22<br>25.6    | 5<br>5.8      | 2<br>2.3          | I agree          |
| 2   | There is a regular passage of patients admitted to the hospital, recorded in date and time in the patient's file.   | 43<br>48.9     | 29<br>33      | 9<br>10.2     | 4<br>4.5      | 3<br>3.4          | I strongly agree |
| 3   | Patients are given a summary of their cases upon discharge and handed out follow-up cards to the outpatient clinic. | 32<br>36.4     | 30<br>34.1    | 20<br>22.7    | 5<br>5.7      | 1<br>1.1          | I strongly agree |
| 4   | The patient is guaranteed the right to receive detailed information about his or her condition.                     | 41<br>46.6     | 31<br>35.2    | 8<br>9.1      | 7<br>8        | 1<br>1.1          | I strongly agree |
| 5   | The consultant is called in critical cases.   | 34<br>38.6     | 32<br>36.4    | 18<br>20.5    | 2<br>2.3      | 2<br>2.3          | I strongly agree |
| 6   | The hospital has written and well-known hygiene   | 37<br>42       | 28<br>31.8    | 17<br>19.3    | 4<br>4.5      | 2<br>2.3          | I strongly agree |



|    |  |            |            |            |            |          |                  |
|----|--|------------|------------|------------|------------|----------|------------------|
|    | systems for the nutrition department during the day with supervision.  |            |            |            |            |          |                  |
| 7  | The nutritional care program is under the supervision and responsibility of the specialist nutrition officer who in turn follows the hospital administration and provides food according to the doctor's instructions.                 | 37<br>42.5 | 33<br>37.9 | 10<br>11.5 | 3<br>3.4   | 4<br>4.6 | I strongly agree |
| 8  | The hospital provides sufficient staff to ensure the quality of services provided by the laboratory and the blood bank.  | 36<br>41.9 | 32<br>37.2 | 12<br>14   | 3<br>3.5   | 3<br>3.5 | I strongly agree |
| 9  | The laboratory has schedules of results for all tests taking into account the emergency cases.   | 29<br>33.3 | 32<br>36.8 | 9<br>10.3  | 10<br>11.5 | 7<br>8   | I agree          |
| 10 | The laboratory has all the necessary requirements of equipment, devices, solutions and reagents  | 30<br>34.5 | 30<br>34.5 | 21<br>24.1 | 4<br>4.5   | 2<br>2.3 | I strongly agree |
| 11 | The hospital provides the maximum possible health care to all patients until their condition is settled without discrimination based on age, sex, religion, race, nationality, social or economic status or special needs of any kind. | 47<br>54   | 22<br>25.3 | 10<br>11.5 | 7<br>8     | 1<br>1.1 | I strongly agree |
| 12 | The patient is guaranteed the right to receive detailed information about his or her condition   | 38<br>45.8 | 33<br>39.8 | 7<br>8.4   | 4<br>4.8   | 1<br>1.1 | I strongly agree |
| 13 | The patient has the right to refuse treatment provided that the attending physician clarifies the consequences of such refusal and therefore assumes full responsibility for himself and signs the refusal.                            | 37<br>42.5 | 27<br>31   | 17<br>19.5 | 3<br>3.4   | 3<br>3.4 | I strongly agree |
| 14 | Patients shall be respected and their secrets and information  | 49<br>56.3 | 22<br>25.3 | 16<br>18.4 | 0<br>0     | 0<br>0   | I strongly agree |



|    |   |            |            |            |          |          |                  |
|----|---|------------|------------|------------|----------|----------|------------------|
|    | shall be respected even after their death, unless required by law.  |            |            |            |          |          |                  |
| 15 | Service providers are committed to ethical and professional discipline and patients have the right to complain to the hospital administration | 45<br>51.7 | 32<br>36.8 | 6<br>6.9   | 2<br>2.3 | 2<br>2.3 | I strongly agree |
| 16 | Health services are provided to patients with mental illness and special needs to ensure their safety.  | 24<br>27.6 | 20<br>23   | 43<br>49.4 | 0<br>0   | 0<br>0   | Neutral          |
|    | Total   | 581        | 468        | 245        | 63       | 34       | 1391             |
|    | Ratio   | 42%        | 34%        | 18%        | 5%       | 2%       | 100%             |

**Table 18:** The result of Chi-square analysis of the second hypothesis of service recipient

| No. | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result           |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------------|
| 1   | The hospital has well-known procedures for medical consultation among different specialties of inpatients.   | 3.8140 | .96420             | 43.186     | 4                  | .000              | I agree          |
| 2   | There is a regular passage of patients admitted to the hospital, recorded in date and time in the patient's file.  | 4.1932 | 1.02675            | 70.864     | 4                  | .000              | I strongly agree |
| 3   | Patients are given a summary of their cases upon discharge and handed out follow-up cards to the outpatient clinic.  | 3.9886 | .96483             | 45.523     | 4                  | .000              | I strongly agree |
| 4   | The patient is guaranteed the right to receive detailed information about his or her condition.  | 4.1818 | .97728             | 68.591     | 4                  | .000              | I strongly agree |
| 5   | The consultant is called in critical cases.  | 4.0682 | .94438             | 54.727     | 4                  | .000              | I strongly agree |
| 6   | The hospital has written and well-known hygiene systems for the nutrition department during the day with supervision.  | 4.0682 | 1.00339            | 51.886     | 4                  | .000              | I strongly agree |
| 7   | The nutritional care program is under the supervision and responsibility of the specialist nutrition officer who in turn follows the hospital administration and provides food according to the doctor's instructions. | 4.1034 | 1.04586            | 61.448     | 4                  | .000              | I strongly agree |
| 8   | The hospital provides sufficient staff to ensure the quality of services provided by   | 4.1047 | 1.00621            | 58.302     | 4                  | .000              | I strongly agree |

|    |  |        |         |        |   |      |                  |
|----|--|--------|---------|--------|---|------|------------------|
|    | the laboratory and the blood bank.   |        |         |        |   |      |                  |
| 9  | The laboratory has schedules of results for all tests taking into account the emergency cases.   | 3.7586 | 1.25722 | 33.402 | 4 | .000 | I agree          |
| 10 | The laboratory has all the necessary requirements of equipment, devices, solutions and reagents  | 3.9425 | .99249  | 42.943 | 4 | .000 | I strongly agree |
| 11 | The hospital provides the maximum possible health care to all patients until their condition is settled without discrimination based on age, sex, religion, race, nationality, social or economic status or special needs of any kind. | 4.2299 | 1.01959 | 76.391 | 4 | .000 | I strongly agree |
| 12 | The patient is guaranteed the right to receive detailed information about his or her condition   | 4.2410 | .89156  | 73.566 | 4 | .000 | I strongly agree |
| 13 | The patient has the right to refuse treatment provided that the attending physician clarifies the consequences of such refusal and therefore assumes full responsibility for himself and signs the refusal.                            | 4.0575 | 1.03829 | 51.218 | 4 | .000 | I strongly agree |
| 14 | Patients shall be respected and their secrets and information shall be respected even after their death, unless required by law.   | 4.3793 | .78119  | 21.310 | 2 | .000 | I strongly agree |
| 15 | Service providers are committed to ethical and professional discipline and patients have the right to complain to the hospital administration  | 4.3333 | .88484  | 90.759 | 4 | .000 | I strongly agree |
| 16 | Health services are provided to patients with mental illness and special needs to ensure their safety.   | 3.7816 | .85488  | 10.414 | 2 | .005 | Neutral          |

**Table 19:** Descriptive analysis of the third hypothesis of service recipient

| No. | Phrase  | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result           |
|-----|---|----------------|---------------|---------------|---------------|-------------------|------------------|
|     |   | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |                  |
| 1   | The medical staff is keen to clean their hands when serving me. | 52<br>59.1     | 29<br>33      | 4<br>4.5      | 1<br>1.1      | 2<br>2.3          | I strongly agree |
| 2   | The hospital has all  | 53             | 29            | 3             | 1             | 2                 | I strongly       |

|   |   |            |            |            |            |           |                  |
|---|---|------------|------------|------------|------------|-----------|------------------|
|   | the equipment such as medical gloves, medical masks, soaps as well as sterile solutions and used properly.  | 60.2       | 33         | 3.4        | 1.1        | 2.3       | agree            |
| 3 | The hospital will explain to me, my family and my training on infection control and dangerous areas with signs indicating them.   | 21<br>23.9 | 21<br>23.9 | 27<br>30.7 | 10<br>11.4 | 9<br>10.2 | Neutral          |
| 4 | The hospital implements procedures to minimize the risks (sterilization, disinfection of devices, hand washing, and methods for the disposal of infectious waste, body fluids and sharp instruments). | 44<br>50   | 25<br>28.4 | 13<br>14.8 | 3<br>3.4   | 3<br>3.4  | I strongly agree |
| 5 | The hospital is concerned with hygiene to improve the working environment, especially the patient rooms and health facilities, and the disposal of hazardous waste and materials.                     | 53<br>60.2 | 31<br>35.2 | 2<br>2.3   | 2<br>2.3   | 0<br>0    | I strongly agree |
| 6 | The hospital provides methods of prevention and management of fire and internal and external disasters according to known plans   | 29<br>33   | 21<br>23.9 | 34<br>38.6 | 3<br>3.4   | 1<br>1.1  | Neutral          |
| 7 | The environment of the hospital is free of industrial pollutants and others.  | 43<br>49.4 | 26<br>29.9 | 16<br>18.4 | 0<br>0     | 2<br>2.3  | I strongly agree |
|   | Total   | 295        | 182        | 99         | 20         | 19        | 615              |
|   | Ratio   | 48%        | 30%        | 16%        | 3%         | 3%        | 100%             |

**Table 20:** The result of Chi-square analysis of the third hypothesis of service recipient

| No. | Phrase | Mean | Standard deviation | Test value | Degrees of freedom | Probability value | Result |
|-----|--------|------|--------------------|------------|--------------------|-------------------|--------|
|-----|--------|------|--------------------|------------|--------------------|-------------------|--------|

|   |   |        |         |         |   |      |                  |
|---|---|--------|---------|---------|---|------|------------------|
| 1 | The medical staff is keen to clean their hands when serving me.   | 4.4545 | .82920  | 114.614 | 4 | .000 | I strongly agree |
| 2 | The hospital has all the equipment such as medical gloves, medical masks, soaps as well as sterile solutions and used properly.   | 4.4773 | .81618  | 120.182 | 4 | .000 | I strongly agree |
| 3 | The hospital will explain to me, my family and my training on infection control and dangerous areas with signs indicating them.   | 3.3977 | 1.25524 | 13.818  | 4 | .008 | Neutral          |
| 4 | The hospital implements procedures to minimize the risks (sterilization, disinfection of devices, hand washing, and methods for the disposal of infectious waste, body fluids and sharp instruments). | 4.1818 | 1.03441 | 68.136  | 4 | .000 | I strongly agree |
| 5 | The hospital is concerned with hygiene to improve the working environment, especially the patient rooms and health facilities, and the disposal of hazardous waste and materials.                     | 4.5341 | .66000  | 83.727  | 3 | .000 | I strongly agree |
| 6 | The hospital provides methods of prevention and management of fire and internal and external disasters according to known plans   | 3.8409 | .96949  | 51.091  | 4 | .000 | Neutral          |
| 7 | The environment of the hospital is free of industrial pollutants and others.  | 4.2414 | .91455  | 41.046  | 3 | .000 | I strongly agree |

**Table 21:** Descriptive analysis of the fourth hypothesis of service recipient

| No. | Phrase   | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result  |
|-----|--|----------------|---------------|---------------|---------------|-------------------|---------|
|     |  | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |         |
| 1   | The hospital has a special office for social research and psychological counseling and social services are carried out by qualified and experienced people and social services are administered in accordance with applicable regulations. | 16<br>18.6     | 19<br>22.1    | 38<br>44.2    | 5<br>5.8      | 8<br>9.3          | Neutral |
| 2   | There is mutual trust between hospital management and patients in terms of covering material costs with regard   | 15<br>17.4     | 18<br>20.9    | 33<br>38.4    | 13<br>15.1    | 7<br>8.1          | Neutral |

|   |  |            |            |            |          |           |                  |
|---|--|------------|------------|------------|----------|-----------|------------------|
|   | to incapable cases.  |            |            |            |          |           |                  |
| 3 | The hospital has a committee to examine complaints and suggestions.                                    | 23<br>27.4 | 34<br>40.5 | 18<br>21.4 | 7<br>8.3 | 2<br>2.4  | I agree          |
| 4 | I am tactfully communicated by the medical staff   | 43<br>49.4 | 33<br>37.9 | 2<br>2.3   | 6<br>6.9 | 3<br>3.4  | I strongly agree |
| 5 | Benefiting from the patient experience as an essential supporter for service providers and recipients. | 28<br>32.6 | 32<br>37.2 | 15<br>17.4 | 2<br>2.3 | 9<br>10.5 | I agree          |
|   | Total  | 125        | 136        | 106        | 33       | 29        | 429              |
|   | Ratio  | 29%        | 32%        | 25%        | 8%       | 7%        | 100%             |

**Table 22:** The result of Chi-square analysis of the fourth hypothesis of service recipient

| No. | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result           |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------------|
| 1   | The hospital has a special office for social research and psychological counseling and social services are carried out by qualified and experienced people and social services are administered in accordance with applicable regulations. | 3.3488 | 1.13519            | 39.000     | 4                  | .000              | Neutral          |
| 2   | There is mutual trust between hospital management and patients in terms of covering material costs with regard to incapable cases.   | 3.2442 | 1.15744            | 21.907     | 4                  | .000              | Neutral          |
| 3   | The hospital has a committee to examine complaints and suggestions.  | 3.8214 | 1.00793            | 38.738     | 4                  | .000              | I agree          |
| 4   | I am tactfully communicated by the medical staff   | 4.2299 | 1.03093            | 84.667     | 4                  | .000              | I strongly agree |
| 5   | Benefiting from the patient experience as an essential supporter for service providers and recipients.   | 3.7907 | 1.22826            | 37.140     | 4                  | .000              | I agree          |

**Table 23:** Descriptive analysis of the first hypothesis of service providers

| No. | Phrase   | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result           |
|-----|--|----------------|---------------|---------------|---------------|-------------------|------------------|
|     |  | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |                  |
| 1   | The hospital provides reception and emergency services and is managed according to a fixed system and is known by service providers. | 94<br>48       | 95<br>48.5    | 6<br>3.1      | 0<br>0        | 1<br>0.5          | I agree          |
| 2   | A qualified 24-hour emergency team is  | 104<br>53.1    | 67<br>34.2    | 20<br>10.2    | 4<br>2        | 1<br>0.5          | I strongly agree |

|    |  |             |            |            |            |            |                  |
|----|--|-------------|------------|------------|------------|------------|------------------|
|    | available.   |             |            |            |            |            |                  |
| 3  | Diagnostic services (radiology, analysis, blood bank) are available near reception and emergency services.                           | 115<br>58.7 | 70<br>35.7 | 5<br>2.6   | 4<br>2     | 2<br>1     | I strongly agree |
| 4  | The hospital achieves speed of treatment and flexibility in administrative procedures.   | 48<br>24.5  | 72<br>36.7 | 35<br>17.9 | 35<br>17.9 | 7<br>3.6   | I agree          |
| 5  | The hospital has internal transports (trolleys, wheelchairs, stretchers) in good numbers and in good condition.                      | 98<br>50    | 64<br>32.7 | 13<br>6.6  | 17<br>8.7  | 4<br>2     | I strongly agree |
| 6  | There is a system of medical records that includes written, applied, reserved and well-arranged procedures in a safe and accessible. | 106<br>53.6 | 73<br>36.9 | 15<br>7.6  | 2<br>1     | 2<br>1     | I strongly agree |
| 7  | There is a training committee to develop the competence and skill of the staff, headed by an experienced person.                     | 42<br>21.2  | 65<br>32.8 | 39<br>19.7 | 26<br>13.1 | 26<br>13.1 | I agree          |
| 8  | The presence of a suitable place and equipped with appropriate means for training in the hospital                                    | 49<br>24.7  | 73<br>36.9 | 36<br>18.2 | 24<br>12.1 | 16<br>8.1  | I agree          |
| 9  | Various functional levels are trained within the hospital and are encouraged to develop their abilities and skills.                  | 32<br>16.2  | 55<br>27.9 | 42<br>21.2 | 39<br>19.7 | 29<br>14.7 | I agree          |
| 10 | An annual training plan covering the training needs of hospital staff according to local, regional or international commitments.     | 26<br>13.1  | 41<br>20.8 | 56<br>28.4 | 40<br>20.3 | 34<br>17.3 | Neutral          |
| 11 | The hospital has an integrated functional structure and includes quality management.   | 94<br>48    | 78<br>39.4 | 16<br>8.1  | 4<br>2     | 6<br>3     | I strongly agree |
| 12 | The hospital benefits from the patient experience.   | 67<br>35.3  | 62<br>32.6 | 40<br>20.3 | 13<br>6.8  | 8<br>4.2   | I strongly agree |
| 13 | The hospital works to improve communication between service providers and recipients.  | 72<br>37.5  | 65<br>33.9 | 36<br>18.2 | 15<br>7.8  | 4<br>2     | I strongly agree |

|       |   |            |            |            |            |            |                  |
|-------|---|------------|------------|------------|------------|------------|------------------|
| 14    | There is information management in the hospital.  | 77<br>41.6 | 83<br>44.9 | 14<br>7.6  | 8<br>4.2   | 3<br>1.6   | I agree          |
| 15    | The hospital has an effective safety system including fire alarms and evacuation plans.   | 90<br>45.7 | 78<br>39.4 | 19<br>9.6  | 7<br>3.6   | 3<br>1.6   | I strongly agree |
| 16    | The hospital has plans for continuous improvement in all existing departments and the introduction of new departments to accommodate existing diagnostic equipment. | 55<br>27.9 | 87<br>44.4 | 35<br>17.0 | 17<br>8.7  | 2<br>1     | I agree          |
| 17    | The hospital staff works as a team in the light of an understanding of all plans and activities achieved for the overall quality.                                   | 64<br>32.5 | 63<br>32   | 36<br>18.2 | 25<br>12.7 | 9<br>4.6   | I strongly agree |
| 18    | Usually, a service provider immediately reports a medical error to improve the quality of the work.   | 54<br>29   | 80<br>43   | 34<br>18.3 | 15<br>7.8  | 3<br>1.6   | I agree          |
| 19    | I find a fair and rewarding financial return.   | 20<br>10.4 | 35<br>17.0 | 34<br>17.7 | 52<br>27.1 | 51<br>26.6 | Disagree         |
| Total |   | 1307       | 1306       | 531        | 346        | 211        | 3701             |
| Ratio |   | 35%        | 35%        | 14%        | 9%         | 6%         | 100%             |

**Table 24:** The result of the Chi-square analysis of the first hypothesis of service providers

| No. | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result           |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------------|
| 1   | The hospital provides reception and emergency services and is managed according to a fixed system and is known by service providers. | 4.4337 | .60822             | 169.265    | 3                  | .000              | I agree          |
| 2   | A qualified 24-hour emergency team is available.   | 4.3724 | .79036             | 205.071    | 4                  | .000              | I strongly agree |
| 3   | Diagnostic services (radiology, analysis, blood bank) are available near reception and emergency services.                           | 4.4898 | .74068             | 267.520    | 4                  | .000              | I strongly agree |
| 4   | The hospital achieves speed of treatment and flexibility in administrative procedures.   | 3.6122 | 1.13799            | 57.010     | 4                  | .000              | I agree          |
| 5   | The hospital has internal transports (trolleys, wheelchairs, stretchers) in good numbers and in good condition.                      | 4.1990 | 1.03091            | 165.582    | 4                  | .000              | I strongly agree |



|    |   |        |         |         |   |      |                  |
|----|---|--------|---------|---------|---|------|------------------|
| 6  | There is a system of medical records that includes written, applied, reserved and well-arranged procedures in a safe and accessible.                                | 4.4091 | .76026  | 226.192 | 4 | .000 | I strongly agree |
| 7  | There is a training committee to develop the competence and skill of the staff, headed by an experienced person.  | 3.3586 | 1.30897 | 25.788  | 4 | .000 | I agree          |
| 8  | The presence of a suitable place and equipped with appropriate means for training in the hospital   | 3.5808 | 1.21373 | 50.939  | 4 | .000 | I agree          |
| 9  | Various functional levels are trained within the hospital and are encouraged to develop their abilities and skills.   | 3.1117 | 1.30842 | 10.487  | 4 | .033 | I agree          |
| 10 | An annual training plan covering the training needs of hospital staff according to local, regional or international commitments.                                    | 2.9239 | 1.27747 | 12.365  | 4 | .015 | Neutral          |
| 11 | The hospital has an integrated functional structure and includes quality management.  | 4.2626 | .91890  | 186.545 | 4 | .000 | I strongly agree |
| 12 | The hospital benefits from the patient experience.  | 3.8789 | 1.09886 | 77.526  | 4 | .000 | I strongly agree |
| 13 | The hospital works to improve communication between service providers and recipients.   | 3.9688 | 1.03300 | 93.052  | 4 | .000 | I strongly agree |
| 14 | There is information management in the hospital.  | 4.2054 | .87909  | 168.703 | 4 | .000 | I agree          |
| 15 | he hospital has an effective safety system including fire alarms and evacuation plans.  | 4.2437 | .88151  | 173.635 | 4 | .000 | I strongly agree |
| 16 | The hospital has plans for continuous improvement in all existing departments and the introduction of new departments to accommodate existing diagnostic equipment. | 3.8980 | .94451  | 112.980 | 4 | .000 | I agree          |
| 17 | The hospital staffs work as a team in the light of an understanding of all plans and activities achieved for the overall quality.                                   | 3.7513 | 1.17111 | 58.508  | 4 | .000 | I strongly agree |
| 18 | Usually, a service provider immediately reports a medical error to improve the quality of the work.   | 3.8978 | .96719  | 101.796 | 4 | .000 | I agree          |
| 19 | I find a fair and rewarding financial return.   | 2.5885 | 1.33125 | 18.573  | 4 | .001 | Disagree         |

**Table 25:** Descriptive analysis of the second hypothesis of service providers

| No. | Phrase | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Result |
|-----|--------|----------------|-------|---------|----------|-------------------|--------|
|-----|--------|----------------|-------|---------|----------|-------------------|--------|

|   |  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) |                  |
|---|--|---------------|---------------|---------------|---------------|---------------|------------------|
| 1 | There is an accredited program and approved by the hospital administration in infection control.   | 59<br>29.5    | 86<br>43      | 38<br>19      | 13<br>6.5     | 4<br>2        | I agree          |
| 2 | The hospital has all equipment such as medical gloves, medical masks, soaps as well as sterile solutions.  | 112<br>56     | 79<br>39.5    | 7<br>3.5      | 2<br>1        | 0<br>0        | I strongly agree |
| 3 | The hospital is trained in infection control and hazardous areas and signs are available.  | 58<br>29.3    | 72<br>36.4    | 30<br>15.2    | 25<br>12.6    | 13<br>6.5     | I agree          |
| 4 | The hospital implements procedures to minimize risks (isolation and reporting of infectious conditions, sterilization, disinfection of devices, hand washing, methods of disposal of infectious waste, body fluids and sharp instruments). | 83<br>41.7    | 92<br>46.2    | 17<br>8.5     | 5<br>2.5      | 2<br>1        | I strongly agree |
| 5 | Emergency generator available.   | 118<br>61.1   | 62<br>32.1    | 10<br>5.2     | 1<br>5        | 2<br>1        | I strongly agree |
| 6 | The hospital provides The hospital provides fire prevention and disaster management methods according to well-known plans.   | 79<br>39.9    | 75<br>37.9    | 21<br>10.6    | 21<br>10.6    | 2<br>1        | I strongly agree |
| 7 | The hospital is concerned with hygiene to improve the working environment, especially the patient rooms and health facilities and the disposal of hazardous waste and materials.   | P17<br>58.5   | 67<br>33.5    | 9<br>4.5      | 5<br>2.5      | 2<br>1        | I strongly agree |
|   | Total  | 626           | 533           | 132           | 72            | 25            | 1388             |
|   | Ratio  | 45%           | 38%           | 10%           | 5%            | 2%            | 100%             |

**Table 26:** The result of Chi-square analysis of the second hypothesis of service providers

| No. | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result     |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------|
| 1   | There is an accredited program and approved by the hospital administration in infection control. | 3.9150 | .96041             | 112.650    | 4                  | .000              | I agree    |
| 2   | The hospital has all equipment   | 4.5050 | .61797             | 176.760    | 3                  | .000              | I strongly |

|   |  |        |         |         |   |      |                  |
|---|--|--------|---------|---------|---|------|------------------|
|   | such as medical gloves, medical masks, soaps as well as sterile solutions.   |        |         |         |   |      | agree            |
| 3 | The hospital is trained in infection control and hazardous areas and signs are available.  | 3.6919 | 1.20533 | 60.636  | 4 | .000 | I agree          |
| 4 | The hospital implements procedures to minimize risks (isolation and reporting of infectious conditions, sterilization, disinfection of devices, hand washing, methods of disposal of infectious waste, body fluids and sharp instruments). | 4.2513 | .79594  | 194.744 | 4 | .000 | I strongly agree |
| 5 | Emergency generator available.   | 4.5181 | .71511  | 270.031 | 4 | .000 | I strongly agree |
| 6 | The hospital provides fire prevention and disaster management methods according to well-known plans.   | 4.0505 | 1.01134 | 124.020 | 4 | .000 | I strongly agree |
| 7 | The hospital is concerned with hygiene to improve the working environment, especially the patient rooms and health facilities and the disposal of hazardous waste and materials.   | 4.4600 | .78196  | 257.200 | 4 | .000 | I strongly agree |

**Table 27:** Descriptive analysis of the third hypothesis of service providers

| No. | Phrase  | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result           |
|-----|---|----------------|---------------|---------------|---------------|-------------------|------------------|
|     |   | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |                  |
| 1   | The hospital has well-known procedures for medical meetings to discuss clinical cases.                              | 54<br>27.7     | 79<br>40.5    | 47<br>24.1    | 13<br>6.7     | 2<br>1            | I agree          |
| 2   | The hospital has well-known procedures for medical consultation among the different specialties of inpatients       | 62<br>32       | 100<br>51.5   | 25<br>12.9    | 6<br>3.1      | 1<br>5.0          | I agree          |
| 3   | There is a regular passage of patients admitted to the hospital, recorded in date and time in the patient file      | 86<br>43.9     | 90<br>45.9    | 18<br>9.2     | 2<br>1        | 0<br>0            | I agree          |
| 4   | Patients are given a summary of their cases upon discharge and handed out follow-up cards to the outpatient clinic. | 89<br>45.9     | 83<br>42.8    | 16<br>8.2     | 4<br>2.1      | 2<br>1            | I strongly agree |
| 5   | The consultant is called in critical cases.   | 109<br>57.4    | 62<br>32.6    | 11<br>5.8     | 8<br>4.2      | 0<br>0            | I strongly agree |

|    |  |             |            |            |            |          |                  |
|----|--|-------------|------------|------------|------------|----------|------------------|
| 6  | The hospital provides the maximum possible health care to all patients until their condition is settled without discrimination based on age, sex, religion, nationality, social or economic status or special needs of any kind. | 101<br>52.1 | 66<br>34   | 16<br>8.2  | 7<br>3.6   | 4<br>2.1 | I strongly agree |
| 7  | The patient is guaranteed the right to receive detailed information about his or her condition   | 96<br>48.7  | 76<br>38.6 | 18<br>9.1  | 6<br>3     | 1<br>5.0 | I strongly agree |
| 8  | The patient has the right to refuse treatment provided that the attending physician clarifies the consequences of such refusal and therefore assumes full responsibility for himself and signs the refusal.                      | 98<br>50.3  | 61<br>31.3 | 31<br>15.9 | 5<br>2.6   | 0<br>0   | I strongly agree |
| 9  | I respect the patients and keep their secrets and information even after their death unless the legal necessity requires it.   | 116<br>58.9 | 57<br>28.9 | 17<br>8.6  | 5<br>2.6   | 2<br>/1  | I strongly agree |
| 10 | Service providers are committed to ethical and professional discipline and patients have the right to complain to the hospital administration.   | 90<br>45.5  | 74<br>37.4 | 10<br>5.1  | 23<br>11.6 | 1<br>5.0 | I strongly agree |
| 11 | The health service is provided to patients with mental illness and special needs to ensure their safety.   | 55<br>28.1  | 76<br>38.8 | 40<br>20.4 | 22<br>11.2 | 3<br>1.5 | I agree          |
| 12 | The nutritional care program is under the supervision and responsibility of the competent nutrition officer who in turn follows the hospital administration and provides food as instructed by the                               | 92<br>46.2  | 86<br>43.2 | 10<br>5    | 7<br>3.5   | 4<br>2   | I strongly agree |

|    |  |            |            |            |            |          |                  |
|----|--|------------|------------|------------|------------|----------|------------------|
|    | doctor.  |            |            |            |            |          |                  |
| 13 | The hospital has an integrated therapeutic feeding unit built according to engineering and health specifications   | 80<br>40.4 | 74<br>37.4 | 26<br>13.1 | 13<br>6.6  | 5<br>2.5 | I strongly agree |
| 14 | A medical check-up is carried out under the supervision of the hospital according to a specific program known to all kitchen staff   | 58<br>29.7 | 60<br>30.8 | 54<br>27.7 | 15<br>7.7  | 8<br>4.1 | I agree          |
| 15 | The hospital has written and well-known hygiene systems for the nutrition department during the day with supervision.  | 68<br>35.2 | 69<br>35.8 | 38<br>19.7 | 15<br>7.7  | 3<br>1.6 | I agree          |
| 16 | The hospital has an integrated laboratory in accordance with the standard engineering specifications for laboratories and blood banks and provides all the needs of equipment, devices, solutions and reagents | 78<br>39.6 | 73<br>37.1 | 27<br>13.7 | 19<br>9.6  | 0<br>0   | I strongly agree |
| 17 | The laboratory has schedules of results for all tests taking into account the emergency cases  | 53<br>27   | 71<br>36.2 | 31<br>15.8 | 31<br>15.8 | 10<br>5  | I agree          |
| 18 | The hospital provides sufficient staff to ensure the quality of services provided by the laboratory and blood bank   | 62<br>31.5 | 73<br>37.1 | 35<br>17.8 | 22<br>11.2 | 5<br>2.5 | I agree          |
| 19 | A system of ordering the list of operations taking into account age, infection, diabetes and emergency. There is also a checklist for surgical procedures to prevent any medical error                         | 63<br>32   | 78<br>39.6 | 44<br>22.3 | 7<br>3.6   | 5<br>2.5 | I agree          |
| 20 | The existence of written procedures explaining the system of work within the   | 73<br>36.7 | 92<br>46.2 | 27<br>13.6 | 6<br>3     | 1<br>5.0 | I agree          |

|    |  |            |            |            |            |        |         |
|----|--|------------|------------|------------|------------|--------|---------|
|    | processes including (registration of vital signs, giving blood, infection control and pollution prevention, safety and security and prevention). |            |            |            |            |        |         |
| 21 | Availability of all equipment according to the type of operations performed in the operating room  | 68<br>34.9 | 85<br>43.6 | 29<br>14.9 | 13<br>6.7  | 0<br>0 | I agree |
| 22 | All types of radiology are available within the hospital and with the required engineering specifications  | 58<br>29.6 | 86<br>43.9 | 23<br>11.7 | 25<br>12.8 | 4<br>2 | I agree |
|    | Total  | 1709       | 1671       | 593        | 274        | 61     | 4308    |
|    | Ratio  | 40%        | 39%        | 14%        | 6%         | 1%     | 100%    |

**Table 28:** The result of the Chi-square analysis of the third hypothesis of service providers

| No, | Phrase   | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result           |
|-----|--|--------|--------------------|------------|--------------------|-------------------|------------------|
| 1   | The hospital has well-known procedures for medical meetings to discuss clinical cases.   | 3.8718 | .93001             | 100.872    | 4                  | .000              | I agree          |
| 2   | The hospital has well-known procedures for medical consultation among the different specialties of inpatients  | 4.1134 | .78028             | 179.866    | 4                  | .000              | I agree          |
| 3   | There is a regular passage of patients admitted to the hospital, recorded in date and time in the patient file   | 4.3265 | .68351             | 126.939    | 3                  | .000              | I agree          |
| 4   | Patients are given a summary of their cases upon discharge and handed out follow-up cards to the outpatient clinic.  | 4.3041 | .79198             | 194.814    | 4                  | .000              | I strongly agree |
| 5   | The consultant is called in critical cases.  | 4.4316 | .78549             | 144.947    | 3                  | .000              | I strongly agree |
| 6   | The hospital provides the maximum possible health care to all patients until their condition is settled without discrimination based on age, sex, religion, nationality, social or economic status or special needs of any kind. | 4.3041 | .91916             | 189.454    | 4                  | .000              | I strongly agree |
| 7   | The patient is guaranteed the right to receive detailed information about his or her condition   | 4.3198 | .80449             | 192.670    | 4                  | .000              | I strongly agree |

|    |  |        |         |         |   |      |                  |
|----|--|--------|---------|---------|---|------|------------------|
| 8  | The patient has the right to refuse treatment provided that the attending physician clarifies the consequences of such refusal and therefore assumes full responsibility for himself and signs the refusal.    | 4.2923 | .82593  | 98.559  | 3 | .000 | I strongly agree |
| 9  | I respect the patients and keep their secrets and information even after their death unless the legal necessity requires it.   | 4.4213 | .83309  | 235.056 | 4 | .000 | I strongly agree |
| 10 | Service providers are committed to ethical and professional discipline and patients have the right to complain to the hospital administration.   | 4.1566 | .99783  | 160.737 | 4 | .000 | I strongly agree |
| 11 | The health service is provided to patients with mental illness and special needs to ensure their safety.   | 3.8061 | 1.01938 | 81.908  | 4 | .000 | I agree          |
| 12 | The nutritional care program is under the supervision and responsibility of the competent nutrition officer who in turn follows the hospital administration and provides food as instructed by the doctor.     | 4.2814 | .87109  | 203.638 | 4 | .000 | I strongly agree |
| 13 | The hospital has an integrated therapeutic feeding unit built according to engineering and health specifications   | 4.0657 | 1.01298 | 123.869 | 4 | .000 | I strongly agree |
| 14 | A medical check-up is carried out under the supervision of the hospital according to a specific program known to all kitchen staff   | 3.7436 | 1.09163 | 65.744  | 4 | .000 | I agree          |
| 15 | The hospital has written and well-known hygiene systems for the nutrition department during the day with supervision.  | 3.9534 | 1.00151 | 93.606  | 4 | .000 | I agree          |
| 16 | The hospital has an integrated laboratory in accordance with the standard engineering specifications for laboratories and blood banks and provides all the needs of equipment, devices, solutions and reagents | 4.0660 | .95869  | 56.868  | 3 | .000 | I strongly agree |
| 17 | The laboratory has schedules of results for all tests taking into account the emergency cases  | 3.6429 | 1.18322 | 55.837  | 4 | .000 | I agree          |
| 18 | The hospital provides  | 3.8376 | 1.07096 | 79.827  | 4 | .000 | I agree          |



|    |   |        |         |         |   |      |         |
|----|---|--------|---------|---------|---|------|---------|
|    | sufficient staff to ensure the quality of services provided by the laboratory and blood bank  |        |         |         |   |      |         |
| 19 | A system of ordering the list of operations taking into account age, infection, diabetes and emergency. There is also a checklist for surgical procedures to prevent any medical error  | 3.9492 | .95696  | 109.168 | 4 | .000 | I agree |
| 20 | The existence of written procedures explaining the system of work within the processes including (registration of vital signs, giving blood, infection control and pollution prevention, safety and security and prevention). | 4.1558 | .80457  | 166.804 | 4 | .000 | I agree |
| 21 | Availability of all equipment according to the type of operations performed in the operating room   | 4.0667 | .87383  | 68.774  | 3 | .000 | I agree |
| 22 | All types of radiology are available within the hospital and with the required engineering specifications   | 3.8622 | 1.04582 | 108.337 | 4 | .000 | I agree |

**Table 29:** Descriptive analysis of the fourth hypothesis of service providers

| No. | Phrase  | Strongly agree | Agree         | Neutral       | Disagree      | Strongly disagree | Result  |
|-----|---|----------------|---------------|---------------|---------------|-------------------|---------|
|     |   | Frequency (%)  | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%)     |         |
| 1   | The hospital has a special office for social research and psychological counseling and social services are carried out by qualified and experienced people. Social services are administered in accordance with applicable regulations. | 32<br>16.3     | 50<br>25.5    | 53<br>27      | 35<br>17.9    | 26<br>13.3        | Neutral |
| 2   | There is mutual trust between hospital management and patients in terms of covering the material costs of incapable cases.  | 31<br>15.8     | 47<br>24      | 59<br>30.1    | 42<br>21.4    | 17<br>8.7         | Neutral |
| 3   | The hospital has a committee to   | 67<br>34.2     | 77<br>39.3    | 33<br>16.8    | 14<br>7.1     | 5<br>2.6          | I agree |

|   |   |            |            |            |            |            |         |
|---|---|------------|------------|------------|------------|------------|---------|
|   | examine complaints and suggestions  |            |            |            |            |            |         |
| 4 | There is a training program for staff on patient satisfaction and communication skills                | 37<br>18.7 | 53<br>26.8 | 36<br>18.2 | 33<br>16.7 | 39<br>19.7 | I agree |
| 5 | Benefiting from the patient experience as an essential supporter for service providers and recipients | 40<br>20.3 | 65<br>33   | 43<br>21.8 | 16<br>8.1  | 33<br>16.8 | I agree |
|   | Total   | 207        | 292        | 224        | 140        | 120        | 983     |
|   | Ratio   | 21%        | 30%        | 23%        | 14%        | 12%        | 100%    |

**Table 30:** The result of the Chi-square analysis of the fourth hypothesis of service providers

| No. | Phrase  | Mean   | Standard deviation | Test value | Degrees of freedom | Probability value | Result  |
|-----|---|--------|--------------------|------------|--------------------|-------------------|---------|
| 1   | The hospital has a special office for social research and psychological counseling and social services are carried out by qualified and experienced people. Social services are administered in accordance with applicable regulations. | 3.1378 | 1.26750            | 14.051     | 4                  | .007              | Neutral |
| 2   | There is mutual trust between hospital management and patients in terms of covering the material costs of incapable cases.  | 3.1684 | 1.18850            | 26.041     | 4                  | .000              | Neutral |
| 3   | The hospital has a committee to examine complaints and suggestions  | 3.9541 | 1.01422            | 103.184    | 4                  | .000              | I agree |
| 4   | There is a training program for staff on patient satisfaction and communication skills  | 3.0808 | 1.40468            | 6.141      | 4                  | .189              | I agree |
| 5   | Benefiting from the patient experience as an essential supporter for service providers and recipients   | 3.3198 | 1.34174            | 31.909     | 4                  | .000              | I agree |

## 5. Discussion

From the descriptive analysis and Chi-square test of the first hypothesis of the sample of the service recipient, the study proved that there were significant differences at the level of (0.05) between achieving the total quality management and applying the national accreditation standards for management (reception and organization of the hospital, medical records, training and education, quality) at Royal Care International Hospital, this result was consistent with the result obtained by Ibrahim (2017), who concluded that the speed of delivery and the level of response provided to the beneficiary by the service provider at Rabak Hospital were good for the response. This finding also coincided with

the finding obtained by Al-Haidari (2001) who found that there was a positive trend in improving the level of health services provided and in-patient satisfaction with the efficiency of hospital management and the speed of reception procedures and treatment. The results of present study were in disagreement with the results of Karadasha (2012), who concluded that there was no statistically significant relationship between the application of TQM principles and medical records. From the descriptive analysis and Chi-square test of the second hypothesis of the sample of the service recipient, the study showed that there were significant differences at the level of (0.05) between

achieving total quality management and applying the national accreditation criteria for patient care (clinical practices, nutritional care, laboratory and blood bank, human rights) at Royal Care International Hospital. This finding was consistent with the finding of the Karadasha (2012), who found a statistically significant relationship with the standard of patient rights and health care. Also, the present study was coincided with the study done by Ibrahim (2017), who concluded the service providers' policy and their ability to inspire confidence and reassurance among patients. The results of this study were consistent with the results of Al-Haidari (2001), who found that there was improvement in level of medical services which provided. When using the descriptive analysis and Chi-square test for the third hypothesis of the sample of the service recipient, the study showed that there were significant statistical differences at the level of (0.05) between achieving total quality management and applying the national accreditation standards for safety and patient safety (control of hospital-acquired infections, environmental safety) at Royal Care International Hospital, this finding was incompatible with the finding obtained by Ibrahim (2017), who found that the physical elements of the dimension of tangibility (buildings, equipment, health facilities and staff appearance) at Kosti and Rabak Hospital were weak and fell short of the expectations and level of ambition of service beneficiaries. The results of this study coincided with the result of Karadasha (2012) who found a statistically significant relationship with regard to the standard of training and education and the application of the principles of total quality management. The results of the present study were in line with the results of Al-Haidari (2001) who concluded that there was a positive trend in improving the level of health services provided and the satisfaction of the inpatients with the efficiency of the cleanliness of the hospital and its facilities. From the descriptive analysis and the Chi-square test of the fourth hypothesis of the sample of the service recipients, the study showed that there were significant statistical differences at the level of (0.05) between achieving the total quality management and applying the national accreditation standards for social services (social support). This finding was incompatible with finding of Al-Haidari (2001), who found that there was a positive trend in improving the level of health services provided and the satisfaction of inpatients with the level of prices and treatment fees. From the descriptive analysis and the Chi-square test of the first hypothesis of the sample of service providers, the study proved that there were significant statistical differences at the level of (0.05) between achieving total quality management and applying the national accreditation standards for management (reception and organization of the hospital, medical records, training and education, quality). This result was in line with the result obtained by Ibrahim (2017), who concluded that technical training programs were put in place to increase the skill of workers in accomplishing work through merit, measure and

credibility, and that the management of the health facility was working to raise the level of quality of health services provided to patients by providing services on time. The results of this study also coincided with the results of Karadasha (2012), who concluded that training and educating employees had the most important role in their awareness and awareness of the importance of applying these standards and informing them of the objectives of the institution and their knowledge of the job description of each category according to their specialization and their awareness of regulations and laws followed by the hospital. From the descriptive analysis and the Chi-square test of the second hypothesis of the sample of service providers, the study showed that there were significant statistical differences at the level (0.05) between achieving total quality management and applying the national accreditation standards for safety and patient safety (control of hospital-acquired infection, safety of the environment). This finding was consistent with the finding of Ibrahim (2017). The results of the present study also coincided with the results obtained by Karadasha (2012), who concluded that the training of workers had the most important role in their awareness and awareness of the importance of applying the standards in order to their safety and provide a safe and healthy work environment for them and achieve their high goal for the safety of patients and their environment from risks. When using descriptive analysis and Chi-square test analysis for the third hypothesis of the sample of service providers, the study showed that there were significant statistical differences at the level (0.05) between achieving total quality management and applying the national accreditation standards for patient care (clinical practices, patient rights, nutritional care, Laboratory, radiology, surgical procedures). This finding was consistent with the finding of Karadasha (2012), who found a statistically significant relationship with regard to the standard of patient rights, health care and the achievement of total quality management. It also coincided with the finding of Ibrahim (2017), who concluded the service providers policy and their ability to inspire confidence and reassurance among patients. Responding to and providing immediate service to patients and informing them of the times of service provided by the management had a profound impact on the quality of the provided. When using descriptive analysis and Chi-square test for the fourth hypothesis of the sample of service providers, the study showed that there were statistically significant differences at the level (0.05) between achieving total quality management and applying the national accreditation standards for social services (social support). This finding was incompatible with finding of Al-Haidari (2001) in that there was a positive trend in improving the level of health services provided and the satisfaction of inpatients on the level of prices and treatment fees. Also, the results from the present study were in agreement with the study done by Ibrahim (2014) who conducted plan for

quality assurance by determine work problems, analysis and

## 6. Conclusion

The study concluded that there was a statistically significant relationship at the level of significance (0.05) between the achievement of total quality management and the implementation of national accreditation standards for management (reception and organization of the hospital, medical records, training and education, quality) and safety and patient safety (control of infections acquired from hospitals, environmental safety) and patient care (clinical practices, patient rights, nutritional care, laboratory, radiology, surgical procedures) and social services (social support) for both service providers and recipients (patient and co-patient) at Royal Care International Hospital.

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