Validity of items and Identification of aspects to be improved based on the Client Perception in a Surgery Clinic using the Lawshe Method

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Abstract— *The goal of this study was to validate items of a questionnaire and identify issues to be improved in nursing care, according to the perception of patients, in a surgery clinic sector of a private clinic, in the municipality of Macaé, Rio de Janeiro State, Brazil. The Lawshe method (1975) was adopted in order to maintain or exclude items on the questionnaire, comprised by 21 items. The set of questions was applied to 81 patients in the immediate pre-operative period, from November 2018 to March 2019, before undergoing elective surgeries (scheduled and non-emergency). In terms of results, the application of this method presented the items that were given prominence in the socioeconomic profile. The item with the greatest importance in terms of average is "Comfort"; in satisfaction, it is the "Number of professionals"; the greatest GAP is "Timeliness in referral to surgery"; in dissatisfaction and weighted dissatisfaction, the item emphasized is "Timeliness in referral to surgery". It was also presented an analysis of the scatter graph demonstrating the coherence of most items to the right upper quadrant in "maintain".*

Keywords— *Lawshe, Satisfaction, Nursing Care, Surgery Clinic.*

I. INTRODUCTION

Bearing in mind the importance and satisfaction in the provision of services, hospitals prove to be major companies generating relevant assistance services in interpersonal relationships of caring. According to data from the Ministry of Health (BRASÍLIA, 2018), referring to the *Empresa Brasileira de Serviços Hospitalares* (Brazilian Company of Hospital Services) – EBSERH (2018), the satisfaction of whoever is given the service is a condition recognized in patients in the field of health, consolidated by a satisfaction from the achievement of their expectations with respect to the service provided.

As part of the set of institutions, hospitals have unique characteristics, and their complexity has been affecting changes over the course of history, with integrated structures of processes that involve decision-making, planning and execution of services. Patients must be listened to, as they are an essential part of the health-disease process.

In this regard, changes that have been occurring in hospitals have required professionals committed to the production process to meet current social demands. This adaptation to the new management overview has been influencing on the generation of services. There are, on the other hand, the behavioral aspects of service providers, such as creativity, initiative, empathy, flexibility, warmth, and more.

In the context of nursing as a profession focused on social practice in a holistic and socially determined manner, it can be seen that deepening and consolidating methodologies aimed at the quality of health services in the restructuring of internal processes generates benefits for employees and

patients.As such, it is worth obtaining a health management progression plan intended to manage improvements in hospital services.

This study adopted a methodology using the Scielo database, based on keywords. These words were refined by publications that referenced foundations and principles intended.According to the survey, the Lawshe method (1975) was applied with the purpose of identifying the essentiality of the items that are part of the questionnaire.

The work aimed at validating the items for the elaboration of the questionnaire, making it possible to evaluate the importance and satisfaction of clients in the immediate pre-operative period in a surgery clinic located in a medium-sized private hospital, in the city of Macaé, state of Rio de Janeiro, Brazil.

Hence, the following questions remain:Why should quality in health care be linked? Would it be important to be aware of patient satisfaction in hospital units, especially in the surgical unit, in the pre-operative period?Is there anything essential to make patients feel satisfied with their nursing care? What are the attributes that distinguish the most with the application of the Lawshe method?

II.   THEORETICAL BACKGROUND

2.1 Hospital Services

Hospitals are service-providing institutions, with great social implications, high complexity and peculiarities, giving emphasis to high-quality practices, acquiring a specific unique approach. Accordingly, hospital institutions are considered as open systems, which suffer interference from the environment, influenced by evolution and changes in all social fields, interacting with the multidisciplinary social space (BONATO, 2011).

 In accordance with Santos (2011), there is a need for planning in hospitals to achieve their goals to deliver services. Managers should operate both strong and weak organizational factors, while motivating their work team. Clients do not tolerate errors, because any dissatisfaction that may affect their lives, causing them harm, is damaging to the service. Souza and Lacerda (2009) affirm that hospital services are expected to be executed effectively and efficiently.

Roeder (2008) states that the latest in hospital administration are the quality programs, which reflect the new state of the services in this market. Future perspectives in the field of

medicine are not only linked to new technologies; it is essential to make an urgent analysis of the most appropriate way to manage the services.

2.2 Nursing Services in the Surgery Department

Among the services in health units, there is the surgery clinic, in which the target audience is the patient, who is the one in which the selected treatment refers to the surgical procedure, thus calling him/her a surgical patient. This therapeutic conduct somehow encompasses both an organic and a psychic process, which leads, to some extent, to painful and distressing feelings (PITREZ; PIONER, 2003).

The human essence of the patient is taken into consideration, in a context of admission to an operative procedure, in the initial stage in the surgery clinic. When admitted to the hospital, he/she brings their feelings, their intelligence, their myths, their perceptions acquired in education, culture, and life experiences (DURMAN, 2000).

As a team providing care, and for being the one who makes the first contact with the patient in the surgery clinic, nursing needs to be attentive to recognize these signs, with perception, maturity, promptness and warmth. Caring is the practice defined by behaviors and actions in the practice of foundations, encompassing the way of being and relating (WALDOW, 1998).

In the care context for operative preparation, the patient undergoes significant changes in the preoperative stage, not only in physical aspects but also in psychics, because of prior experiences and thoughts, which in most cases generate feelings of uncertainty and fragility. Nursing care requires nurses in the operating room to take a comprehensive and continuous look at the basic human needs in question, including his or her family, to help him or her with actions and procedures (MOREIRA; POPOV, 2009).

The preoperative period is divided into mediate and immediate preoperative periods. The mediate one comprises the assistance provided to the patient in the scheduled surgeries, in which the operative moment are the elective surgeries. It includes from the admission of the patient to the hospital to 24 hours before the surgery takes place. The primary goal is to prepare the patient, both psychologically and physically, for the operative phase and to stabilize the conditions that may interfere with his/her recovery. The immediate preoperative period begins with providing care to the patient immediately, that is, a few hours before surgery,

and ends when surgery is initiated (SENA, 2013; SMELTZER et al., 2002).

As such, Moreira and Popov (2009) describe the preoperative visit as a means of systematizing the care on which the nurse acts in a significant way to provide the patient with emotional support with personal attention on guidelines with respect to the anesthetic-operative procedures to which he or she will be submitted.

This confirms being a consistent, continuous and effective communication tool between the professional nurse and the patient, aiming at valuing and respecting him/her as a person with experiential values and expectations.

Davidow and Malone (2001) affirm the operational aspects of the sector that receives the patient cannot be ignored as components of satisfaction. The field of service development comprises segmenting the clients based on their expectations and expectations concerning the services and adjusting structural and assistance processes with planning to offer them.

2.3 Quantitative Model to Recognize the Content Validity: the Lawshe Proposal

Lawshe (1975) presented a model that organizes a content in a scoreboard, prepared by experts, with the purpose of evaluating skills, knowledge, rights, or other distinctive characteristic of the capacity of a person to be evaluated, and who should have a copy of the test or set of items to be analyzed.

The author (1975) indicates that these categories are associated with the skill, knowledge, or competence measured by the item to develop the task. Since the lecturers score their opinion on each item in categories (1) non-essential; (2) essential; (3) I do not know, the number of matches in the essential category is determined, and it is expected that the major agreements between the participants have in fact more than 50% of agreements, which should occur among the participants in this category, considering that the item has some level of content validity. For defining the consensus of the panel members in the "essential" category, Lawshe suggests, in this method, the calculation of the Content Validity Ratio – CVR for each item of the questionnaire, defined by Equation 1.

Equation 1:

$$CVR = \frac{(n - \frac{N}{2})}{\frac{N}{2}}$$

n:indicates the number of experts who considered the criterion to be "essential ".

N:considers the total number of experts who evaluated the criterion.

Lawshe intended this expression to be interpreted as a correlation to take values from -1 to +1; so that the CVR is negative if the agreement occurs in less than half of the participants; so that the CVR is null if it has exactly half of the agreements panel list; and, lastly, so that the CVR is positive if there are over half the agreements. In addition, one should think it is not only that, positive CVR, but, statistically significant. Because of the anomalies in the tables of CVR minimum values defined by Lawshe (1975), the minimum value of CVR for each criterion was considered (WILSON; PAN; SCHUMSKY, 2012).

2.3 Simple Satisfaction

Simple Satisfaction is a method that considers the client's satisfaction in relation to the attributes, with a differential semantic scale of gradation of five points, in which the extremes indicate 5 - totally satisfied and 1 - totally unsatisfied (FONTENOT, HENKE, CARSON, 2005). The attributes that, according to the respondents, achieve lower mean satisfaction are taken into consideration for possible improvements (MATSUKUMA; HERNANDEZ, 2007).

Lisbôa (2011) adds that the Simple Satisfaction method is founded on the calculation of the mean satisfaction for each attribute, according to the responses of respondents. This method does not consider the importance of the items for the client, so it does not offer any data that can assist the management to prioritize the actions or to break the criteria using the same satisfaction rates (FONTENOT; HENKE; CARSON, 2005).

2.4 GAP Analysis

It becomes possible to calculate the difference between the Importance and Satisfaction means for each attribute using the GAP analysis (MATSUKUMA; HERNANDEZ, 2007). When acquiring a service, clients intrinsically present an initial expectation; hence, when this expectation does not meet the expectations of the client, there is a divergence or GAP. As such, the items indicated for improvement are the ones that show the greatest difference between the satisfaction and importance mean (LISBÔA, 2011).

2.5 Importance versus Satisfaction

This method displays the plotting of the Importance means, on the x-axis (abscissae), and Satisfaction mean, on the y-axis (ordinate), on a graph (Figure 1) formed by four quadrants, which are, "surplus", "maintain", "attention", and "improve".
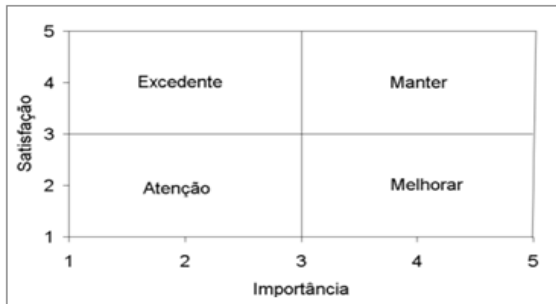

Fig.1: Importance versus Satisfaction model

Source: Adapted from Fontenot; Henke; Carson (2005).

Based on the analysis of Figure 1, the upper left quadrant ("surplus"), which indicates Satisfaction, is located above the mean, while the one related to Importance is located below the mean. Conversely, the upper right quadrant ("maintain") provides both Satisfaction and Importance above the mean; thus, the attributes positioned in this quadrant should be maintained. Regarding the lower left quadrant ("attention"), both Importance and Satisfaction are below the mean; consequently, the items in this position deserve attention, since they may become important. Finally, the lower right quadrant ("improve") indicates Importance is above the mean, while Satisfaction is below the mean; so, the items in this quadrant need improvement and should be prioritized (MATSUKUMA; HERNANDEZ, 2007; LISBÔA, 2011).

This methodology emphasizes the identification of which attributes are found in the "improve" quadrant and, by this identification, recommendations for actions and proposals for improvement to reverse the scenario are made. If many attributes are found in this quadrant, and the organization does not have the resources to improve them as a whole, it is important to concentrate on those with the highest level of Importance and low level of Satisfaction (FONTENOT; HENKE; CARSON, 2005).

2.6 Multiplicative Approach (Weighted Dissatisfaction)

A Multiplicative Approach, or Weighted Dissatisfaction, is shown by the calculation of the difference between the highest (totally satisfied) Satisfaction score and the mean Satisfaction identified by the consumer on the performance of attributes related to services or products. The result of this mean is then multiplied by the mean of the importance assigned to the item by the respondents, obtaining the Weighted Dissatisfaction Index. The attributes that present the highest values are considered critical and should be prioritized in the implementation of improvements (MATSUKUMA; HERNANDEZ, 2007; LISBÔA, 2011).

III. METHODOLOGY

This research was conducted from November 2018 to March 2019, and patients in the preoperative phase of elective surgeries answered 81 questionnaires.

In this stage, the following methodological steps are described:

- Elaboration and application of the questionnaire;
- Data collection;
- Application of the Lawshe method;
- Application of the Likert scale.

3.1 Preparation and Application of the Questionnaire

At first, the search for abstracts and citations of the scientific literature was carried out in the Scielo database, refining articles that addressed the principles and foundations scored in this study. Four keywords were used for this search: "Quality in nursing care", "Preoperative visit", "Quality in surgical nursing care" and "Perioperative care". This resulted in 16 articles for their proximity to the theme concerned. From the 16 articles analyzed, a compilation of the contextualization of each of them was made.

For the preparation of the questionnaire, the evaluation criteria identified in the selected articles were grouped by blocks of nursing services, hospital structural resources and factors intrinsic to the surgical patient.

Table 1 shows the distribution of items per articles, as well as how repeated they are.

Table 1 – Distribution of attributes per articles

Items	Articles*															
Items	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16
1 – Calmness						X							X			
2 - Confidence in well-being in the surgery clinic						X							X			
3 – Feeling of security in preoperative procedures				X		X					X		X		X	
4- Progressive improvement in preoperative events													X			
5 - Quality in care	X		X	X		X	X	X	X	X		X	X			
6 - Decrease of anxiety					X											
7-Time to clarify doubts					X									X		
8 – Guarantee			X					X								
9 - Confidence of being under the care of a nursing staff								X								
10 - Nursing staff	X	X		X			X	X								
11- Risks related to procedures of anesthesia in surgery											X					
12 - Guidelines on surgery			X													
13 - Personal attention												X				
14 – Welcoming																X
15 – Comfort																X

* A1 -Level of satisfaction of clients in a private hospital; A2 - Patient satisfaction according to the way the patient is admitted to a university hospital; A3 -Need for care: the patient view and the nursing staff; A4 -Systematized care in cardiac preoperative: Theory of Transpersonal Care from the perspective of nurses and clients; A5 - Behind the mask, a look that cares: preoperative nursing visit; A6 - Preoperative Nursing Visit; -Patients' opinion; A7 -Evaluating the performance indicator surgical suspension as a quality factor in surgical patient care; A8 -Response of the nursing service in the view of the client; A9 - Nursing diagnosis in surgery clinic; A10 - Indicators of assistance in a surgery clinic; A11 -Design of a tool to measure perceptions about the use of the checklist of the Safe Surgery Program of the World Health Organization; A12 -Analysis of intensity, sensory and affective aspects of pain in patients in the immediate postoperative period; A13 - Nursing in Surgery Room: thirty years after the creation of the Perioperative Nursing Assistance System; A14 - Knowledge and expectations of women in the immediate preoperative of elective surgery; A15 - Nurse practice in patient care in the immediate preoperative period of elective surgery; A16 - Evaluation of the intensity and discomfort of perioperative thirst.

Source: Elaborated by the author (2019)

Table 1 shows that the items that had the most emphasis were "Quality in care", appearing ten times, followed by "Nursing Staff" and "Security", which are repeated five times. "Time to clarify doubts" was repeated three times. "Guarantee", "Confidence", and "Calmness" each appeared in two articles. The other ones were in only one article each totaling 15 criteria.

The service blocks were evaluated under the following Lawshe criteria (1975): (1) non-essential; (2) essential; (3) I do not know. Other important criteria to be followed are the respondent profile, that is, gender; marital status; age bracket; family income; education; and if surgery has been performed before, according to the model of the completed questionnaire described in (APPENDIX A).

Considering the perception of nursing supervisors, open questions were applied in order to include in the study the commitment of those who take care. These questions were the following:

- What are the most important aspects for you to leave the patient satisfied with the services provided in the surgery clinic?

- What are the positive points you highlight that are found in the surgery clinic in the preoperative phase?

- What are the negative points you highlight that are found in the surgery clinic in the preoperative phase?

Based on the reports obtained, six items were added to the final questionnaire, providing relevance and identity to the study. These items were "Professionalism"; "Nursing staff concern"; "Clothing"; "Bed (patient unit)"; "Number of professionals"; and " Timeliness in referral to surgery".

Also, under this view, some previous items were also rewritten in order to facilitate the understanding of the respondent. These items were "Confidence" – "Confidence in well-being in the surgery clinic"; "Security" – "Feeling of security in preoperative procedures"; "Progressive improvement" – "Progressive improvement in preoperative events"; and "Confidence" – "Confidence of being under the care of a nursing staff".

Data Collection

The object of research was refined to determine a probabilistic sample of patients admitted to a surgery clinic at a private hospital, located in the municipality of Macaé, state of Rio de Janeiro, in the immediate preoperative phase of elective surgeries. For delimiting the sample, a survey of surgeries at the elective surgical moment of 2018 was conducted, which resulted in 2908 surgeries, considering both elective and emergency operative moments, resulting in a monthly average of 242 surgeries.

As such, a free and informed consent form – FICF (Appendix B) was applied, with all the data of the researcher and the study in question. Therefore, the research complies with the criteria of research ethics with human beings, according to the NHC (National Health Council) resolution n° 466/12. Before being referred to the operating room, 90 patients were approached in bed, but nine refused to participate in the study, so 81 questionnaires were responded to.

After data collection, the questionnaires were transferred to a spreadsheet in Microsoft Excel 2010 software. To list the criteria, an analysis was conducted using the interviews, according to the profile of patients, delimited as follows:

- Sex;

- Marital status;

- Age bracket (from 20 to 69 years old);

- Family income (from 1 to more than 10 minimum wages);

- Education (from elementary to university education);

- Performance or not of any previous operative procedure.

Accordingly, it was developed an analysis of perception of patients in relation to nursing care considering the items consideredregarding the importance and satisfaction of the dimensions presented.

Application of the Lawshe Method

The method proposed by Lawshe (1975) validates the items that make up the questionnaire by means of a statistical analysis of the criteria considered essential. Hence, after the survey of 15 criteria found by means of the initial literature review, six more items were added due to the contribution of nursing supervisors, being a valuable component of the study, totaling 21.

The Content Validity Ratio (CVR) of each criterion was calculated, of which 21 criteria were regarded as valid by the participants. To perform this calculation, the

following formula developed by Lawshe (1975) was applied, defined by Equation 2.

Equation 2

$$CVR = \frac{(n - \frac{N}{2})}{\frac{N}{2}}$$

in which "n" is the number of experts who classify each item as "essential" and "N", the number of patients who responded to the questionnaire, excluding those who did not know or "IDK" (SOUZA et al., 2015).

In the questionnaires, the validation according to the Lawshe criterion was performed in the following categories: (1) not important; (2) important, but not essential; (3) essential; and (IDK) I do not know, besides containing data related to the profile of respondents, and socioeconomic and cultural aspects.

The Likert Scale for Evaluating Items

After validating the criteria that compose the questionnaire, the Likert scale was adopted in order to collect the data to determine the level of importance and satisfaction of patients with regard to nursing care.

Criteria were used in the questionnaire to measure the level of satisfaction and importance of each item cited by the Likert five-point scale (LIKERT, 1932), and five alternatives were presented in gradation (1 to 5) and one more option of abstention (N - I do not know). The judgment scale for the two dimensions of satisfaction and importance adopted was as follows: 1 - very low; 2 - low; 3 - medium; 4 - high; 5 - very high. Based on the answers to these questionnaires, an analysis of the results was prepared.

IV.   RESULTS OF THE RESEARCH

Table 2 shows the overall result of perception of items considered essential by clients/visitors, and the items that could be excluded or maintained are observed. This Table is particularly relevant for presenting a view of the whole, which evidences what can be considered as essential for the researched public, patients, and for observing the items that could be excluded or maintained.

Table 2: Application of the Lawshe Method

Items	ne	N	%essenciais	CVRcalc	CVRcrít	Decision
1. Calmness	19	19	100.0%	1.000	0.450	Maintain
2. Confidence in well-being in the surgery clinic	16	19	84.2%	0.684	0.450	Maintain
3. Feeling of security in preoperative procedures	16	19	84.2%	0.684	0.450	Maintain
4. Progressive improvement in preoperative events	8	19	42.1%	-0.158	0.450	Exclude
5. Quality in care	14	19	73.7%	0.474	0.450	Maintain
6. Decrease of anxiety	10	19	52.6%	0.053	0.450	Exclude
7. Time to clarify doubts	11	19	57.9%	0.158	0.450	Exclude
8. Guarantee	9	19	47.4%	-0.053	0.450	Exclude
9. Confidence of being under the care of a nursing staff	14	19	73.7%	0.474	0.450	Maintain
10. Nursing staff	16	19	84.2%	0.684	0.450	Maintain
11. Risks related to procedures of anesthesia in surgery	11	19	57.9%	0.158	0.450	Exclude

12. Guidelines on surgery	8	19	42.1%	-0.158	0.450	Exclude
13. Personal attention	19	19	100.0%	1.000	0.450	Maintain
14. Welcome	18	19	94.7%	0.895	0.450	Maintain
15. Comfort	14	19	73.7%	0.474	0.450	Maintain

Source: Elaborated by the author (2019)

In this stage, the results obtained with the application of the research using the Lawshe method are displayed. Table 2 depicts that, after the application of the method, from the perspective of 19 patients, nine items had the judgment to be **maintained**: Calmness and confidence, with 100%; welcome, with 94.7%; confidence, security, and nursing staff, with 84.2%; and comfort, quality in care, and confidence, with 73.7%.And six items had as **exclusion** judgment: important moment to clarify doubts and risks to the surgical anesthetic procedures, with 57.9%; decrease of anxiety, with 52.6%; guarantee, 47.4%; and, finally, guidelines on surgery and continuous improvement, with 42.1%, which were evaluated to be maintained in the study due to the proximity and importance in the relations of assistance to the operating room.

In this way, the need for all 15 component items to be maintained for the questionnaire was judged. Besides these, a new phase was investigated with the nurses as leaders of the surgery clinic staff, thereby adding six more items.

The questionnaire in question has the following items: 1 - Calmness; 2 -Confidence in well-being in the surgery clinic; 3 -Feeling of security in preoperative procedures; 4 - Progressive improvement in preoperative events; 5 -Quality in care; 6 - Decrease of anxiety; 7 -Time to clarify doubts; 8 - Guarantee; 9 -Confidence of being under the care of a nursing staff; 10 -Nursing staff; 11 - Risks related to procedures of anesthesia in surgery; 12 - Guidelines on surgery; 13 -Personal attention; 14 -Welcome; 15 -Comfort; 16 -Professionalism; 17 -Nursing staff concern; 18 -Clothing; 19 -;Bed (patient unit) 20 -Number of professionals; and 21 -Timeliness in referral to surgery.

Mapping of Patient Admission Process

When analyzing Figure 2, it can be observed the flowchart of the patient with operative need by means of the management of elective surgery (scheduled and non-emergency surgery).
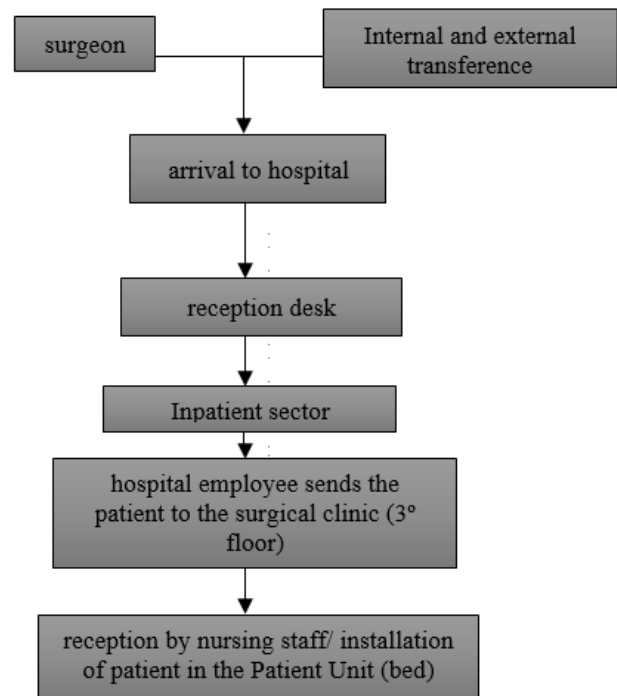

Fig.2: Flowchart of the patient within the hospital
Source: Elaborated by the author (2019)

Elective surgery is performed through two access routes (Figure 2), either by the surgeon or by transference (internal or external). When arriving at the hospital, the patient is directed to the reception desk and sent to the inpatient sector, where the identification record is made, for which he/she has to present the civil identity, health insurance card, and the medical request for admission.

Afterwards, the hospital employee sends the patient to the surgery clinic, on the third floor, after reading and signing the consent form. In this block, he/she is received by the nursing staff, which will install he/she in the patient unit (bed), where it performs the preoperative care (measurement of vital signs, delivery of the trousseau, among others), thus ending with the registration in the medical record and waiting for the call to the operating room.

Profile of Respondents

The profile of respondents evaluated was drawn based on some factors, such as female and male gender; marital status (single, married/stable union, widower or divorced); age bracket (20 to 69 years); family income (income bracket between one salary and more than ten minimum wages); level of education (incomplete elementary, complete elementary, complete high school, complete college degree and incomplete university degree); finishing with or without some surgical procedure, both with yes and no answer options.

As can be seen in Figure 3, male and female questions show that 54% of respondents are male and 46% female, not showing a significant imbalance in the sample.
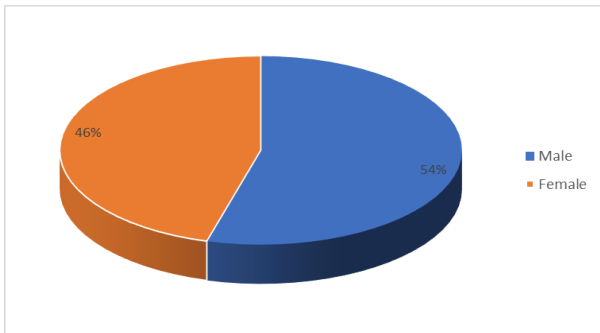

Fig.3: Percentage of respondents per gender

Source: Elaborated by the author (2019)

Male/Female

In relation to marital status, as depicted in Figure 4, 79% of respondents are married/stable union; 19% are single; 1% are widowed; and 1% are divorced.
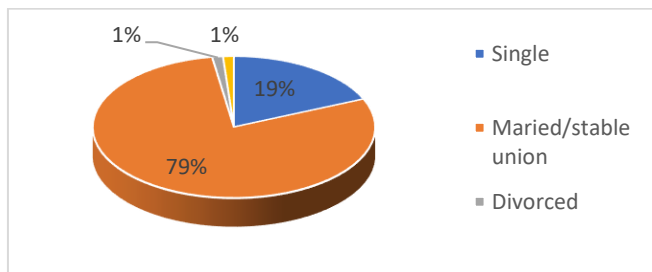

Fig.4: Percentage of respondents per marital status

Source: Elaborated by the author (2019)

Figure 5 presents the percentage of respondents per bracket group, of which 33% are between 30 and 39 years old; 23%, between 50 and 69 years old; 19%, between 40 and 49 years old; 15%, between 25 and 29 years old; and

10%, between 20 and 24 years old. This is very noticeable in the age bracket of greater prevalence, since there is a favorable clinical condition for elective operative practices.
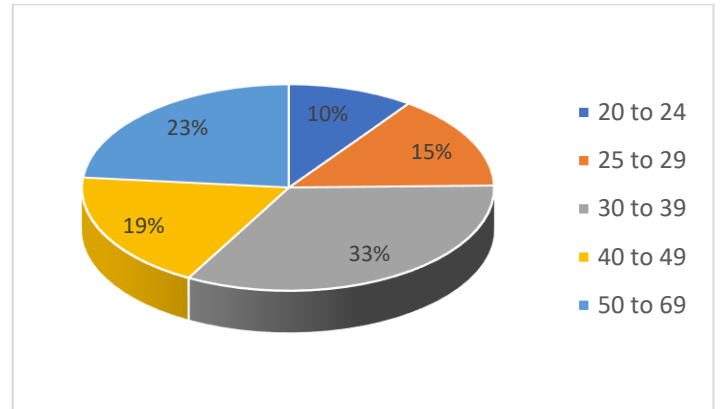

Fig.5: Percentage of respondents per age bracket

Source: Elaborated by the author (2019)

As noted in Figure 6, the question regarding family income demonstrates that 36% of respondents have income from three to five minimum wages; 26%, from two to three minimum wages; 21%, from five to ten minimum wages; 16%, from one to two minimum wages; and 1%, income not exceeding one minimum wage. By the characteristic of the private hospital sector, one can see the prevalence of patients affiliated to health insurance companies, associated to employment contracts.
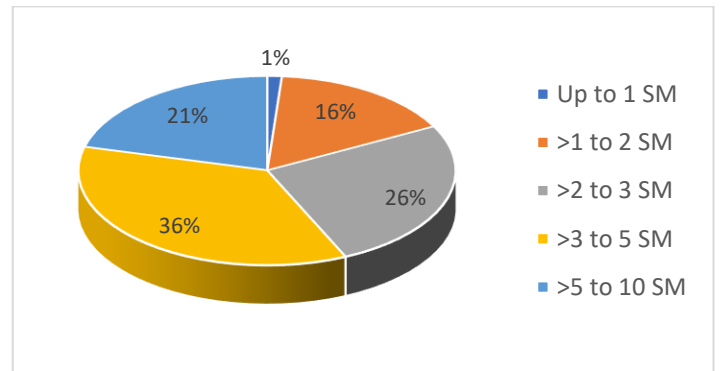

Fig.6: Percentage of respondents per family income

Source: Elaborated by the author (2019)

In relation to the level of education of respondents, Figure 7 shows that 59% have complete high school; 22% have complete college education; 10% have complete elementary school; 8% have incomplete college education;

and 1% have incomplete elementary school. Thus, it can be identified that the market is absorbed by high school professionals.
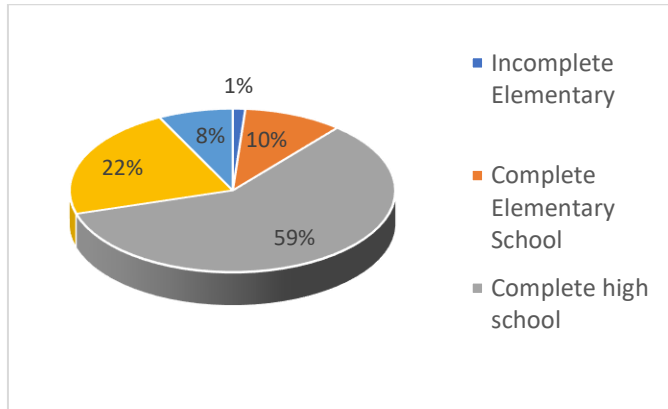

Fig.7: Percentage of respondents per education level

Source: Elaborated by the author (2019)

Figure 8 proves that 64% of respondents have already had experience with surgical, dental, and/or medical procedures. Regarding that, it should be noted the results of other operative experiences influence the recognition of satisfaction and importance during hospitalization.
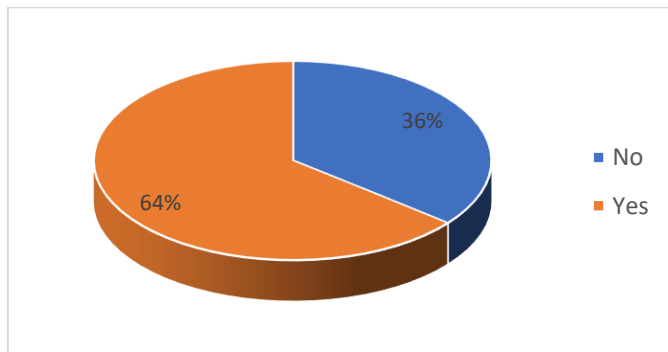

Fig.8: Percentage of respondents with previous surgery

Source: Elaborated by the author (2019)

V. RESULTS AND DISCUSSIONS

1.5.1 Level of Importance

Figure 9 shows the means and the standard error related to the Level of Importance of the items that compose the questionnaire.
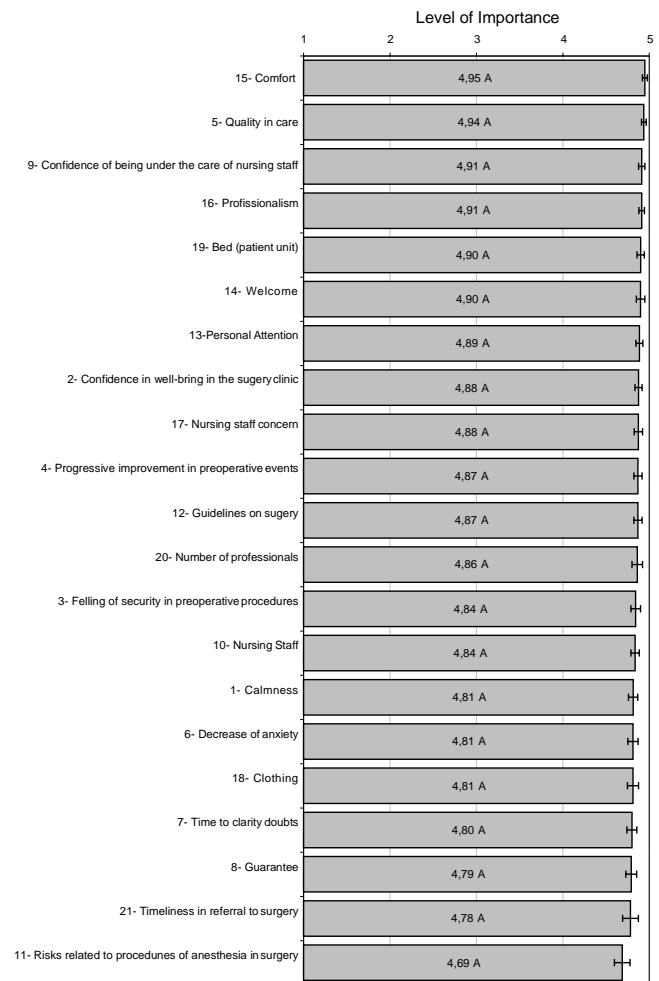

Fig.9: Level of Importance (means and standard error)

Source: Elaborated by the author (2019)

From Figure 9, it can be observed that "comfort" was considered the most important item in the view of the respondents. Nevertheless, all items presented a high level of importance, once the graph shows that the results are between 4.95 and 4.69, being 5 (very high or very important) the highest value susceptible of response.

Furthermore, the items do not significantly differ from the means (P>0.05), as, according to the Tukey test, letter A was maintained for all the items.

1.5.2 Level of Satisfaction

In Figure 10, it is possible to examine the means and the standard error relevant to the Level of Satisfaction of the items in the questionnaire.
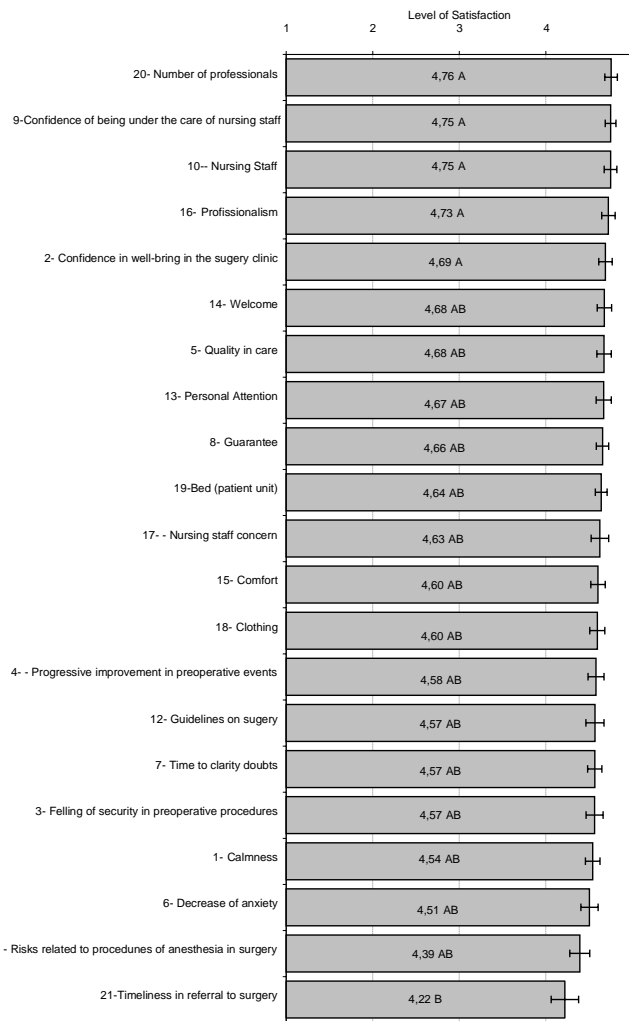
Fig.10: Level of satisfaction (means and standard error)

Source: Elaborated by the author (2019)

In Figure 10, it is observed the item "Number of professionals" is the one with the highest level of satisfaction. Nevertheless, as in the graph of the level of Importance, also in the level of Satisfaction, the means were high, all above 4, ranging from 4.76 (highest mean) for the item "Number of professionals", and 4.22 (lowest mean), for the item "Timeliness in referral to surgery".

Conversely, the item "Timeliness in referral to surgery", with the lowest mean score for Satisfaction, shows a difference in relation to the Tukey test, with the Satisfaction being no longer "very high", unlike all other items, not presenting the letter A, that is, presenting significant difference (P>0.05).

1.5.3 GAP

In Figure 11, the GAP between the Level of Importance and Satisfaction is shown decreasingly.
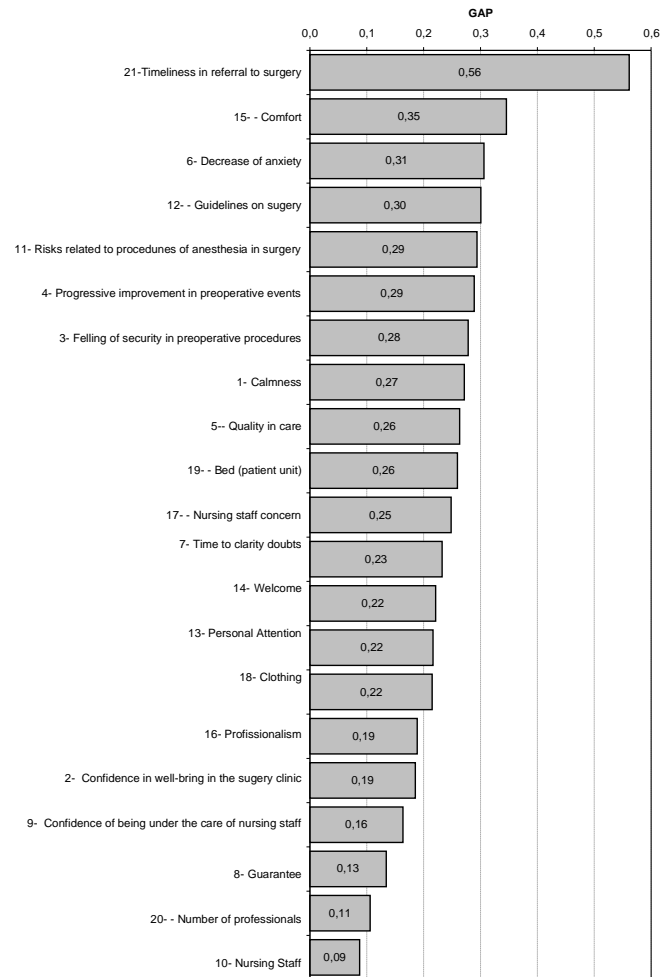
Fig.11: GAP

Source: Elaborated by the author (2019)

The GAP, in Figure 11, shows the difference between Importance and Satisfaction of the items that compose the questionnaire. As such, the items with the highest GAP have high Importance and low Satisfaction, as is the case, for instance, of the item "Timeliness in referral to surgery". On the other hand, the items with the lowest GAP, such as "Nursing Staff", have low Importance and high Satisfaction.

3.5.4 GAP Method

Table 3 illustrates the reference values assigned to each of the items with regard to Importance, Satisfaction, and GAP.

Table 3: Values assigned to each of the items for Importance, Satisfaction, and GAP.

DESCRIPTION	IMPORTANCE	SATISFACTION	GAP
1- Calmness	4.81	4.54	0.27
2- Confidence in well-being in the surgery clinic	4.88	4.69	0.19
3- Feeling of security in preoperative procedures	4.84	4.57	0.28
4- Progressive improvement in preoperative events	4.87	4.58	0.29
5- Quality in care	4.94	4.68	0.26
6- Decrease of anxiety	4.81	4.51	0.31
7- Time to clarify doubts	4.80	4.57	0.23
8- Guarantee	4.79	4.66	0.13
9- Confidence of being under the care of a nursing staff	4.91	4.75	0.16
10- Nursing staff	4.84	4.75	0.09
11- Risks related to procedures of anesthesia in surgery	4.69	4.39	0.29
12- Guidelines on surgery	4.87	4.57	0.30
13- Personal attention	4.89	4.67	0.22
14- Welcome	4.90	4.68	0.22
15- Comfort	4.95	4.60	0.35
16- Professionalism	4.91	4.73	0.19
17- Nursing staff concern	4.88	4.63	0.25
18- Clothing	4.81	4.60	0.22
19- Bed (patient unit)	4.90	4.64	0.26
20- Number of professionals	4.86	4.76	0.11
21- Timeliness in referral to surgery	4.78	4.22	0.56

Source: Elaborated by the author (2019)

In this Table 3, it is possible to analyze the 21 items that make up the questionnaire with the tabulated data on Importance, Satisfaction and GAP, in a way that makes the comparison of them easier.

Hence, it can be seen that the reference item regarding Importance, with a mean of 4.95, is the item "Comfort". This same item also has a mean of 4.60 for Satisfaction and 0.35 for GAP.

As for the highest mean of Satisfaction, the item "Number of professionals" is highlighted, with a mean of 4.76. This same item also presents 4.86 with regard to Importance and 0.11 with respect to the GAP mean.

In relation to GAP, the highest average was given in the item "Timeliness in referral to surgery", with 0.56, with a mean of Importance of 4.78 and Satisfaction of 4.22.

1.5.5 Weighted Dissatisfaction

Figure 12 shows the Weighted Dissatisfaction in relation to the items evaluated in the questionnaire applied.

Weighted Dissatisfaction

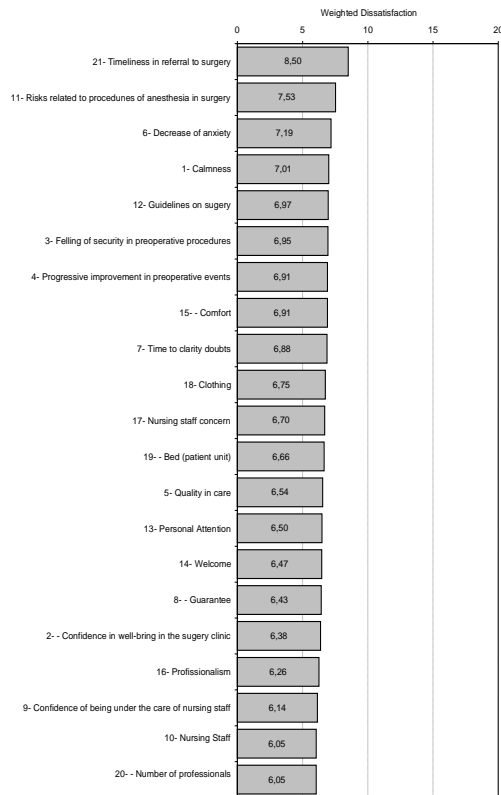|	
21- Timeliness in referral to surgery	8,50
11- Risks related to procedures of anesthesia in surgery	7,53
6- Decrease of anxiety	7,19
1- Calmness	7,01
12- Guidelines on sugery	6,97
3- Felling of security in preoperative procedures	6,95
4- Progressive improvement in preoperative events	6,91
15- - Comfort	6,91
7- Time to clarify doubts	6,88
18- Clothing	6,75
17- Nursing staff concern	6,70
19- - Bed (patient unit)	6,66
5- Quality in care	6,54
13- Personal Attention	6,50
14- Welcome	6,47
8- - Guarantee	6,43
2- - Confidence in well-bring in the sugery clinic	6,38
16- Profissionalism	6,26
9- Confidence of being under the care of nursing staff	6,14
10- Nursing Staff	6,05
20- - Number of professionals	6,05

Fig.12: Weighted Dissatisfaction

Source: Elaborated by the author (2019)

The Weighted Dissatisfaction (Figure 12) demonstrates the dissatisfaction of patients who responded to the questionnaires in relation to the items evaluated, being the item that generates the greatest dissatisfaction the "Timeliness in referral to surgery", with a value of 8.50, followed by "Risks related to procedures of anesthesia in surgery", with a mean Weighted Dissatisfaction of 7.55. On the other hand, the item with the lowest Weighted Dissatisfaction is "Number of professionals", with a mean of 6.02.

1.5.5 Multiplicative Approach Method

Table 4 shows the reference values for the level of Satisfaction, Level of Dissatisfaction, Level of Importance, and Weighted Dissatisfaction.

Table 4: Value of reference of Satisfaction, Dissatisfaction, Importance, and Weighted Dissatisfaction.

Description	Reference	Satisfaction	Dissatisfaction	Importance	Weighted Dissatisfaction
1- Calmness	6.00	4.54	1.46	4.81	7.02
2- Confidence in well-being in the surgery clinic	6.00	4.69	1.31	4.88	6.39
3- Feeling of security in preoperative procedures	6.00	4.57	1.43	4.84	6.92
4- Progressive improvement in preoperative events	6.00	4.58	1.42	4.87	6.91
5- Quality in care	6.00	4.68	1.33	4.94	6.57
6- Decrease of anxiety	6.00	4.51	1.49	4.81	7.16
7- Time to clarify doubts	6.00	4.57	1.43	4.80	6.86
8- Guarantee	6.00	4.66	1.34	4.79	6.41
9- Confidence of being under the care of a nursing staff	6.00	4.75	1.25	4.91	6.13
10- Nursing staff	6.00	4.75	1.25	4.84	6.05
11- Risks related to procedures of anesthesia in surgery	6.00	4.39	1.61	4.69	7.55
12- Guidelines on surgery	6.00	4.57	1.43	4.87	6.96

13- Personal attention	6.00	4.67	1.33	4.89	6.50
14- Welcome	6.00	4.68	1.32	4.90	6.46
15- Comfort	6.00	4.60	1.40	4.95	6.93
16- Professionalism	6.00	4.73	1.28	4.91	6.28
17- Nursing staff concern	6.00	4.63	1.37	4.88	6.68
18- Clothing	6.00	4.60	1.40	4.81	6.73
19- Bed (patient unit)	6.00	4.64	1.36	4.90	6.66
20- Number of professionals	6.00	4.76	1.24	4.86	6.02
21- Timeliness in referral to surgery	6.00	4.22	1.78	4.78	8.50

Source: Elaborated by the author (2019)

Analyzing Table 4, the means presented among the four segments (Satisfaction, Dissatisfaction, Importance, and Weighted Dissatisfaction) are compared. With regard to Dissatisfaction, the item with the highest mean is "Timeliness in referral to surgery", with 1.78.

This same item presents, in relation to Satisfaction, the mean of 4.22; in relation to Importance, 4.78; and, finally, concerning Weighted Dissatisfaction, the mean of 8.50, that is, the item highlighted in this topic presents the highest means for both Dissatisfaction and Weighted Dissatisfaction.
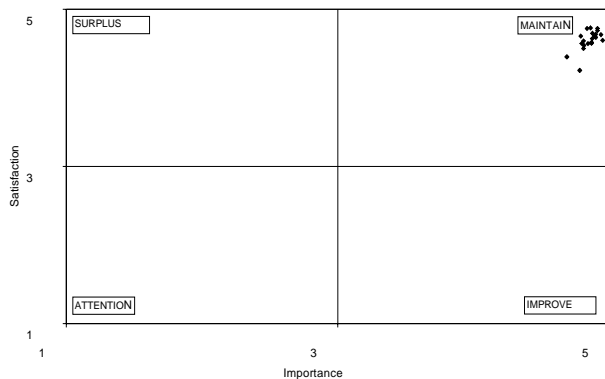

Fig.13: Importance versus Satisfaction

Source: Elaborated by the author (2019)

In Figure 13, the four quadrants of the scatter graph are analyzed: "surplus", "maintain", "attention", and "improve". Apparently, in a superficial analysis, all items are in the right upper quadrant, i.e., "maintain". Hence, it shows high Satisfaction and greater importance of the items from the perspective of the respondents of the questionnaire.

3.5.6 Importance *versus* Satisfaction (enlarged image)

In Figure 14, the "surplus" and "maintain" quadrants were enlarged to facilitate the visualization of the items.

It is possible to observe the enlargement of only the "maintain" quadrant and, in this way, make the individual analysis of the items.
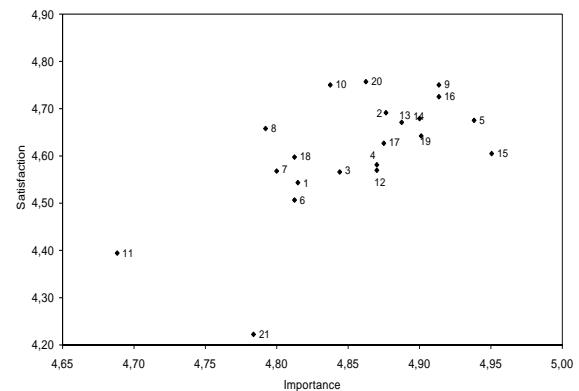

Fig.14: Enlargement of the "maintain" quadrant

Source: Elaborated by the author (2019)

Items 11 and 21 differ from the others. Item 11 refers to "Risks related to procedures of anesthesia in surgery", and item 21 corresponds to "Timeliness in referral to surgery". Item 11 presents 4.69 as to Importance and 4.39 as to Satisfaction. On the other hand, item 21 presents 4.78 regarding Importance and 4.22 concerning Satisfaction.

VI.   FINAL CONSIDERATIONS

Results indicate there is still an operational need to conduct management processes that strengthen health staff to be well trained and aware regarding client assistance. Regarding the attributes researched, it was evidenced that, in general, all of them are closely linked to interpersonal and interprofessional relationships, mainly for the nursing and medical staff, generators of relationships and communication. Nevertheless, the need to raise the standards of quality in health services of the operating room should not be eliminated, recognizing patient satisfaction as an important indicator for measuring the quality of health services, as well as guiding the planning of actions in a holistic and systematic way, decision making, and monitoring of the results of services.

Results indicate that, analyzing the 21 items that compose the questionnaire applied in this study, the item that is most important as to the mean for the respondents is the 15, "Comfort", with 4.95. As for satisfaction, the item that is highlighted with the mean 4.76 is item 20, "Number of professionals", with 4.95. In terms of GAP, that is, the difference calculated between the values of Importance and Satisfaction, the item with the highest GAP is 21, "Timeliness in referral to surgery", with a mean of 0.56.

In the stage of Dissatisfaction and Weighted Dissatisfaction, the item with emphasis is 21, "Timeliness in referral to surgery". As for Dissatisfaction, the mean was 1.78, and as regards Weighted Dissatisfaction, 8.50.

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