Quality as perceived by nursing professionals in an accredited specialized hospital

ABSTRACT

Objective: To identify quality of service in an accredited specialized hospital according to nursing professionals’ expectations and perceptions. Method: This is a cross-sectional quantitative study with the participation of 34 employees, conducted from August to October 2017 by administration of an adapted and validated version of the SERVQUAL scale. Results: The interviewees reported as their highest expectations the transmission of confidence and provision of safe services, the latter also turning out to be the best perception of service. Promotional materials were considered as the least important expectation. The perception with the lowest scores was related to the time of service delivery at the institution, which may be associated with specific factors. Safety of service was considered as the quality dimension with greater relevance. Conclusion: It is highlighted the importance of measures for maintenance of schedules and preservation of good forms of promotion, communication and team training.

Descriptors: Nursing; Quality of Health Care; Accreditation of Healthcare Organizations; Quality Control; Nurses.

Resumo

Objetivo: Identificar a qualidade do serviço de um hospital especializado e acreditado segundo expectativas e percepções de profissionais de enfermagem. Método: Tratou-se de um estudo quantitativo, transversal, com a participação de 34 colaboradores, realizado de agosto a outubro de 2017, com aplicação da escala SERVQUAL adaptada e validada. Resultados: Os entrevistados apresentaram como maiores expectativas a transmissão de confiabilidade e a prestação de serviços seguros, este último também se desvelou a melhor percepção para com o serviço. Os materiais de divulgação foram julgados como a expectativa menos importante. A percepção com menor pontuação foi relacionada ao período de entrega de serviços na instituição, que pode estar associado a fatores específicos. A segurança do serviço foi considerada a dimensão de qualidade com maior relevância. Conclusão: Se refuerza a importância de medidas para a manutenção de prazos programados e preservação de boas formas de divulgação, comunicação e capacitação da equipe.

Descritores: Enfermagem; Qualidade da Assistência à Saúde; Acreditación Hospitalaria; Gestão da Qualidade; Equipe de Enfermagem.
INTRODUCTION

There is no universal concept about quality, and strategies for achieving it have been changing over time and gradually incorporating new standards and criteria. The search for quality comprises a common point in the various ways of producing goods and services and, in this context, hospital accreditation is highlighted, whose goal is to assess, monitor and certify health care institutions aimed at offering quality in the provision of their services\(^1\). From this it is inferred that quality is directly related to the assessment of services, since assessment processes provide a diagnosis of problems and help and guide decision making\(^2\).

In Brazil, the process of creating forms of quality assessment began in the 1990s, and in 1999 the National Accreditation Organization (ONA) was founded, linked to the Ministry of Health\(^3\). This beginning of the accreditation model was a milestone in the movement to improve national quality, providing parameters to be used for such assessments\(^4\). According to the Brazilian Manual of Hospital Accreditation, the ONA certification is given through three levels, each with its guiding principle: Level 1 – Accredited, in relation to safety and structure, Level 2 – Fully Accredited, regarding organization, and Level 3 – Accredited with Excellence, which covers quality practices and management excellence\(^5\).

After going through the accreditation process, a health facility presents improvements in several aspects, including improvement of the care provided, changes in the management of processes and resources, optimization in the organization of service and increased safety for patients\(^6\). For professionals, this process promotes personal and professional growth, but also represents an increase in charge, pressure and stress from work\(^6\). Employee turnover and constant training are considered as difficulties for maintaining certification\(^7\).

Whether accredited or not, health institutions and their managers increasingly seek to assess and increase quality levels of the services they provide\(^8\). So it is expected that accredited hospitals will have higher service quality levels, and that consequently their workers will perceive this quality and feel more satisfied\(^8\).

In order to measure service quality, Parasuraman, Zeithaml and Berry developed a model in 1988, a scale named Service Quality (SERVQUAL), which was designed to evaluate the perceived quality of different services by internal and external customers\(^9\). The scale was recently translated, adapted and validated to evaluate service quality through perceptions and expectations of the nursing team\(^10\).

Nursing professionals represent the largest contingent of a health service, as they fulfill functions in most divisions and are directly related to patient care and institution routines\(^11\). Against this background, the guiding question of this study is: What is the quality of an accredited, specialized hospital service in the perception of nursing professionals?

OBJECTIVE

The aim is to identify the quality of service according to expectations and perceptions of nursing professionals of an accredited hospital.

METHOD

Ethical Aspects

This research is associated with a research project titled “Quality in health: Cross-cultural adaptation and validation of Service Quality (SERVQUAL) for health professionals in Brazil”, which was approved by the Research Ethics Committee of the Nursing School of Ribeirão Preto, University of São Paulo. All the ethical principles contained in Resolution 466/2012 of the National Health Council (CNS) were duly respected.

Design, Place and Period of Study

This is a quantitative, descriptive and cross-sectional study carried out in a specialized hospital, located in a municipality in the south region of Brazil, which has Accreditation of Excellence (level 3), certified by ONA, and which serves a macro-region composed of 100 municipalities. It has 10 beds available for hospitalization and annually performs more than 225 thousand medical consultations and 11 thousand surgeries for users of the Unified Health System (SUS), health plans and private practice. It is considered a regional reference of high complexity, operates in social projects, and has its own research center and specialized medical residency program implemented. Data were collected from August to October 2017.

Population and Sample: Inclusion and Exclusion Criteria

All the nursing personnel were invited to participate in the study, totaling 40 employees, including nurses, nursing technicians and nursing assistants. The inclusion criteria were: nursing professionals who work in the hospital in the areas of care, administration and support. Due to the characteristics of the service and the number of nursing personnel working in the institution, length of service was not considered an exclusion factor in order not to reduce the sample further.

From the 40 professionals included in the study population, 6 were not available for interview due to vacations and medical leaves, totaling 34 questionnaires answered.

Study Protocol

Before starting data collection, a meeting was arranged with the person in charge of the institution to present the researcher, the instrument, the aims of the study and ethical aspects, as well as to invite the institution’s employees to participate. Employees were approached during their work shift and were given an Informed Consent Form (TCLE) (two copies) and the instrument of data collection. They were allowed to answer the questionnaire right away or fill it at some other time, returning it later at the next meeting.

The instrument for data collection, adapted for nursing professionals and validated for use in Brazil\(^10\), had two parts:

- Part 1 – Socio-demographic and occupational data: Date of birth, professional category, division and work shift, length of professional experience and work in the hospital.
- Part 2 – SERVQUAL, adapted and validated\(^10\), which includes a psychometric scale for analysis of expectations and
perceptions, with 14 items in the Expectation Section, 14 items in the Perception Section, 8 questions on evaluation of the relative importance of quality of hospital service.

Sentences regarding expectation and perception of service deal with the same aspects and were evaluated according to the Likert scale, ranging from 1 to 7, where 1 was the lowest and 7 the best evaluation. Subsequently, the professional should answer 8 questions regarding five dimensions of service quality, namely: 1. Tangibles, which concern physical facilities, equipment and appearance of personnel; 2. Reliability, which is about the ability to perform the promised service dependably and accurately; 3. Responsiveness, which is willingness to help customers and provide prompt service; 4. Assurance, taken as knowledge and courtesy of employees and their ability to inspire confidence; 5. Empathy, defined as caring, individualized attention to customers\(^{10,12}\).

The respondent should distribute the total of 100 points, according to importance, between five statements listed from 1 to 5, i.e., the more important, the more points should be associated with the sentence. Each sentence represented a dimension. Once the points were distributed, respondents should indicate the number of the most important, the second most important and the least important sentence, thus totaling the 8 questions in the last part of the instrument.

**Data Analysis**

For data analysis, the data was entered into the Microsoft Excel database. After validation, the results were exported to the Statistical Package for the Social Sciences (SPSS) 22.0, where descriptive analyses were carried out.

The analysis was based on the calculation of the SERVQUAL gap, or score. This value is calculated through the formula: Gap = Perception score (P) – Expectation score (E). The value obtained is called Q, followed by the number of the respective sentence. Example: Q1 = P1 – E1. In the end, 14 values of Q were obtained. The evaluation of the quality offered by the service will result from the difference between perception and expectation values, that is, the greater the negative gap between perception (P) and expectation (E), the lower the quality reported. If P and E values are equal, the perceived quality is satisfactory. When the gap between P and E is positive, quality is more than satisfactory.

**RESULTS**

All of the respondents were women (100%), the majority of nursing technicians (82.4%) working in the hospitalization unit (38.2%) in the morning shift (38.2%). The highest prevalence of workers had 1-5 years of professional experience (38.2%) and have been working in the institution for less than one year (47.1%).

Table 1 shows descriptive data of each of the 14 SERVQUAL items according to expectations (E) and perceptions (P).

According to Table 1, most expectation values were higher than perception ones. Emphasis was given to items E9 and E10, which were the expectations with the highest means (\(=6.53\)), which are related to the transmission of confidence by employees of the institution and safety of the services provided, respectively. The lowest value for expectations was in item E2 (\(=5.09\)), which refers to promotion of activities provided by the institution.

Regarding perceptions of service performance, the highest mean was for item P10 (\(=6.47\)), which, as already mentioned, addresses the safety of services provided. Item P5 had the lowest mean among perceptions (\(=4.91\)), which is associated with extending schedules for performing services.

At the end, the means of the sections were as follows: expectation with 6.23 and perception with 5.81 (Table 1), resulting in a negative gap (Q) of \(-0.42\).

The values of quality gaps (Q) are shown in Table 2.

### Table 1 - Measures of central tendency and variability of expectation (E) and perception (P) of Service Quality items by 34 nursing professionals of an accredited specialized hospital, South Brazil, 2018

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1 Employees of health institutions of excellence dress appropriately for their professional activities.</td>
<td>2</td>
<td>7</td>
<td>6.32</td>
<td>1.09</td>
</tr>
<tr>
<td>E2 Promotional materials related to the services provided, such as leaflets, folders or inserts, are visually attractive in institutions of excellence.</td>
<td>1</td>
<td>7</td>
<td>5.09</td>
<td>1.64</td>
</tr>
<tr>
<td>E3 When a customer has a problem, healthcare institutions of excellence show sincere interest in resolving it.</td>
<td>3</td>
<td>7</td>
<td>6.35</td>
<td>1.04</td>
</tr>
<tr>
<td>E4 Health institutions of excellence perform the service correctly the first time.</td>
<td>3</td>
<td>7</td>
<td>6.18</td>
<td>1.08</td>
</tr>
<tr>
<td>E5 Health institutions of excellence carry out the services on schedule.</td>
<td>4</td>
<td>7</td>
<td>6.32</td>
<td>0.91</td>
</tr>
<tr>
<td>E6 Employees of health institutions of excellence communicate to customers when services will be performed.</td>
<td>3</td>
<td>7</td>
<td>6.09</td>
<td>1.19</td>
</tr>
<tr>
<td>E7 Employees from healthcare institutions of excellence provide immediate services to customers.</td>
<td>2</td>
<td>7</td>
<td>6.18</td>
<td>1.33</td>
</tr>
<tr>
<td>E8 Employees of health institutions of excellence are always willing to help customers.</td>
<td>2</td>
<td>7</td>
<td>6.32</td>
<td>1.19</td>
</tr>
<tr>
<td>E9 The behavior of employees of health institutions of excellence conveys confidence to customers.</td>
<td>2</td>
<td>7</td>
<td>6.53</td>
<td>1.05</td>
</tr>
<tr>
<td>E10 Customers of health institutions of excellence feel safe about the services provided.</td>
<td>2</td>
<td>7</td>
<td>6.53</td>
<td>1.02</td>
</tr>
<tr>
<td>E11 Employees of health institutions of excellence are always polite with customers.</td>
<td>2</td>
<td>7</td>
<td>6.41</td>
<td>1.07</td>
</tr>
<tr>
<td>E12 Health institutions of excellence have employees who offer individualized attention to customers.</td>
<td>3</td>
<td>7</td>
<td>6.38</td>
<td>0.98</td>
</tr>
<tr>
<td>E13 Health institutions of excellence prioritize the interests of customers.</td>
<td>1</td>
<td>7</td>
<td>6.12</td>
<td>1.29</td>
</tr>
<tr>
<td>E14 Employees of health institutions of excellence understand the specific needs of customers.</td>
<td>4</td>
<td>7</td>
<td>6.47</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Mean of Expectations: 6.23

To be continued
Thirteen items (92.8%) shown in Table 2 presented negative gaps, indicating that employees’ expectations are higher than their perceptions about the service. Note that item Q5 has the greatest discrepancy of values (= -1.41) and is associated with timeframes of the institution’s services. It is also worth noting that one item (Q2) had a positive gap (= 0.82), i.e., perception about the promotion materials for this specific service is higher than employee’s expectation.

Table 3 shows the distribution of relative frequencies (%) of the 14 items on expectation (E) and perception (P), according to the values assigned by professionals on the Likert scale (1 to 7). The data in Table 3 show that the highest expectations regarding the service belong to items E9 (73.5%), which refers to: “The behavior of employees of health institutions of excellence conveys confidence to customers” E10 (70.6%): “Customers of health institutions of excellence feel safe with the services provided” and E14 (67.6%): “Employees of health institutions of excellence understand the specific needs of customers.”

Two items in the expectation section only, presented in Table 3, were rated 1 on the Likert scale: E2 (2.9%) – “Promotion materials related to services provided, such as leaflets, folders or inserts, are visually attractive in health institutions of excellence”, and E13 (2.9%) – “Health institutions of excellence prioritize the interests of customers”.

<table>
<thead>
<tr>
<th>Perceptions</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 Employees of this institution dress appropriately for their professional activities</td>
<td>2</td>
<td>7</td>
<td>5.50</td>
<td>1.42</td>
</tr>
<tr>
<td>P2 Promotional materials related to the services provided, such as leaflets, folders or inserts, are visually attractive in this health institution.</td>
<td>1</td>
<td>7</td>
<td>5.91</td>
<td>1.24</td>
</tr>
<tr>
<td>P3 When a customer has a problem, this health care institution shows sincere interest in resolving it.</td>
<td>4</td>
<td>7</td>
<td>6.12</td>
<td>0.91</td>
</tr>
<tr>
<td>P4 This health care facility performs the service correctly the first time.</td>
<td>4</td>
<td>7</td>
<td>6.06</td>
<td>0.85</td>
</tr>
<tr>
<td>P5 This health institution carry out the services on schedule.</td>
<td>2</td>
<td>7</td>
<td>4.91</td>
<td>1.28</td>
</tr>
<tr>
<td>P6 Employees of this health institution communicate to the customer when the services will be performed.</td>
<td>4</td>
<td>7</td>
<td>6.06</td>
<td>1.04</td>
</tr>
<tr>
<td>P7 Employees of this institution provide immediate services to customers.</td>
<td>2</td>
<td>7</td>
<td>5.50</td>
<td>1.35</td>
</tr>
<tr>
<td>P8 Employees of this institution are always willing to help customers.</td>
<td>3</td>
<td>7</td>
<td>5.76</td>
<td>1.32</td>
</tr>
<tr>
<td>P9 The behavior of employees of this institution conveys confidence to customers.</td>
<td>4</td>
<td>7</td>
<td>6.03</td>
<td>1.14</td>
</tr>
<tr>
<td>P10 Customers feel safe about the services provided by this health care institution.</td>
<td>5</td>
<td>7</td>
<td>6.47</td>
<td>0.70</td>
</tr>
<tr>
<td>P11 Employees of this institution are always polite with customers.</td>
<td>4</td>
<td>7</td>
<td>6.06</td>
<td>0.95</td>
</tr>
<tr>
<td>P12 This health institution has employees who offer individualized attention to customers.</td>
<td>3</td>
<td>7</td>
<td>5.41</td>
<td>1.32</td>
</tr>
<tr>
<td>P13 This health institution prioritizes the interests of customers.</td>
<td>4</td>
<td>7</td>
<td>5.88</td>
<td>0.91</td>
</tr>
<tr>
<td>P14 Employees of this health institution understand the specific needs of customers.</td>
<td>3</td>
<td>7</td>
<td>5.76</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Mean of Perceptions: 5.81
Regarding perceptions about the service (Table 3), the items with the highest percentages were P10 (58.8%) – “Customers feel safe about the services provided by this health institution”, P9 (47.1%) – “The behavior of the employees of this institution conveys confidence to customers” and P8 (44.1%) – “The employees of this institution are always willing to help customers”. P2 (2.9%) was the only one which scored 1 in the perception section, which refers to sentence: “Promotion materials related to the services provided, such as leaflets, folders or inserts, are visually attractive in this health institution.”

Regarding the attribution of relative importance of quality of service, professionals should distribute a total of 100 points between five sentences, representing dimensions of quality: tangibles, reliability, responsiveness, assurance and empathy. Table 4 presents the data from this stage of the questionnaire.

### Table 4 - Distribution of values* attributed by nursing professionals of an accredited hospital in relation to five dimensions of Service Quality (n: 34), south region of Brazil, 2018

<table>
<thead>
<tr>
<th>Quality Dimensions</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>10</td>
<td>60</td>
<td>19.26</td>
<td>9.46</td>
</tr>
<tr>
<td>Reliability</td>
<td>10</td>
<td>40</td>
<td>25.15</td>
<td>7.63</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>10</td>
<td>30</td>
<td>20.29</td>
<td>6.26</td>
</tr>
<tr>
<td>Assurance</td>
<td>5</td>
<td>50</td>
<td>19.85</td>
<td>8.21</td>
</tr>
<tr>
<td>Empathy</td>
<td>5</td>
<td>30</td>
<td>15.74</td>
<td>6.75</td>
</tr>
</tbody>
</table>

Note: * Respondents were instructed to assign a value from 0 to 100 to each sentence.

![Figure 1 - Distribution of SERVQUAL dimensions in relative frequencies (%) according to the importance attributed by nursing professionals (n: 34) of an accredited hospital, south region of Brazil, 2018](image)

The dimension with the highest mean in nursing personnel’s perspectives was reliability (25.15), followed by responsiveness (20.29), assurance (19.85), and tangibles (19.26), with the latter presenting the highest score range (10-60 points). It is emphasized that responsiveness, assurance and tangibility presented close means. The lowest mean was for empathy (15.74).

The respondents opined on the most important, the second most important and the least important sentence/dimension. This distribution is shown in Figure 1.

Figure 1 shows that the dimension considered as most important by nursing staff was by far reliability (47.1%), which also appears as the second most important (29.4%). In both cases, assurance is second and with the same frequency (26.5%). The dimension considered as less important was tangibles (52.9%), and reliability and guarantee were not mentioned in this category.

### DISCUSSION

An analysis of the results shows that even in an accredited hospital, employees still have unmet expectations about the service. However, in research performed in an unaccredited health institution, gaps between expectations and perceptions showed reasonably higher values\(^\text{16}\), which means that nurses of accredited hospitals feel more satisfied with the service. The positive aspects of hospital accreditation are employee’s pride and satisfaction with the institution, as they feel they have been part of the service’s achievement and appreciation\(^\text{13-14}\).

Among the findings of this study we highlight the gap in performance of services on schedule (Q5), which presented the greatest negativity, an aspect that may be associated with the complexity of the services offered by the institution, or even the scope of the sentence to be rated, which may include several aspects. Delays could be concentrated in some specific support and/or external service, such as delivery of material or product, but SERVQUAL does not allow this level of detail about the cause. Dissatisfaction with time of delivery of service together with overcrowding due to great demand is a recurrent subject in other research, with high levels of dissatisfaction, especially as associated with SUS\(^\text{15-16}\).

The least negative gap concerns communication about when services will be performed (Q6), which leads one to believe that the institution communicates with customers, but it sometimes struggles to keep on schedule. The time for providing assistance is directly related to the number of personnel and the number of patients waiting and/or hospitalized\(^\text{17}\). In this context, one notes the second largest gap, which is related to employees’ individualized attention to customers (Q12). This may indicate a possible deficit in the planning of staff size, which may be associated with higher employee turnover that may be characteristic of an accredited institution\(^\text{18}\).

The item with the highest indexes of expectation was assurance over services rendered, which also attained the highest mean concerning perception in the current service, resulting in a small but still negative gap (Q10). In other words, no matter how much the employees consider such a characteristic as necessary in an institution of excellence, the hospital manages to provide a service that is virtually satisfactory in this regard, therefore considering the team as qualified for the services provided by the institution. An employee of an accredited health service feels better prepared to provide care and meet patient needs, since the institution offers more qualified material, technical and human resources due to standardization of routines and better organization\(^\text{18}\).

Another highlight is the item on promotion materials (Q2). Perception values were higher than expectation ones, resulting in the only positive gap. It is inferred that the contribution to this result is the mean expectation for this sentence, which not only is the lowest one, turning out to be the least important in employees’ view, but also has a considerable difference from the means of the other items. Although considered as unimportant by interviewees, marketing actions should be explicit and defined, if possible, already in the planning of the institution, even if they...
are not for profit. Today, in a scenario of high competition, these promotion actions have become a strategy for customer loyalty, overcoming quantity with quality\textsuperscript{20-21}.

As for the analysis of dimensions, the one considered most important was reliability, that is, that the institution delivers the service reliably and accurately. This dimension is usually among the most important in studies related to SERVQUAL and its adaptations\textsuperscript{10-22}.

It should be noted as well that empathy attained the lowest scores and mean, since in the perceptions, the sentences that obtained the highest scores in the Likert scale are precisely those that are directly related to the employee's contact with the customer. Regardless of the technical and practical knowledge that the health profession possesses, the lack of empathy within the service influences satisfaction with the care and attention received\textsuperscript{23-24}. Still, the dimension considered as less important, most of the time, was tangibles, which is associated with the physical structure and appearance of the institution. Even so, the service is impaired when there is a structural deficit, which may make it disorderly, diminishing its quality and resolutivity\textsuperscript{25}.

\textbf{Limitations of the Study}

As a limitation, it is important to consider the scope of some sentences present in the instrument, as in the case of evaluation of schedules proposed by the institution. We reinforce the importance of specific evaluation on delivery of services in the timeframes for better conclusions.

Administration of the questionnaire in a small and highly specialized institution, as well as evaluation of quality of services only by the nursing team can be considered as limitations too.

\textbf{Contributions to the Area of Nursing, Health or Public Policy}

Hopefully this research will provide not only the managers of the institution in question, but also other services, with a source of information to maintain and expand the quality of health services in general. We also wish to reinforce the importance of employees as a source of information about their work environment.

\textbf{CONCLUSION}

The results showed that workers, even from a specialized and accredited institution, have higher expectations than the service provides, which nevertheless are lower as compared to non-accredited services. Employees presented as higher expectations to convey a sense of confidence and to provide safe services, the latter highlighted as the best perception of the service. Promotion materials were considered as a less important expectation, but it was the only item where perception was higher than expectation, resulting in a more than satisfactory level of quality. The lowest perception was related to performance of services on schedule.

Employees' preferences for safe service were confirmed, with the reliability dimension being chosen as the most important and attaining the best mean, while the least important dimension was tangibles, associated with the physical structure and appearance of the institution.

It is highlighted as an important managerial recommendation the preservation of scheduled deadlines for performance of services and an adequate number of personnel, seeking improvements in the actions provided by the institution, as well as maintenance of good forms of promotion, communication and training of the nursing team.

The increasingly constant search for quality in service is a reality. This study reinforced how much the evaluation of health services is important from the perspective of different actors. Therefore, it is emphasized that the analysis of performance of any institution and its service should be made not only by external customers, but also by employees included in it, since more than in the care of the population, workers, mainly in the nursing area, are in service on a daily basis, making it possible to diagnose individuals' potentialities and fragilities.

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