JULIANA ROCHA GONÇALVES

"THE USE OF INDICATORS FOR ASSESSING THE QUALITY OF DENTAL SERVICES"

"UTILIZAÇÃO DE INDICADORES PARA AVALIAÇÃO DA QUALIDADE DOS SERVIÇOS ODONTOLÓGICOS"

PIRACICABA

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Universidade Estadual de Campinas

Faculdade de Odontologia de Piracicaba

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"THE USE OF INDICATORS FOR ASSESSING THE QUALITY OF DENTAL SERVICES"

Orientadora: Profª. Dra. Gláucia Maria Bovi Ambrosano

"*UTILIZAÇÃO DE INDICADORES PARA AVALIAÇÃO DA QUALIDADE DOS SERVIÇOS ODONTOLÓGICOS*"

Tese de Doutorado apresentada à Faculdade de Odontologia de Piracicaba da Universidade Estadual de Campinas, para obtenção do título de Doutora em Odontologia, área de concentração em Saúde Coletiva.

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Este exemplar corresponde à versão final da
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EPIGRAFE

"A coisa mais indispensável a um homem é reconhecer o uso que deve fazer do seu próprio conhecimento"

Platão

RESUMO

Pesquisas que trabalham com avaliação da qualidade tem recebido grande destaque devido sua importância na utilização na gestão dos serviços. Por outro lado as organizações que atuam na área odontológica não possuem padronização para avaliar sua atuação junto aos usuários e empresas-clientes. Em geral a avaliação é realizada com vistas à ampliação e à captação de negócios não estando diretamente relacionada à melhoria da saúde bucal da população atendida, que poderia ser o objetivo principal. Os objetivos deste trabalho foram: (1) desenvolver indicadores para avaliar a qualidade do serviço odontológico sob o ponto de vista dos usuários; (2) Estabelecer indicadores para a avaliação da qualidade da assistência odontológica; e (3) Estabelecer métodos estatísticos que serão utilizados na avaliação e gestão de serviços odontológicos. Participaram da pesquisa usuários com idade a partir de 18 anos e prontuários de usuários com tempo de alta inferior a seis meses. Para o calculo amostral os seguintes parâmetros foram utilizado, em um serviço de plano odontológico com uma média de 1200 atendimentos/mês realizados por dentistas credenciados foi estimada uma prevalência de 50% de satisfação do usuário. O nível de confiança foi de 95%, com margem de erro de 5%, estimando-se assim uma amostra de 291 indivíduos por meio do Epi Info 6.0. Considerando uma possível perda de 20% foram selecionados 355 prontuários. Na primeira fase do trabalho utilizando o questionário SERVQUAL com cinco dimensões e também do sociodemografico, foram avaliadas as expectativas sobre o serviço (antes de receberem o tratamento odontológico). Além disso, foi testada uma ferramenta de marketing IPA (*Importance Performance Analysis*) que permite o direcionamento de ações de acordo com os resultados obtidos. Trezentos e setenta e nove questionários foram preenchidos. Na segunda fase, onde os beneficiários tinham recebido o tratamento odontológico, 155 questionários foram preenchidos. A pesquisa foi realizada em quatro empresas clientes de um serviço de plano odontológico com questionários. Os dados foram tabulados e foram feitos os cruzamentos das

variáveis. Após estes procedimentos foi criado um banco de dados para o desenvolvimento do software, utilizando as ferramentas da qualidade. Concluiu-se que Os homens tiveram expectativas mais elevadas do que as mulheres em três dimensões: presteza, segurança e empatia. A presteza foi a unica dimensão que as expectativas do serviço oferecido, foram mais elevadas do que a percepção. Na dimensão tangibilidade e confiabilidade, as pacientes do genero feminino mostraram mais insatisfeitos com o serviço do que os homens. Os mais velhos tiveram maior prevalência de insatisfação com o serviço na dimensão Empatia. E finalizando a ferramenta IPA se mostrou eficaz quando utilizada na gestao do serviço uma vez que destaca os pontos chaves a serem melhorados no serviço.

Palavras-chave: Indicadores de qualidade; Saúde bucal; Qualidade da Assistência à Saúde.

ABSTRACT

Researches that work with quality assessment have received great prominence due its importance in use in the management of services. Moreover organizations working in dentistry have no standardization to assess the performance with users and client companies. In general the evaluation is carried out in order to expand and capture business not directly related to improving the oral health of the population served, which could be the main objective. The objectives of this study were: (1) develop indicators to assess the quality of dental services from the point of view of users, (2) Establish indicators for assessing the quality of dental care, and (3) establish statistical methods that will be used in the evaluation and management of dental services. Participants were from users aged 18 years and records of users with high time less than six months. To calculate sample the following parameters were used in one service dental plan with an average of 1200 calls / month conducted by accredited dentists was estimated a prevalence of 50% user satisfaction. The confidence level was 95%, with a margin of error of 5%, estimating just a sample of 291 individuals using the Epi Info 6.0. Considering a possible loss of 20% were selected 355 charts. In the first phase of work using the SERVQUAL questionnaire with five dimensions and also the sociodemographic, were evaluated expectations about the service (before receiving dental treatment). In addition, we tested a marketing tool IPA (Importance Performance Analysis) which allows the targeting of actions according to the results. Three hundred and seventy-nine questionnaires were completed. In the second phase, where beneficiaries had received dental treatment, 155 questionnaires were completed. The research was conducted in four business customers a service dental plan with questionnaires. Data were tabulated and the crossings were made of variables. After these procedures has created a database for developing the software, using the tools of quality. It was concluded that men had higher expectations than women in three dimensions: responsiveness, assurance and empathy. The promptness was the only dimension that the expectations of the service offered,

were higher than the perception. In size tangibility and reliability, the genre of female patients showed more dissatisfied with the service than men. The older had a higher prevalence of dissatisfaction with the service dimension in Empathy. And ending the IPA tool was effective when used in the management of the service once that highlights the key points to be improved in service.

Key Words: Quality indicators; Oral Health; Quality of Health Care.

SUMÁRIO

INTRODUÇÃO

Indicadores de saúde são padrões que tem como finalidade avaliar e auxiliar nos planejamentos. Os indicadores de saúde proporcionam o diagnóstico da situação existente promovendo assim comparações individuais ou populacionais, o que permitirá que decisões sejam tomadas de forma eficiente (Ireland, 1988).

Quando se utilizam indicadores é importante observar algumas falhas que podem ocorrer nos sistemas de medição (Health Strategy, 2003) entre elas a não definição do desempenho operacionalmente; o não relacionamento do desempenho ao processo; a não definição dos limites do processo; a falta de compreensão ou má utilização das medidas; o receio de apresentar mal ou bom desempenho e o receio da introdução de controles mais rígidos de gerenciamento.

Pesquisas sobre avaliação da assistência odontológica vêm recebendo crescente importância na comunidade científica, impulsionadas principalmente por fatores como a elevação do custo da atenção odontológica, e financiamento do setor, assim como pelo crescimento das queixas de pacientes em relação ao atendimento (John , Yatim & Mani , 2011).

A avaliação em saúde produz informações quanto à adequação, efeitos e custos associados ao uso de tecnologias, programas ou serviços de saúde (Parasuraman, Zeithaml & Berry, 1985). Dessa forma, é possível subsidiar a tomada de decisão em relação às práticas de saúde e ao estabelecimento de políticas concernentes ao setor.

Em relação à avaliação da qualidade da assistência, proposta metodológica foi aprimorada e baseada em três componentes: estrutura, processo e resultado (Ryan, Scott, Reeves *et al*., 2001).

Os principais critérios para geração de um indicador são simplicidade e clareza, abrangência, acessibilidade, comparabilidade, e baixo custo de obtenção (Ruth, Bolton &. Drew 1991).

Além da avaliação direta por meio de parâmetros biomédicos, deve-se fazer uma avaliação que possibilite mensurar a qualidade relacionada à estrutura, processo e resultados da atenção à saúde.

Ruth, Bolton &. Drew 1991; Lim, Tang, 2000, entretanto, afirmam que o conceito de qualidade na área da saúde é difícil de ser estabelecido, e não há uma definição única. O conceito de qualidade dos serviços de saúde deve ser abrangente, visto a sua natureza dinâmica, que envolve também valores sociais. Para o autor, o conceito de qualidade, quando aplicado aos cuidados de saúde, deve ser abordado utilizando um conjunto de atributos, por ele chamado de pilares da qualidade: eficácia, eficiência, efetividade, otimização, aceitabilidade, legitimidade e equidade (Ryan, Scott, Reeves *et al*., 2001).

Muitos são os elementos envolvidos no conceito de qualidade dos serviços de saúde: efetividade (relação entre o impacto real de um serviço dentro de um sistema operativo e o impacto potencial de uma situação real), a eficiência (relação entre o impacto de um serviço e o custo de sua produção), adequação (relação entre a disponibilidade de serviços e necessidades da população), qualidade técnica científica (conhecimento e tecnologia disponível), satisfação do usuário e do profissional de saúde, acessibilidade (capacidade de obter os serviços de que necessita e em quantidade suficiente) e continuidade do tratamento como um todo (Lim, Tang, 2000).

É muito importante afirmar que qualquer que seja a abordagem escolhida para monitorar a qualidade à assistência, o ponto critico é a transformação do conceito qualidade em representações concretas sob a forma de critérios, indicadores ou padrões que assegurem a validade desejada (Parasuraman, Zeithaml, & BERRY, 1988)

É fundamental a monitoria da qualidade e da utilização de indicadores em saúde como ferramentas de diagnostico, análise e controle de processos e resultados.

A preocupação com a satisfação dos clientes, oriunda da indústria, com seus produtos, vem ganhando importância crescente na área da saúde, não

apenas devido à competitividade verificada no setor privado (muito maior em países como os Estados Unidos), mas também e principalmente à tomada de consciência a respeito da condição de cidadãos e à luta constante pelo exercício da cidadania. Falar em qualidade no setor da saúde não é coisa simples, e falar em satisfação do usuário no setor público parece tarefa desafiadora. Apesar das ponderações anteriores sobre a qualidade no setor público, na realidade Brasileira a oferta de serviços não se dá de forma homogênea, inclusive quando se consideram serviços especializados e complexos, em que prevalece a falta de opção. Caracterizada essa desigualdade de condições entre prestadores e consumidores de saúde, muitas avaliações de satisfação poderão resultar distorcidas. Cliente ou usuário pode ser definido como alguém para quem é efetuado um trabalho ou aquele que recebe benefício de determinado trabalho. Pode-se classificá-lo em três categorias: Usuários primários (usuários finais) que são os pacientes; famílias e médicos; Usuários secundários (pagadores ou reguladores) e usuários auxiliares que compreendem os empregados, supervisores, fornecedores e contratantes (Parasuraman, Zeithaml, & BERRY, 1988).

Para ser considerado bom para avaliar a qualidade, um indicador deve refletir a visão do cliente (interno ou externo); Indicar o nível de utilização de recursos; ser sensível às variações do processo; ser objetivo e facilmente mensurável; fornecer respostas na periodicidade adequada; estar próximo ao ponto de ocorrência do problema.

Um instrumento criado para avaliar as expectativas do cliente é o SERVQUAL. Este instrumento foi originalmente desenvolvido por Parasuraman, Zeithaml e Berrey em 1995 e tem amplas aplicações para o marketing e cuidados de saúde[6]. A forma como o serviço oferecido atende ou excede a expectativa do cliente vai mostrar se o cliente ficará satisfeito (White, Slabber, Schreude 2001; Karydis, Komboli-Kodovazeniti, Hatzigeorgiou & Panis 2001). Uma importante revisão sistemática (Ryan, Scott, Reeves *et al*., 2001) concluiu que SERVQUAL

parece ser uma técnica útil para avaliar as percepções sobre a qualidade dos serviços de saúde.

O conceito do método IPA (Análise de Desempenho Importância) encontra-se em estudos de mercado para entender a importância do nível de satisfação do cliente. Análise desempenho e Importância (IPA) têm sido utilizada em pesquisas em hospitais e turismo por anos (Martilla & James 1977). Desde o trabalho supracitado o quadro IPA ganhou popularidade entre os pesquisadores em qualidade de serviço, e de saúde de marketing por diversos pesquisadores (Hu, Chiu, Cheng, 2011; Matzler, & Sauerwein, 2002) Como os autores enfatizaram a facilidade de aplicação e os métodos atraentes de apresentar dados e sugestões estratégicas parecem ser os fatores, entre outros, que contribuem para a ampla aceitação da técnica.

O presente estudo foi apresentado em formato alternativo conforme deliberação da Comissão Central de Pós-Graduação (CCPG/01/2008) da Universidade Estadual de Campinas – UNICAMP e consiste de três capítulos, cujos objetivos foram: Avaliar a relação entre expectativas dos beneficiários e as características sociodemograficas [Capítulo 1]. Analisar as expectativas e percepções e os valores dos *GAPs* juntamente com seus significados na avaliação da qualidade do serviço odontológico [Capítulo 2]. No ultimo capitulo explorou-se uma ferramenta de marketing (IPA) associada a matrizes para priorização das ações [Capítulo 3].

Capítulo 1: **Association between patient demographics and expectations in the assessment of the quality of dental services**

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ABSTRACT

Objective: To evaluate patient expectations of dental care and their association to patient demographics. Design: We used an adapted SERVQUAL questionnaire with 18 items and five dimensions. A socio demographic questionnaire included questions such as gender, age, family income, education, and parental literacy. Setting: These questionnaires were collected in four companies in two States of Brazil during the year 2011. Participants: Three hundred and seventy nine questionnaires were applied. Data were entered in Excel® and analyzed in SAS® using χ^2 test, Fisher's test and Multiple Logistic Regression. Main outcome measures: Perceived service quality on five dimensions - tangibles; reliability, responsiveness; assurance, and empathy. All constructs were measured on a seven point Likert scale. Results: Sample demographics: 57% of participants were between 31 and 50 years of age, 76% were male, 51% had a high school degree and 48% had a family income of 1,250 dollars per month. Assurance and tangibles had the highest average score (6.03 and 6.0 respectively). The multiple regression showed that in assurance dimension, men (OR- 1.89, p=0.033) and father literacy above high school (OR= 1.74, p= 0.037) were associated with high expectation when adjusted for income, oral health perception and age. Men showed odds ratio high (1.79, p = 0.047) for high expectation in responsiveness dimension, adjustment for income, self-perception of oral health, father literacy and oral pain. Conclusions: There is an association between socio demographic variables and subject expectations in select domains. These variables included gender (male) self-perception of oral health, and parental education. Males had higher expectations than females in two dimensions: Assurance and Responsiveness.

INTRODUCTION

Research on the assessment of the quality of dental services has been drawing increasing attention of the scientific community, mainly due to factors such as the rise in the cost of dental treatment and to the increasing number of patient complaints about these services (1). Furthermore, there is growing evidence that consumer feedback and participation in decision-making in individual care leads to improvements in health outcomes (2).

Dental organizations do not have a widely accepted standard to assess the services provided to their clients. When some assessment is carried out, it is aimed mostly at business expansion and attraction of new clients, and less at the improvement of the quality of dental services. Several studies have reported that the quality, satisfaction, and dissatisfaction with health services are determined by variables such as a good dentist-patient relationship, availability of basic infrastructure, time spent and information given during consultation, and waiting room time (3).

Two main components should be considered when implementing a health quality evaluation: technical quality and functional quality. Technical quality is based on the practitioner's performance and skills. Patients perceive functional quality as the way the service is delivered. This perception is defined by the concept of client's global satisfaction, which is composed by three elements (4).

a) Perceived quality: the clients' evaluation of the products performance in a recent experience.

b) Perceived value: relation between quality level and the price paid.

c) Client's expectations: expectations previous to the moment of consumption.

The key to achieving good service is to have a clear understanding of client expectations regarding service. An established instrument to gage client expectations is the SERVQUAL (5). This instrument was originally developed by Parasuraman, Zeithaml and Berrey (5) in 1995 and has broad applications to marketing and health care (6). The way the service offered meets or exceeds the customer's expectation will show whether the customer will be satisfied (11, 12). An important systematic review (7) concluded that SERVQUAL appears to be a useful technique to assess perceptions regarding the quality of health services. This review aimed to identify techniques that could be reasonably used to elicit public views on the provision of healthcare. Hence, the objectives of the review were: (I) to identify research methods with the potential to take account of public views on the delivery of healthcare; (II) to identify criteria for assessing these methods; (III) to assess the methods identified according to predefined criteria; (IV) to assess the importance of public views vis-a-vis other criteria for setting priorities, as judged by a sample of decision-makers; (V) to make recommendations regarding the use of methods and future research. This research generally agrees on that expectations are the reference to assess the provision of services to consumers (8, 9).

Socio demographic variables may be associated with patient expectations. For example, older patients have reported higher expectations and

highly educated people are less satisfied with their health care services compared with their counterparts. Another factor is health status. A higher level of satisfaction is reported in patients with better overall health, except in groups of chronically ill patients (13).

The purpose of this study was to evaluate subject expectations towards dental care and their association to demographic variables in a cohort served by a dental insurance company in Brazil. There are currently no published studies in Brazil using SERVQUAL to assess expectations of dental service in insurance plans. Studies published to date using this instrument focus on individual or limited number of clinics. This is the first study that reports quality expectations from a broader population served by multi-practice plans. In addition, this is the first study that evaluates associations between self-perception of general health, oral health, and expectations.

MATERIAL AND METHODS

This project was approved by The Ethics Committee in Research of the School of Dentistry of Piracicaba - State University of Campinas, registered by number 040/2010, complied with the recommendations of the National Health Council - Ministry of Health of Brazil for research in human subjects.

a) **Sample Size:**

In a dental insurance company with an average of 1200 dental visits per month performed by accredited dentists, a prevalence of 50% user satisfaction was estimated. Confidence level was established at 95%, with margin of error 5%, thereby estimating a sample of 308 individuals (Epi Info 6.0). Considering a possible loss of 20%, a sample of 385 subjects was selected. Sampling was done through random draw among the records that are part of the service. Users aged 18 or more who had not seen a dentist took part in the study.

b) **Questionnaire design**: The study was performed in a dental insurance service through questionnaires: The tool used to measure service quality was SERVQUAL (10). This instrument intended to explore the levels of service quality perceived by patients. The model is based on the comparison between the perceived service and the expected service, in which customer expectations are influenced by special needs, previous experience, word-of-mouth communication, and external communication.

The indicators of service quality currently used in dentistry are mainly normative (clinical and productivity indices). The SERVAQUAL instrument started to be used in industry, but today it is widely applied in medicine, and dentistry has started introducing this type of assessment (14,15).

A previously validated SERVQUAL questionnaire (16) was used containing 18 items and five dimensions. The questions were divided into five dimensions:

a) Tangibles: The physical characteristics (physical facilities, equipment and appearance of personnel).
b) Reliability: Scientific qualification, up-to-date information and education in recent technology. Ability to perform the promised service dependably and accurately, reference to another specialized dentist or physician when necessary.
c) Responsiveness: Reactiveness to help patient, provision of prompt care and adequate information on oral health and hygiene.
d) Assurance: Infection control (i.e. possible damage or infection by use of sterilization, disposable gloves and masks and also use of antiseptics) has a positive effect on security, sincerity, confidence and consistency.
e) Empathy: Effort to know the patient's needs, understand and show interest. Caring and individualized attention.

All constructs were measured on a seven point Likert scale, graded from one (strongly disagree) to seven (strongly agree). A separate socio demographic questionnaire included questions such as gender, age, family income, education, and parental education. The companies were contacted and authorization was given to the realization of the research according to the routine of each visited company. Three hundred and seventy nine questionnaires were applied in four companies in two States (Sao Paulo and Minas Gerais) of Brazil during the year 2011. Each employee attended about research explanation and was invited to participate. Those who still had not received dental treatment and had accepted to

participate filled out their own survey. The participants were asked to complete the questionnaire and were guaranteed anonymity in this research.

The following questionnaire was used:

What is your expectation, that is, what do you expect regarding the performance of a dental office or clinic. Answer by setting a value between 1-7 in which 7 means you strongly agree with the statement in the question, and 1 means you strongly disagree.

The statements in the adapted SERVQUAL questionnaire were:

I – Have up-to-date equipment

II - Dentists are always well dressed and appear neat

III- The assistants are well dressed, clean and appear neat

IV- Appropriate physical facilities for the type of services

V- Staff can be depended upon to do the right thing

VI- Patients are informed precisely when services will be performed

VII- Sincerity of clinic staff to try to solve patients' problems

VIII- Waiting time relative to the appointment time or scheduled time for a service

IX- Receive prompt service from clinic staff

X- Staff are always willing to help patients

XI- Prompt response to patients' requests and problems

XII- Staff are trustworthy.

XIII- Feel secure in receiving services from the staff.

XIV- Staff are courteous

XV- Staff work together in the patients' best interest

XVI- Staff know what your needs are

XVII- Convenient operating hours for patients' needs

XVIII- Staff give personal attention

And the related dimensions:

Tangibles: I - IV

Reliability: V – VIII

Responsiveness IX -XI

Assurance: XII -XV

Empathy: XVI –XVIII

Data Analysis

Data was tabulated in Excel® and descriptive analyses were performed obtaining frequency, mean, median, and standard deviation (SD) of variables using the Statistical Package for Social Sciences (SPSS®), version 17.0. The outcomes for this paper were the SERVQUAL dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) dichotomized by the median value. Independent variables were socio-demographic variables grouped or dichotomized as: gender (male and female), age (dichotomized by the median, under 33 years old and 33 and over) family income (up to U$1250 or more per month), subject education (high school, more than high school), and parental education (high school, more than high school). Bivariate analyses were carried out using Chi-square and Fisher's Exact tests between the five outcomes and independent

variables. All associations with p<0.20 were tested in multivariate logistic regression analyses, remaining in this model that with p≤0,05.

RESULTS

Demographics: 57% of participants were between 31 and 50 years of age, 74.7% were male, 50.8% had a high school degree and 48.3% had a family income of 1,250 dollars per month (Table 1).

The perception of self-oral health showed that 17.1% scored as very good and 27.2% chose this option for general health. 17.7% considered their own oral health as reasonable while 6.6% assessed their general health at the same level (reasonable) (Table 1).

In regards to education, almost 51% of the sample had completed high school and 33% had a college degree. Monthly family income was U$ 1.250 or more in 48% of the sample. Parental education had 36% of subject mothers and 31% of fathers had less than elementary school (Table 1).

Women had significantly lower expectations than men in two dimensions: Assurance (OR=.45 P=0.0004) (95%CI: 0.26-0.72), and Responsiveness (OR=0.54 p=0.013) (95%CI: 0.33-0.88). There was no significant result for age in all dimensions (Table 3).

In the Tangibles dimension, categorical analysis reported that the chance of those who considered their oral health as very good and good having higher

expectations compared to low expectations (OR 1.63 p= 0.059) (95% CI 0.98-2.72) Subjects whose self-perception of oral health were good or very good had greater odds of having higher expectations in the Reliability dimension. In the Assurance dimension, men (OR=.45, p=0.004) was associated with high expectation (Table 3).

In the Empathy dimension, subjects whose maternal education was elementary or less had significantly higher expectations (OR=1.81, p =0.036). No statistically significant results were found when adjusting for several age strata (Table 3).

DISCUSSION

It is clear that health care institutions must focus on service quality. Several studies have identified failure in quality management (lack of management, commitment, limited staff involvement, and minimal physician involvement) (17). In dentistry, a study published in 1996 reported that it is essential for dental care to develop and maintain a synergy between consumer's expectations towards care provided and the actual care provided (18).

In our study, 57% of participants were between 31 and 50 years of age, 76% were male, 51% had a high school degree and 48% had a family income of 1,250 dollars per month. This result reflects the sample characteristics because most of them were workers in industries and companies. Different results were

found in other studies (3) where the majority of the respondents were females (65%) and 34% were aged less under 19 years.

We report that women had lower expectations than men in three dimensions. However, a 1993 study (14) showed that women had higher expectations than men. Historically, Kelantan, the place of this study, has been culturally, socially and economically different, besides having different dialect from other states in Malaysia. This culture is viewed as uniquely traditional and this has been attributed to the geographical isolation from the rest of Malaysia. These factors make these people uniquely different and hence this study has been carried out in a particular sociocultural context. Another study (3) had 481 patients as sample, the majority of the respondents were female (65%) and 34% were aged less than 19 years. The results showed that there was no significant association between patient's expectations and age, gender or income.

In our study, Assurance was the dimension that received the highest score for expectations. Similar results were reported in another study (19) with Assurance as the second most preferred dimension. This can probably be justified by the concern about the risk of transmission of infectious diseases in the healthcare setting.

Our results indicated that dental service areas with the lowest expectation scores were Responsiveness and Reliability (20). In contrast to previous reports, we found that subject expectations of care providers are higher in

relation to Responsiveness, and Reliability was ranked lowest in priority among all dimensions (3). We found that women had lower expectations in three dimensions, but other authors (19) report that middle-aged women in lower socio-economic groups had higher expectations than men. However other authors (3) found no significant association between expectations and gender.

No statistical difference related to subject educational level was found in this study, in contrast to other authors (3) who mention that at higher educational level of subjects, the more dissatisfaction was observed. This is also observed in a study (21) that reported that a highly educated patient may objectively observe that s/he is getting good quality care, but maybe they are not satisfied because of their expectations. The difference of our study with these studies may be related to the homogeneity of the sampled population in our study and the fact that half of subjects were educated beyond high school level. Interestingly, parental education level appeared as significant results in the Responsiveness and Empathy dimensions respectively. Both showed an association between high school level education and higher expectations.

Assessment of expectations regarding dental care is important to establish targets to improve the quality of service. This study found two important factors (Tangibles and Assurance) as highly regarded by participants and a higher expectation by males and subjects older than 33 years of age. The priority of Tangibles and Assurance reflects the role of the dentist-patient and staff interaction and the importance of the physical appearance of office and staff. The major

expectations of subjects in this study included developing trust in the dental staff, their decision abilities, and placing emphasis on subject's best interest during treatment. This paradigm reflects the perception of patients in healthcare, where they rely on caregivers to be ethical and offer the best possible treatment in a clean and friendly setting. We argue that Tangibles and Assurance reflect the initial patient-doctor encounter, and will greatly influence the development of the other items. Although these two items received the higher score in the study, the other items were also highly prioritized (score of 5.7 or above), which reflects high patient expectations on multiple levels of the delivery of dental health services.

CONCLUSIONS

We report an association between socio demographic variables and subject expectations in select domains. These variables included gender (male) self-perception of oral health, and parental education. Males had higher expectations than females in two dimensions: Assurance and Responsiveness. The Assurance dimension had the higher score in relation expectations showing patient-dentist/staff trust concerns. This study highlights the importance of the assessment of expectations regarding dental care to improve the quality of dental services.

STUDY LIMITATIONS

This study did not control an important confounder factor such as illness severity, which could affect expectations. It is important to explore the relevance of longitudinal research that allows evaluating how the concept of quality can be utilized in dental services management (22). Probabilistic sampling of more diverse population may offer interesting information on the effect of strata of demographic variables on the SERVQUAL outcomes.

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Authors' contributions

All authors have made substantial contributions to conception and design of this research. JG carried out data collection, analysis, and interpretation of data. JG, AP, MB and GA have been involved in drafting the manuscript and revising it critically. All authors read and approved the final manuscript.

Abbreviations

Standard deviation (SD), Statistical Package for Social Sciences (SPSS®), Odds Ratio (OR), Confidence Interval (IC)

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Table 1: SocioDemographic Characteristics and Auto-Perception of Health

A***ge***	*Frequencies*	*N %*
18-30	141	37.3
31-50	217	57.4
51-65	19	5.0
>65	1	0.3
Gender		
Male	283	74.7
Female	96	25.3
Education		
Less than Elementary School	1	0.4
Elementary School	5	2.0
Middle School	26	10.6
High School	124	50.8
College	81	33.2
Don't Know	7	2.9
Family Income dollar/Month		
To 180.00	0	0
181 to 500	11	2.9
501 to 1250	136	35.9
More than 1250	183	48.3
Don't Know	49	12.9
Parental Education father		
Less than Elementary School	117	31.0
Elementary School	93	24.6
Middle School	73	19.3
High School	34	9.1
College	62	16.0
Parental Education mother		
Less than Elementary School	136	36.0
Elementary School	94	24.8
Middle School	65	17.1
High School	20	5.2
College	64	16.9
Oral Health condition		
Very Good	65	17.1
Good	232	61.2
Reasonable	67	17.7
Bad	10	2.6
Very Bad	0	0
Don't know	5	1.3
Health Condition		
Very Good	103	27.2
Good	245	64.6
Reasonable	25	6.6
Bad	2	0.5
Very Bad	1	0.3

Don't know	3	0.8

Table 2- Subjects' Expectations regarding the quality of dental services in descending order of importance

Dimensions Expectations	**Mean**	**SD**[1]
Assurance	6.03	1.34
Tangibles	6.00	1.38
Empathy	5.85	1.50
Reliability	5.83	1.63
Responsiveness	5.70	1.65

[1]SD, standard deviation

Table 3- Odds Ratio (OR) crude and adjusted for the each dimensions and demographic variables

Demographic Variables		***Low Expectation***	***High Expectation***						
Tangibles		***n (%)***	***n (%)***	***OR crude***	***95% CI***	***p***	***OR adjusted***	***95% CI***	***P***
Gender	female	36 (37.5)	60 (62.5)	1.73	1.19 -2.54	0.001	1.91	1.17-3.13	0.009
	male	165(58.3)	118 (41.7)	Ref			Ref		
Age	<33	97 (51.9)	90 (48.1)	1.01	0.83 -1.24	0.655			
	≥33	104 (54.2)	88 (45.8)	Ref					
Oral health	Very good/good	150 (49.8)	151 (50.2)	1.12	1.01 -1.25	0.019	1.63	0.98-2.72	0.059
	Bad/Vey Bad	51(65.4)	27 (34.6)	Ref			Ref		
Health	Very good/good	181(51.6)	70 (48.4)	1.05	0.99 -1,11	0.043			
	Bad/Vey Bad	20 (71.4)	8 (28.6)	Ref					
Reliability									
Gender	female	45 (46.9)	51 (53.1)	0.70	0.44 -1.12	0.133			
	male	111 (39.2)	172 (60.8)	Ref					
Age	<33	88 (47.1)	99 (52.9)	0.84	0.56-1.26	0.409			
	≥33	68 (35.4)	124 (64.6)	Ref					
Oral health	Very good/good	158 (53.2)	139 (46.8)	0.61	0.37-1.02	0.058	0.62	0.37-1.01	0.057
	Bad/Vey Bad	31 (41.0)	46 (59.0)	Ref			Ref		
Responsiveness									
Gender	female	52 (54.2)	44 (45.8)	0.57	0.34-0.97	0.037	0.54	0.33-0.88	0.013
	male	108 (38.2)	175 (61.8)	Ref			Ref		
Age	<33	83 (44.4)	104 (55.6)	1.10	0.72-1.68	0.661			
	≥33	77 (40.1)	115 (59.9)	Ref					
Assurance									
Gender	female	55 (57.3)	41 (42.7)	0.54	0.33-0.88	0.013	0.45	0.26-0.72	0.004
	male	111 (39.2)	172 (60.8)	Ref			Ref		
Age	<33	93 (49.7)	94 (50.3)	0.72	0.48 -1.08	0.113			
	≥33	73 (38.0)	119 (62.0)	Ref					
Father's education	Elementary or less	56 (52.4)	51 (47.6)	1.28	0.81-2.06	0.290			
	Middle /High	123 (58.6)	87 (41.4)	Ref					
Empathy									
Gender	female	52 (54.2)	44 (45.8)	0.82	0.49 -1.38	0.459			
	male	119 (42.0)	164 (58.0)	Ref					

Mother ‘s education	Elementary or less	90 (45.0)	110 (55.0)	1.63	0.97- 2.75	0.072	1.81	1.04-3.17	0.036
	Middle /High	81 (45.2)	98 (54.8)	Ref			Ref		

Capítulo 2: The importance of Expectations and Perceptions evaluation to improve the dental service quality

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Abstract

The aim of this study was to evaluate the use of SERVQUAL to assess the service quality in Dentistry and also to evaluate patient expectations and perceptions of dental care and their association to patient demographics. We used an adapted SERVQUAL questionnaire with five dimensions. The dimensions were: Tangibles; Reliability; Responsiveness; Assurance and Empathy. All constructs were measured on a seven point Likert scale. A socio demographic questionnaire included questions such as gender, age, family income, education, and parental literacy. These questionnaires were collected in four companies in two States of Brazil during the year 2011. Three hundred and seventy nine questionnaires were applied, and in the second phase one hundred and fifty five. Bivariate analyses were carried out using Chi-square and Fisher's Exact tests between the five outcomes and independent variables. All associations with $p<0.20$ were included in multivariate logistic regression analyses. When we consider the value *GAP* (difference between perceptions and expectations) the dimension Reliability had the smaller score (- 3.71). This meaning that is was the worst result i.e. there is a higher difference between Expectations and perceptions and part of the problems can be concentrate here. Also, the best result in relation of *GAP* was for responsiveness dimension (- 2.61). The test t confirmed that all the dimensions had a difference statistically significant for $p < 0.05$ in relation expectations and perceptions. The patients evaluated the physical characteristics of practice and the interaction with staff as priority things that need special attention in this service.

Descriptors: Quality indicators; Dental Health Service ; Quality Management

Introduction

Research on the assessment of dental assistance has increasingly been drawing the attention of the scientific community, mainly due to factors such as the rise in dental treatment cost and the increasing number of patients' complaints about the service[1].

The organizations that operate in the dental care field do not have a standard by which to assess the services provided to users and company-clients. When some assessment is carried out, it is aimed at business expansion and attraction of new clients,

not at the improvement of dental health in the population assisted, which should be its major objective[2].

Many research studies showed that the quality, satisfaction and dissatisfaction towards health services are determined by variables like good relation between dentist and patient, availability of basic infrastructure, time spent for consultation, information given during consultation and waiting time. Also, there is some discrepancy between the expectations and perceptions of patients[3].

The key to achieving good service is found in the customers' expectations about the service. Then, the SERVQUAL tool with the conceptual foundations was used[4].

It is important to mention that a Systematic Review from Cochrane Center, concluded that SERVQUAL appears to be a potentially useful technique[5].

The important role of expectations in the assessment of consumer services has been widely recognized in the literature of service quality[6].

Perception concerns the consumers' evaluation of the service provided. The perceived quality is a global judgment or attitude regarding the service. It includes people's subjective responses and is therefore highly realistic. The importance to evaluate the value *GAP* is fundamental to help the management service[6].

There are currently no published studies in Brazil using SERVQUAL to assess expectations and perceptions of dental service in insurance plans. Furthermore, this is the first study that evaluates associations between self-perception of general health, of oral health, and the crossing results between expectations and perceptions *(GAP*) about dental service.

The purpose of this study was to evaluate patients' expectations and perceptions towards dental care and their association to patients' socio-demographic variables using SERVQUAL in a dental insurance company in Brazil. Furthermore, it was also meant to learn about these characteristics to improve the dental service quality.

Methods

a) Ethical Issues

This study was approved by the Research Ethics Committee of the Piracicaba School of Dentistry, University of Campinas (No. 040/2010).The participants were asked to complete a questionnaire and were guaranteed anonymity during all research phases.

b) Sample Size:

In a dental insurance company with an average of 1200 dental care consultations per month performed by accredited dentists, a prevalence of 50% user satisfaction was estimated. Confidence level was 95%, with 5% margin of error, thereby estimating a sample of 308 individuals by means of Epi Info 6.0. Considering a possible loss of 20%, 385 charts were selected. Sampling was done through draw among the records that are part of the service. Users aged 18 or more took part in the research.

c) Material used in the research:

The research was performed in a dental insurance service through questionnaires: The tool used was SERVQUAL. This tool called SERVQUAL measures service quality. The model is based on the comparison between the service perceived and the expected service, in which customer expectations are influenced by special needs, previous experience, word-of-mouth communication and external communication.

The indicators of service quality used nowadays in Dentistry are mainly normative ones (clinical and productivity indices). The SERVAQUAL instrument started to be used in industry and today it is widely applied in medicine, and Dentistry has started introducing this type of assessment. The SERVQUAL tool measures the users' global satisfaction by confronting expectation and perceptions about dental service[9].

An adapted SERVQUAL questionnaire with 18 items and five dimensions was used. The dimensions were: Tangibles (physical facilities, appearance); Reliability (credibility); Responsiveness (reactiveness); Assurance (competence and security), and Empathy (caring and individualized attention). All constructs were measured on a seven point Likert scale, ranging from one (strongly disagrees) to seven (strongly agrees). A

socio demographic questionnaire included questions such as gender, age, family income, schooling and parental literacy.

The companies were contacted and authorization was given to the realization of the research according to the routine of each visited company. Three hundred and seventy nine questionnaires were applied (in first phase) in four companies in two States (Sao Paulo and Minas Gerais) of Brazil during the year 2011. In a second phase hundred and fifty five questionnaires were received. Each employee attended about research explanation and was invited to participate. Those who had still not received dental treatment and had accepted to participate filled out their own survey in the first one. In the second phase the employees had to have the treatment completed.

These questions were divided into five dimensions:

a) Tangibles: The physical characteristics of the premises (physical facilities, equipment and appearance of personnel).

b) Reliability: Scientific qualification, up-to-date information and modern technology. Ability to perform the promised service dependably and accurately, reference to another specialized dentist or physician when necessary.

c) Responsiveness: Reactiveness to help the patient, provision of prompt care and adequate information on oral health and hygiene.

d) Assurance: Freedom from risk (i.e. from possible damage or infection by means of sterilization, disposable gloves and masks and also use of antiseptics), having a positive effect in security, sincerity, confidence and consistency.

e) Empathy: Effort to learn about the patient's needs, understanding and showing interest. Caring and individualized attention.

The following questionnaire was used:

What is your expectation, that is, what do you expect regarding the performance of a dental office or clinic? Answers should follow a scale from 1-7. If you strongly agree with

the statement, select number 7. Select one if you strongly disagree, otherwise select one of the intermediate numbers.

Data Analysis

Data was tabulated in Excel® and descriptive analyses were performed obtaining frequency, mean, median, and standard deviation (SD) of variables using the Statistical Package for Social Sciences (SPSS®), version 17.0. T-Test was performed to find differences between expectations (questionnaire applied before dental treatment) and perceptions (afterwards), which was called *GAP.* The outcomes for this paper were *GAP* of the SERVQUAL dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) dichotomized by the median value. Independent variables were the socio-demographic ones grouped or dichotomized as: gender (male and female), age (dichotomized by the median, under 33 years old and 33 and over) family income (up to U$1250 or more per month), subject's schooling (high school, further than high school), and parental schooling (high school, further than high school). Bivariate analyses were carried out using Chi-square and Fisher's Exact tests between the five outcomes and independent variables. All associations with $p<0.20$ were included in the multivariate logistic regression analyses. Internal consistency was measured in this research using Cronbach's Coefficient Alpha, (α). Statistics provide an indication of the average correlation among all the items that make up the scale. Values range from 0 to 1 with higher values indicating greater reliability. Our results showed .79 mean for the Expectations dimension and .69 for Perception. The values .70 or higher are considered to be sufficient.

Results

In the first part of the research, we had 379 questionnaires (expectations), and in the second after the treatment was completed (perceptions), we had 155 (40.9%). Table 1 - Sample demographics: 37% were between 18 and 30 years of age and 57% of participants were between 31 and 50 years of age; 74% were male, 53% had a high school degree, 31% had a college degree; 48% had a family income of more than 1,250 dollars per month. The same proportions were found in the second phase (Table 1). The

evaluation of own oral health showed that 92% scored as very good or good, and 78% picked this option for general health. However, 21% considered their own oral health as reasonable, while 8% assessed it as a condition for general health (Table 1).

(Table 1)

Table 2 shows the averages of expectations and perceptions on each dimension for each SERVQUAL item. The Assurance dimension received the highest average in expectation and perception. When we consider the value *GAP* (difference between perceptions and expectations), the dimension Reliability had the smallest score (-3.71). This means that it was the worst result, i.e., there is a higher difference between expectations and perceptions, and part of the problems can be concentrated here. Also, the best results in relation to *GAP* were for the Responsiveness dimension (- 2.61).

(Table 2 and Table 3)

Test t confirmed that all the dimensions had a statistically significant difference for $p < 0.05$. Assurance and Tangibles had the highest average score (6.01 and 5.98 respectively) for expectations. The highest average for perceptions was Assurance (5.16) and Tangibles (5.03) (table 3).

(Table 4 and 5)

The tables 4 and 5 shows the bivariate analyses that carried out using Chi-square and Fisher's Exact tests between the five outcomes and independent variables. All associations with $p<0.20$ were included in the multivariate logistic regression analyses. The results were significant in Tangible dimension with auto-perception of oral health ($p=0.019$); in Reliability with income variable ($p=0.021$) and Empathy dimension with age ($p= 0.024$). In other dimensions there was no significant difference.

Regarding the dimensions of the instrument applied, for those who had higher expectations than perception about the service offered, the dimension Responsiveness was the only one that was not significantly associated with the sociodemographic variables assessed, nor was satisfaction associated with oral health. In the Tangible and Reliability dimensions, female patients proved to be more dissatisfied with the service than the male. The prevalence of those who had higher expectation than perception in Assurance and

Empathy was about twice as high for the patients whose mother had lower parental literacy. The oldest patients had higher prevalence of dissatisfaction with the service in the Empathy dimension (Table 6).

Discussion

It is clear that health care institutions must focus on service quality. Several studies have identified failure in quality management (lack of management, commitment, limited staff's involvement, and minimal involvement of physician) [10].

SERVQUAL can determine the relative importance of various dimensions. Some studies showed SERVQUAL as a model for measuring service quality in dental health care [10,11,12].

In our study, 57% of participants were aged from 31 to 50, 76% were male, 51% had a high school degree and 48% had a family income of 1,250 dollars per month. This result reflects the sample characteristics because most of them were workers in industries and companies. We can see similar results in the second phase of the study (Table 1). Different results were found in other studies where the majority of the respondents were females (65%) and 34% were aged under 19 years[3].

In our study, in the Tangible and Reliability dimensions, women showed more dissatisfaction with the service than men. In another study, there is no significance in women's dissatisfaction being greater than men's[3]. Moreover, it was discussed that women are more satisfied than men because of their greater exposure to dental services[13].

There were statistically significant differences between expectations and perceptions ($p<0.05$) for all dimensions. This result was the same in two studies, but those studies worked with only four dimension; they did not include the Tangible dimension[3,10,12]. Another research showed significant results for all dimensions except Assurance14. It can demonstrate that there is a considerable difference between what the people expect from the service and what they really receive. This happens because, according to the SERVQUAL model, the smaller the "quality *GAP*", the higher the satisfaction.

In this research, Assurance was the dimension that received the highest score, followed by Tangible for expectations and perceptions. Similar results were reported in another study, with Assurance as the second most preferred dimension[12]. This can probably be justified by the concern about the risk of transmission of infectious diseases in the healthcare setting. Our results indicated that the dental service areas with the lowest expectation scores were Responsiveness and Reliability. In contrast to previous reports, we found that the subjects' expectations of care providers are higher in relation to Responsiveness, and Reliability was ranked lowest in priority among all dimensions[3]. We found that women had lower expectations in three dimensions and lower satisfaction in two dimensions, but other authors[12] report that middle-aged women in lower socio-economic groups had higher expectations than men. However, other authors found no significant association between expectations, perceptions and gender[3].

No statistical difference related to the subjects' schooling level was found in this study, in contrast with other authors who mention that the higher the educational level of the subjects, the more dissatisfaction was observed3. This is also observed in a study that reported that a highly educated patient may objectively observe that s/he is getting good quality care, but maybe they are not satisfied because of their expectations[16]. The difference in our study concerning these other studies may be related to the homogeneity of the sampled population in our study, and the fact that half the subjects were educated beyond high school level. Interestingly, the prevalence of those who had higher expectation than perception in Assurance and Empathy was about twice as high for patients whose mother had lower parental literacy.

Assessment of expectations regarding dental care is important to establish targets to improve the quality of service. This study found two important factors (Tangibles and Assurance) as highly regarded by participants and a higher expectation by males and subjects older than 33 years of age. The priority of Tangibles and Assurance reflects the role of the dentist-patient and staff interaction, and the importance of the physical appearance of the office and staff. The major expectations of the subjects in this study included developing trust in the dental staff, in their decision abilities, and placing emphasis on the subjects' best interest during treatment. This paradigm reflects the perception of patients in healthcare, where they rely on caregivers to be ethical and to offer the best possible treatment in a clean and friendly setting. We argue that Tangibles

and Assurance reflect the initial patient-doctor encounter, and will greatly influence the development of the other items. Although these two items received the highest score in the study, the other items were also highly prioritized (score of 5.7 or above), which reflects high patient expectations on multiple levels of the delivery of dental health services.

For those who had higher expectations than perception in the service offered, the dimension Responsiveness was the only one that was not significantly associated with the sociodemographic variables assessed, nor was satisfaction associated with oral health.

The older participants had higher prevalence of dissatisfaction with the service in the Empathy dimension. One other study showed results with older patients being less satisfied[17], but another found older patients being more satisfied with services than younger subjects[18].

The prevalence of those who had higher expectation than perception in Assurance and Empathy was about twice as high for the patients whose mother had lower parental literacy.

In addition, our study had negative value *GAP* score for all dimensions. Other studies had similar findings[3,7,13,19]. But another research[20] found a very high level of positive value *GAP* and showed that all scores of Perception exceeded the expectations[21].

Conclusions

The patients had higher expectations than perception in the service offered; the Responsiveness dimension was the only one that was not significantly associated with the sociodemographic variables assessed, nor was satisfaction associated with oral health. In the Tangible and Reliability dimensions, the women showed more dissatisfaction with the service than the men. The oldest participants had higher prevalence of dissatisfaction with the service in the Empathy dimension.

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Table 1- SocioDemographic Characteristics and Auto-Perception of Health

Variables	**Expectations**		**Perceptions**	
	Frequencies	*%*	Frequencies	*%*
Total	**379**		**155**	
Age				
18-30	141	37.3	58	37.4
31-50	218	57.5	89	57.4
51-65	19	5.0	7	4.5
>65	1	0.3	1	0.6
Gender				
Male	283	74.7	118	76
Female	96	25.3	37	24
Education				
Elementary School	9	2.4	2	1.3
Middle School	41	10.8	16	10.3
High School	201	53.0	89	57.4
College	119	31.4	45	29.0
Don't Known	9	2.4	3	1.9
Family Income				
181 to 500	11	2.9	5	3.2
501 to 1250	136	35.9	59	38.1
More than 1250	183	48.3	72	46.5
Don't Know	49	12.9	19	12.3
Parental Literacy father				
Elementary School	8	2.1	46	29.7
Middle School	41	10.8	35	22.6
High School	201	53	35	22.6
College	119	31.4	11	7.1
Don't Known	10	2.6	28	18.06
Parental Literacy mother				
Less than Elementary School	136	36	53	34.2
Elementary School	94	24.8	45	29.0
Middle School	65	17.1	23	14.8
High School	20	5.2	6	3.9

College	64	16.9	28	18.1
Oral Health condition				
Very Good and good	297	78.3	121	78.1
Reasonable, Bad and Very Bad	77	20.3	33	21.3
Don't known	5	1.3	1	0.6
Health Condition				
Very Good and Good	348	91.8	142	91.6
Reasonable	28	7.4	12	7.7
Don't known	3	0.8	1	0.7

Table 2-Comparison of distribution for Expectation and Perception for each dimension and Gap value

	Expectations		Perceptions		
Tangibles	**mean**	**SD**	**mean**	**SD**	**GAP value**
Have up to date equipment	5,96	1,43	4,78	1,43	-1,18
Dentists are always well dressed and appear neat	5,95	1,16	5,28	1,66	-0,66
The auxiliary are well dressed clean and appear neat	6,14	1,28	5,01	1,49	-1,14
Appropriate Physical facilities for type of services	5,49	1,33	5,03	1,58	-0,46
	23,54	4,35	**20,11**	5,38	**-3,43**
Reliability					
Staff can be depended upon to do the right things	6,01	1,33	5,07	1,29	-0,94
Inform patients precisely when services will be performed	6,02	1,59	5,24	1,47	-0,78
Sincerity of clinic staff to try to solve patient problems	5,86	1,77	4,76	1,71	-1,10
Waiting time relative to appointment time or schedules time for a service	5,74	1,50	4,85	1,59	-0,89
	23,63	4,77	**19,92**	3,82	**-3,71**
Responsiveness					
Receive prompt service from clinic staff	5,58	1,65	4,63	1,69	-0,95
Staff are always willing to help patients	5,45	1,73	4,71	1,77	-0,74
Prompt response to patient requests and problems	6,05	1,21	5,13	1,61	-0,92
	17,08	3,86	**14,47**	4,24	**-2,61**
Assurance					
Staff are trustworthy	5,75	1,50	4,90	1,48	-0,85
Staff are courteous	6,25	1,09	5,45	1,23	-0,79
Staff work together in the patients' best interest	6,17	1,22	5,25	1,44	-0,92
	6,05	1,16	5,04	1,25	-1,01
	24,22	4,16	**20,65**	3,93	**-3,57**
Empathy					
Staff know what your needs are	6,15	1,16	5,05	1,26	-1,10
Convenient operating hours for patient needs	5,96	1,46	4,90	1,43	-1,06
Staff give you personal attention	5,45	1,67	4,76	1,39	-0,68
	17,55	3,47	**14,71**	3,22	**-2,85**

Table 3- Expectations and perceptions of patients regarding the quality services

Dimensions	Expectations		Perceptions		P value*
	Mean	SD[1]	Mean	SD[1]	
Assurance	6.03	1.34	5.16	1.35	<0.001
Tangibles	5.98	1.38	5.03	1.54	0.016
Empathy	5.85	1.50	4.90	1.36	0.018
Reliability	5.83	1.63	4.98	1.52	0.001
Responsiveness	5.70	1.65	4.82	1.69	0.006

[1]SD, standard deviation; * p value < 0.05 is considered statistically significant

Table 4- Bivariate Analysis with the Dimensions and Sociodemographic and health condition perception Variables with statistically significant values

		Perception		Expectation		
TANGIBLE		n	%	n	%	P
Gender	female	6	16,2	31	83,8	0,019**
	male	42	35,6	35,6	64,4	
REALIBILITY						
Oral Health condition	Vey good/good	27	22,3	94	77,7	0,021**
	Reasonable	14	42,4	19	57,6	
RESPONSIVINESS						
	-					-
ASSURANCE						
	-					-
EMPHATY						
Age	Till 32	28	37,8	46	62,2	0,024**
	33 or more	17	21,2	63	78,8	

** p value < 0.05 is considered statistically significant

Table 5- Bivariate Analysis with the Dimensions and Sociodemographic and health condition perception Variables

TANGIBLE		n	%	n	%	P
Age	till 32	24	32,4	50	67,6	0,745
	33 or more	24	30	56	70	
Literacy mother	High school or more	6	20,7	23	79,3	0,088
	Less than High school	37	37,8	61	62,2	
Literacy father	High school or more	14	30,4	32	69,6	0,634
	Less than High school	28	34,6	53	65,4	
Income	over 2250	22	30,6	50	69,4	0,68
	till 2250	22	33,8	43	66,2	
Oral Health condition	Vey good/good	37	30,6	84	69,4	0,762
	Reasonable	11	33,3	22	66,7	
Health Condition	Vey good/good	43	30,3	99	69,7	0.517*
	Reasonable	5	41,7	7	58,3	
REALIBILITY						
Age	till 32	19	25,7	55	74,3	0,798
	33 or more	22	27,5	58	72,5	
Literacy mother	High school or more	6	20,7	23	79,3	0,244
	Less than High school	29	29,6	69	70,4	
Literacy father	High school or more	10	21,7	36	78,3	0,213
	Less than High school	26	32,1	55	67,9	
Income	over 2250	18	25	54	75	0,958
	till 2250	16	24,6	49	75,4	
Health Condition	Vey good/good	37	26,1	105	73,9	0.734*
	Reasonable	4	33,3	8	66,7	
Gender	Female	6	16,2	31	83,8	0,106
	Male	35	29,7	83	70,3	
RESPONSIVINESS						
Age	Till 32	27	36,5	47	63,5	0,603
	33 or more	26	32,5	54	67,5	
Literacy mother	High school or more	9	31	20	69	0,791
	Less than High school	33	33,7	65	66,3	
Literacy father	High school or more	14	30,4	32	69,6	0,539
	Less than High school	29	35,8	52	64,2	
Income	Over 2250	28	38,9	44	61,1	0,422
	till 2250	21	32,3	44	67,7	
Oral Health Condition	Vey good/good	41	33,9	80	66,1	0,557
	Reasonable	13	39,4	20	60,6	
Health Condition	Vey good/good	52	36,6	90	63,4	0.217*
	Reasonable	2	16,2	10	83,3	
Gender	Female	11	29,7	26	70,3	0,455
	Male	43	36,4	75	63,6	
ASSURANCE						
Age	till 32	20	27	54	73	0,459
	33 or more	20	25	60	75	

Literacy mother	High school or more	4	13,8	25	86,2	0,13
	Less than High school	27	27,6	71	72,4	
Literacy father	High school or more	12	26,1	34	73,9	0,862
	Less than High school	20	24,7	61	75,3	
Income	over de 2250	16	22,2	56	77,8	0,256
	till 2250	20	30,8	45	69,2	
Oral health condition	Vey good/good	33	27,3	88	72,7	0,482
	Reasonable	7	21,2	26	78,8	
Health Condition	Vey good/good	39	27,5	103	72,5	0.131*
	Reasonable	1	8,3	11	91,7	
Gender	female	8	21,6	29	78,4	0,505
	Male	32	27,1	86	72,9	
EMPHATY						
Literacy mother	High school or more	11	37,9	18	62,1	0,235
	Less than High school	26	26,5	72	73,5	
Literacy father	High school or more	15	32,6	31	67,4	0,618
	Less than High school	23	28,4	58	71,6	
Income	Over than 2250	23	31,9	49	68,1	0,342
	Till 2250	16	24,6	49	75,4	
Oral health condition	Vey good/good	34	28,1	87	71,9	0,558
	Reasonable	11	33,3	22	66,7	
Health Condition	Vey good/good	43	30,3	99	69,7	0.511*
	Reasonable	2	16,7	10	83,3	
Gender	female	7	18,9	30	81,1	0,12
	Male	38	32,2	80	67,8	

Chi-Square Test / * Test Exact Fisher

Table 6- The Odds Ratio (OR) adjusted for each dimension and demographic variables

Dimensions	Variables	Condition (n)	expect(%)	percep(%)	OR adjusted	CI 95%		P value*
TANGIBLE	Gender	Female (37)	6 (16.2)	31 (83.8)	1,708	1,128	2,584	0,011
		Male (118)	42 (35.6)	76 (64.4)				
RELIABILITY	Gender	Female (37)	6 (16.2)	31 (83.8)	2,680	1,712	4,193	0,000
		Male (118)	35 (29.7)	83 (70.3)				
REPONSIVENESS	-							
ASSURANCE	Literacy mother	High school or more (29)	4 (13.8)	25 (86.2)	2,360	1,497	3,722	0,000
		Elementary Schoo (98)	27 (27.6)	71 (72.4)				
EMPATHY	Literacy mother	High school or more (98)	26 (26.5)	72 (73.5)	1,703	1,006	2,883	0,048
		Elementary School (29)	11 (37.9)	18 (62.1)				
	Age	33 or more (80)	17 (21.2)	63 (78.8)	3,322	1,530	7,214	0,002
		Till 32 years (74)	28 (37.8)	46 (62.2)				

* p value < 0.05 is considered statistically significant

Capitulo 3- Análise de Desempenho e Importância: uma ferramenta na Avaliação do Serviço Odontológico

RESUMO

A Análise de Desempenho e Importância (IPA) têm sido utilizada em pesquisas de hospitais e turismo por anos. O conceito do método IPA é utilizado em estudos de mercado para entender a importância do nível de satisfação do cliente. O objetivo desta pesquisa foi avaliar a utilização do IPA como ferramenta de gestão para serviços odontológicos. A pesquisa foi realizada em um serviço de planos odontológico, através da aplicação de um questionário válido e confiável, o SERVQUAL. Este instrumento explora os níveis de qualidade de serviço percebidos pelos pacientes. A ferramenta IPA se mostrou eficaz quando utilizada na gestão do serviço uma vez que destaca os pontos chaves a serem melhorados no serviço.

INTRODUÇÃO

O conceito do método IPA (Análise de Desempenho e Importância) é utilizado em estudos de mercado com a finalidade de compreender o nível de satisfação do cliente. A partir do nível de satisfação real percebido estabelece-se uma matriz bidimensional do nível de importância e nível de desempenho. As características de qualidade são separadas em quatro categorias de acordo com seu grau de importância e nível de desempenho para que as empresas possam formar estratégias de mercado de acordo com essas categorias de características de qualidade.

A Análise de Desempenho e Importância (IPA) têm sido utilizada em pesquisas de hospitais e no setor de turismo por anos. Desde as primeiras publicacoes o quadro IPA ganhou popularidade entre os pesquisadores em qualidade de serviço e no marketing da saúde de [2,3]. Como Martilla e James enfatizaram a facilidade de aplicação e os métodos atraentes de apresentar dados e sugestões estratégicas parecem ser os fatores, entre outros, que contribuem

para a ampla aceitação da técnica.

O modelo SERVQUAL, é utilizado para avaliar a qualidade do serviço considerando as expectativas e percepções. A satisfação dos consumidores foi modelada como uma função da disparidade entre a percepção esperada e a percebida.

O objetivo desta pesquisa foi avaliar a utilização do IPA como ferramenta de gestão para serviços odontológicos.

MATERIAIS E MÉTODOS

Este projeto foi aprovado pelo Comitê de Ética em Pesquisa da Faculdade de Odontologia de Piracicaba - Universidade Estadual de Campinas, registrada pelo número 040/2010, cumpridas as recomendações do Conselho Nacional de Saúde - Ministério da Saúde do Brasil para pesquisa em seres humanos.

A pesquisa foi realizada em um serviço de planos odontológico, através da aplicação de um questionário válido e confiável (SERVQUAL)[4]. Este instrumento explora os níveis de qualidade de serviço percebidos pelos pacientes. O modelo é baseado na teoria de marketing e se baseia na comparação entre o serviço percebido eo serviço esperado, em que as expectativas dos clientes são influenciadas por necessidades especiais, experiência anterior, boca-a-boca, de comunicação e de comunicação externa.

Esta pesquisa compreendeu em duas etapas e foi realizada em quatro empresas no Brasil em 2011: a primeira onde os beneficiarios responderam ao questionario antes de receberem o tratamento odontologico (n=379) e a segunda que os mesmos beneficirios (mas somente 40.9%) (n=155) responderem apos terem finalizado o tratamento odontologico.

O questionario abaxo representa os itens que compoem o questionario e no total são cinco dimensoes

Questionário SERVQUAL adaptado

1-As salas de espera, consultórios e banheiro são confortáveis, limpos e aconchegantes.

2-Os dentistas estão sempre bem arrumados e com uniformes limpos

3-Os auxiliares têm uniformes limpos e estão bem arrumados

4-Os cartões, fichas e outros materiais gráficos são visualmente agradáveis e chamativos.

5-Os funcionários demonstram segurança ao lidar com problemas com os pacientes.

6-Um bom dentista se preocupa com minha saúde bucal, mesmo se eu tenho poucas condições para pagar um tratamento.

7-Um bom tratamento odontológico não deve ser refeito. Não preciso voltar ao dentista pelo mesmo problema.

8-O tratamento termina no prazo prometido e as consultas sempre são nos dias

9-Não é necessário remarcar as consultas nem prolongar o tratamento além do prazo combinado

10-Há disponibilidade e prontidão para atender os pacientes

11-Há boa vontade em ajudar os pacientes

12-O comportamento dos funcionários de uma boa clínica inspira confiança ao paciente.

13-A habilidade dos dentistas, instalações da clínica, instrumentais e lugar lhe dão segurança para o seu tratamento.

14-Os dentistas sempre são educados e gentis com os pacientes

15-As auxiliares sempre são simpáticas e gentis com os pacientes

16-Os funcionários têm o conhecimento necessário para execução dos serviços

17-Uma boa clínica opera em horários convenientes para todos os seus pacientes

18-Os funcionários de uma boa clínica dão atenção personalizada para você

Os itens de 1 a 4 correspondem a Dimensão Tangibilidade; de 5 a 8 Dimensão Confiabilidade; de 9 a 11 Presteza; de 12 a 15 Segurança e de 16 a 18 Empatia.

ANALISE DE DADOS

Dados foram tabulados no Excel® e a analise descritiva foi realizada obtendo a media e desvios padrões das variáveis usando o Pacote Estatístico (SPSS®), versão 17.0. Todas as associações com $p<0.20$ foram incluídas na analise de regressão logística. A consistência interna foi medida usando o Coeficiente Alfa de Cronbach.

Foi construida uma matriz de análise importância / desempenho, sendo os quatro quadrantes da matriz definidos como:

(1) Concentrado aqui: Clientes sentem que a característica do serviço ou a qualidade do produto é elevada, mas o desempenho da organização é baixo.
(2) Mantenha o bom trabalho: Os clientes sentem que a característica de serviço ou a qualidade do produto é alta, e o desempenho da organização também é elevado.
(3) Baixa prioridade: O desempenho do produto da organização ou característica a qualidade do serviço é baixo, e a importância percebida pelo cliente também é baixa.
(4) Um possível exagero: O desempenho do produto da organização ou característica da qualidade do serviço é alto, mas a importância percebida pelo cliente é baixa.

Os dois gráficos (matrizes) possuem as características citadas acima. O primeiro contempla as medias de cada item do questionário, tanto da expectativa quanto da percepção. O segundo gráfico apresenta os intervalos de confiança por dimensão do instrumento. A utilização dos Intervalos de confiança permitiu avaliar a variabilidade a assim termos um resultado mais preciso o que vai auxiliar em tomadas de decisões mais concretas.

RESULTADOS

A tabela 1 mostra as medias das expectativas e percepções em cada dimensão em cada item do SERVQUAL. A dimensão Segurança obteve a maior media tanto na Expectativa (24.22) quanto na Percepção (20.65). Os menores valores obtidos foram na dimensão Presteza (17.07 e 14.47). Além disso, a ultima coluna representa o valor do *GAP* que e a diferença entre a Percepção e a Expectativa nos itens e nas Dimensões. É interessante ressaltar que quanto menor o valor do *GAP* pior é o resultado obtido, ou seja, a qualidade avaliada do serviço foi a mais insatisfatória. Os resultados desta tabela mostram que a dimensão Confiabilidade mostrou o valor do *GAP* mais negativo entre as dimensões (- 3.71) e o melhor valor apresentado foi para a dimensão Presteza (- 2.61).

Tabela 1- Médias da Expectativa e da Percepção e valor do GAP do SERVQUAL

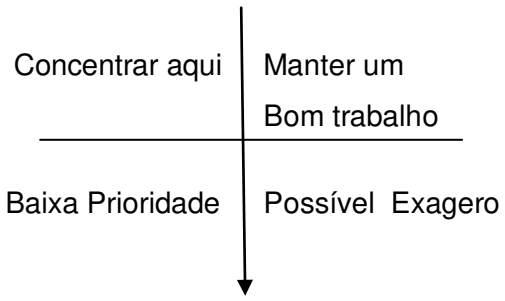
Itens do SERVQUAL	Expectativa	Percepção	Valor GAP
Tangibilidade	**Media**	**Media**	
As salas de espera, consultórios e banheiro são confortáveis, limpos e aconchegantes.	5,9	4,8	-1,2
Os dentistas estão sempre bem arrumados e com uniformes limpos	5,9	5,3	-0,6
Os auxiliares têm uniformes limpos e estão bem arrumados	6,2	5,0	-1,1
Os cartões, fichas e outros materiais gráficos são visualmente agradáveis e chamativos.	5,5	5,0	-0,5
	23,5	**20,1**	**-3,4**
Confiabilidade			
A equipe deve estar preparada para fazer as coisas certas	6,0	5,1	-0,9
Informar precisamente os pacientes quando os serviços se realizarão	6,0	5,2	-0,8
Sinceridade da equipe para resolver os problemas	5,9	4,8	-1,1
O tempo de espera adequado ao tempo de realização do serviço	5,7	4,8	-0,9
	23,6	**19,9**	**-3,7**
Presteza			
Receber pronto atendimento da equipe	5,6	4,63	-0,9
Os funcionários estão sempre dispostos a ajudar os pacientes	5,4	4,7	-0,7
Pronta resposta às solicitações e problemas dos pacientes	6,0	5,1	-0,9
	17,1	**14,5**	**-2,6**
Segurança			
A equipe e confiável	5,7	4,9	-0,9
A equipe tem atitudes de cortesia com você	6,3	5,5	-0,8

A equipe trabalha em conjunto para lhe oferecer o melhor	6,2	5,2	-0,9
	6,1	5,0	-1,0
	24,2	**20,6**	**-3,6**
Empatia			
Os funcionários têm o conhecimento necessário para execução dos serviços	6,2	5,1	-1,1
Uma boa clinica opera em horários convenientes para todos os seus pacientes	5,9	4,9	-1,1
Os funcionários de uma boa clínica dão atenção personalizada para você	5,5	4,8	-0,7
	17,55	**14,7**	**-2,8**

Oi itens de 1 a 4 correspondem a dimensão Tangibilidade; de 5 a 8 dimensão Confiabilidade; de 9 a 11 Presteza; de 12 a 15 Segurança e de 16 a 18 a dimensão Empatia

A Figura 1 representa os quatro quadrantes do modelo IPA e os respectivos significados de cada um deles. Esta representação foi proposta utilizando-se os valores como médias.

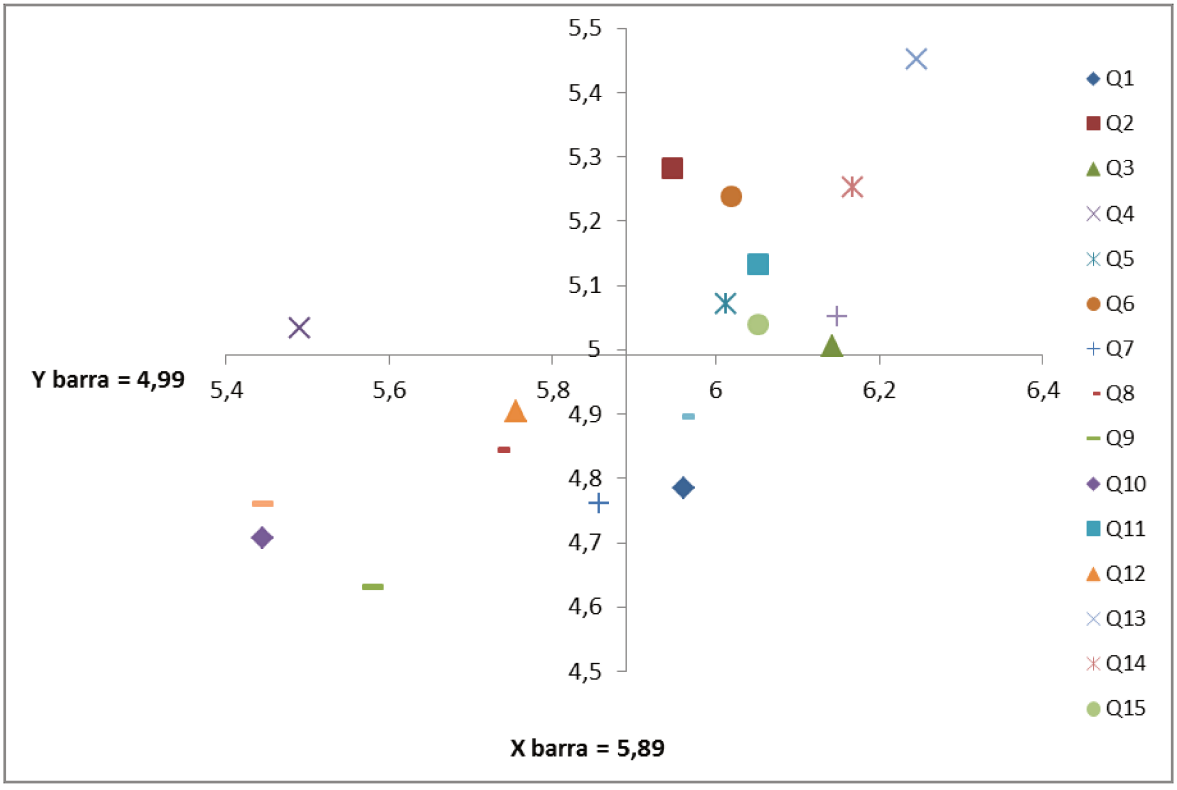
Figure 1- Matriz IPA matriz com os quatro quadrantes para as medias



O gráfico 1 apresenta as médias da expectativa e da percepção de cada item do questionário (Tabela 1) plotadas no Excel. Os seguintes itens enquadram-se no quadrante “concentrar aqui” 2, 3, 4, 5, 6, 7, 11,14 e 15. Estes itens envolvem principalmente as dimensões tangibilidade, confiabilidade e segurança. Estes itens estão destacados em negrito na tabela 1.

A tabela 2 apresenta os valores dos *GAPs* que e a diferença entre as medias da Percepção e da Expectativa para cada Dimensão e seus respectivos Intervalos de confiança.

Gráfico 1 – IPA matriz com médias de Expectativas e Percepções



A Tabela 2 representa os valores dos *GAPs* em cada dimensão e os respectivos Intervalos de Confiança.

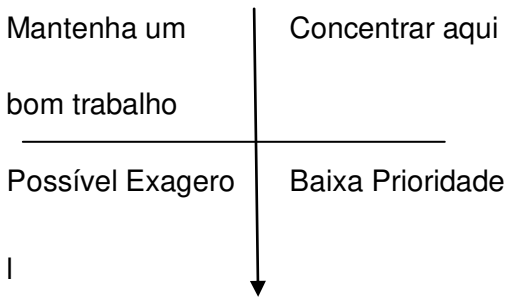
Tabela 2 – Valor do *GAP* e Intervalos de confiança das Dimensões

	GAP	IC min	IC max
Tangibilidade	0,668	-1,176	2,511
Confiabilidade	-0,235	-1,608	1,137
Presteza	0,216	-0,538	2,458
Garantia	0,253	-1,505	2,010
Empatia	0,304	-1,256	1,863

O gráfico 2 apresenta o IPA e foi realizado com os valores dos *GAPs* por dimensão e os intervalos de confiança (tabela 2).

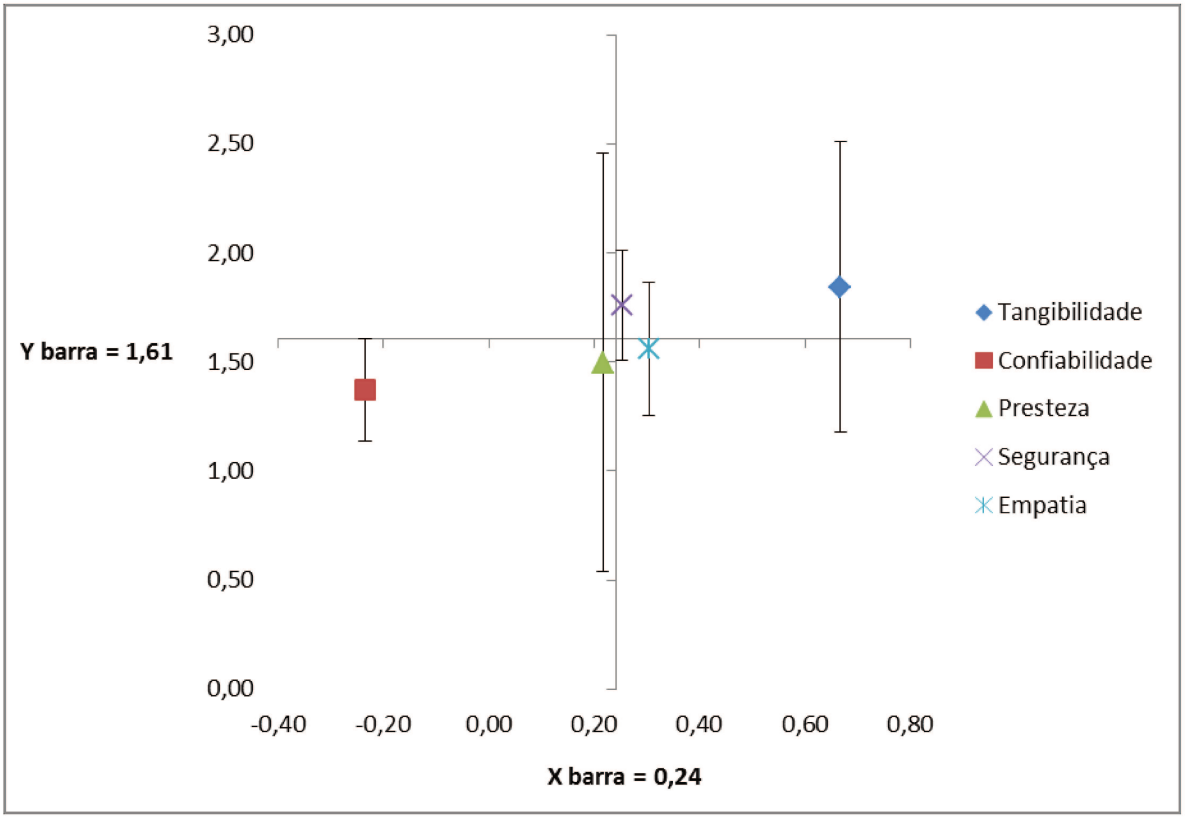
A Figura 2 mostra o desenho esquemático da matriz do IPA quando foram utilizados resultados da regressão. Nota-se que os quadrantes são alterados, pois os eixos são diferentes. No primeiro gráfico trabalhou-se com expectativa e percepção. Já no segundo, o eixo do "x" foi o valor da diferença entre expectativa e percepção e o eixo "y" foi o intervalo de confiança por dimensão.

Figure 2- IPA matriz com quatro quadrantes com intervalo de confiança



Pode-se observar no gráfico 2 que três dimensões se encontram no quadrante " concentrar aqui" , Tangibilidade, Segurança e Empatia. Sendo que as duas ultimas apresentam intervalos de confiança menores. Percebe-se ainda que a dimensão Segurança esta mais inserida no quadrante quando comparamos com a dimensão Empatia. Quando os dois gráficos são comparados percebe-se que existem resultados comuns em duas dimensões: Tangibilidade e Segurança, demostrando que são áreas que merecem uma atenção especial.

Gráfico 2- Matriz IPA com os resultados do *GAP* e os intervalos de confiança



GAP

DISCUSSÃO

Utilizando-se a ferramenta IPA é possível identificar as forças e fraquezas do serviço odontológico oferecido. A matriz com quatro quadrantes ajuda a estabelecer e definir planos de ação para minimizar as diferenças entre as expectativas e as percepções.

Avaliação das expectativas do paciente em relação aos cuidados dentários é importante para estabelecer metas para melhorar a qualidade do serviço. Este estudo encontrou dois fatores (Tangíveis e Segurança) considerados importantes pelos participantes. A prioridade dada ao Tangiveis e Segurança reflete o papel da interação dentista-paciente e equipe e a importância da aparência física dos consultorios e funcionários. Alguns estudos concordam com nossos resultados que os atributos mais imporantes incluem a imagem da clínica e itens de seguranca [5, 6 e 7.]

Quando utilizado o IPA com Intervalo de confiança, além dessas duas dimensões também apareceu a Empatia; que demonstra a importancia da atenção individualizada e o interesse pelo paciente. Na pesquisa[5] realizada em 1989, os itens mais importantes foram cerca de cuidados de qualidade, recomendações pessoais, custo e imagem da clínica. Os mesmos resultados foram encontrados em outros dois trabalhos[6 e7.]

As grandes expectativas de individuos neste estudo incluiram a confiança no desenvolvimento pessoal, as suas capacidades de decisão, e a ênfase no interesse do profissional durante o tratamento. Este resultado reflete a percepção dos pacientes em cuidados de saúde, onde contam com cuidadores éticos que oferecem o melhor tratamento possível em um ambiente limpo e amigável. As dimensões Tangibilidade e Segurança refletem o encontro médico-paciente inicial, e influenciarão no desenvolvimento de outros itens[8]. Embora estas duas dimensões terem recebido a pontuação mais alta no estudo, os outros itens também foram altamente priorizadas (pontuação de 5,7 ou acima), o que reflete as

expectativas do paciente elevados em vários níveis de prestação de serviços de saúde bucal[9].

Este estudo revelou que após a utilização dos intervalos de confiança no IPA uma dimensão se destacou no item "concentrar aqui" que foi a Segurança que apresentou o menor intervalo de confiança dentro do quadrante. Além disso, também configuraram nesse quadrante a Empatia e a Tangibilidade. Em relação à segurança é importante lembrar que o seu significado é a Liberdade de risco (ou seja, possíveis danos ou infecção por esterilização, o uso de luvas descartáveis e máscaras e também a utilização de antissépticos), e tem um efeito positivo na segurança, sinceridade, confiança e consistência. A análise importância-desempenho tradicional (IPA) usa as classificações das médias de importância e desempenho para a construção de uma grade de duas dimensões, identificando oportunidades de melhoria para orientar os esforços de planejamento estratégico. As estimativas pontuais de importância e desempenho variam de amostra para amostra de tal modo que as análises numéricas são diferentes com base em diferentes amostras. Assim, usando estimativas pontuais de itens pode levar a administração a tomar decisões erradas. Este estudo integra intervalos de confiança e a ferramente IPA para permitir que o gestor possa de uma maneira muito mais fácil identificar os pontos fortes e fracos com base na amostra de tamanho utilizado. Além disso, os pressupostos de variações de populações iguais e desiguais para a construção de intervalos de confiança são discutidos[10].

CONCLUSÕES

A ferramenta IPA se mostrou eficaz quando utilizada na gestao do serviço uma vez que destaca os pontos chaves a serem melhorados no serviço. E importante salientar que existem muito poucos estudos sobre avaliações de necessidade dos pacientes e a utilização do IPA para avaliar a qualidade do serviço odontológico.

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CONCLUSÕES

- ✓ Houve uma associação entre variáveis sociodemográficas e expectativas em domínios selecionados. Essas variáveis foram: idade (mais de 33) gênero (masculino) auto-percepção da saúde bucal e educação dos pais. Os homens tiveram expectativas mais elevadas do que as mulheres em três dimensões: presteza, segurança e empatia. A dimensão de Segurança teve a maior pontuação em relação as expectativas mostrando preocupações paciente-dentista/staff confiança. Este estudo destaca a importância da avaliação das expectativas em relação aos cuidados dentários para melhorar a qualidade de serviços odontológicos.

- ✓ A presteza foi a unica dimensão que as expectativas do serviço oferecido, foram mais elevadas do que a percepção, mas não foram significativamente associadas com as variáveis sociodemográficas avaliadas, nem com a satisfação com a saúde oral. Na dimensão tangibilidadel e confiabilidade, as pacientes do genero feminino mostraram mais insatisfeitos com o serviço do que os homens. Os mais velhos tiveram maior prevalência de insatisfação com o serviço na dimensão Empatia.

- ✓ A ferramenta IPA se mostrou eficaz quando utilizada na gestao do serviço uma vez que destaca os pontos chaves a serem melhorados no serviço.

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Anexo 1

Página em Html com o formulário de caracterização dos participantes – Sociodemográfico e o formulário SERVQUAL

Pesquisa Saúde Bucal - Formulário Seleção de Participantes

1 - Dados Gerais

Nome :

Gênero : Masculino Feminino Data de Nascimento :

Endereço :

Complemento : Bairro :

Cidade : UF : CEP :

E-mail :

Empresa :

2 - O Dentista que atendê-lo tem alguma especialidade

Dentista Clínico Geral Especialista

3 - Percepção do respondente sobre a condição da saúde bucal

Como você avalia sua saúde bucal? Muito

Boa ○ Boa ○ Razoável ○ Ruim ○ Muito Ruim ○ Não Sabe

4 - Percepção do respondente sobre a condição da saúde geral

Como você avalia sua saúde geral? ○ Muito

Boa ○ Boa ○ Razoável ○ Ruim ○ Muito Ruim ○ Não Sabe

5 - Situação da Dentição

○ Dentado ○ Desdentado total ○ Não sabe ou recusou

Obs.: *Dentado é aquele indivíduo que tem pelo menos um dente natural na boca*

6 - Você já trabalhou com algum incômodo na boca?

○ Sim, uma vez ○ Sim, várias vezes ○ Não, nunca ○ Não sabe ou Recusou

7 - Marque a sua escolaridade

○ Analfabeto/Primário incompleto

○ Primário Completo / Ginasial Incompleto

○ Ginasial Completo / Colegial Incompleto

○ Colegial Completo/ Superior Incompleto

○ Superior Completo

○ Não Sabe ou Recusou

8 - Marque a sua renda familiar

- Até R$ 300,00
- De R$ 301,00 a R$ 900,00
- De R$ 901,00 a R$ 2.250,00
- Maior do que R$ 2.250,00
- Não Sabe ou Recusou

9 - Marque o grau de instrução do seu pai

- Analfabeto/Primário incompleto
- Primário Completo / Ginasial Incompleto
- Ginasial Completo / Colegial Incompleto
- Colegial Completo/ Superior Incompleto
- Superior Completo
- Não Sabe ou Recusou

10 - Marque o grau de instrução da sua mãe

- Analfabeto/Primário incompleto
- Primário Completo / Ginasial Incompleto
- Ginasial Completo / Colegial Incompleto
- Colegial Completo/ Superior Incompleto
- Superior Completo

Não Sabe ou Recusou

Formulário SERVQUAL - Questionários de Expectativas

O que você espera em relação ao desempenho de uma clínica ou consultório? Ou seja, qual a sua expectativa em relação a este tipo de atendimento. Responda cada item apresentado abaixo marcando um valor de 1 a 7. Por exemplo: Se você **concordar fortemente** com a afirmação apresentada, marque o número **7**. Se você **discordar fortemente** marque **1**. Caso você tenha uma **opinião intermediária**, marque um dos números intermediários (de **2** a **6**).

	Discordo Fortemente						Concordo Fortemente
	1	2	3	4	5	6	7
As salas de espera, consultórios e banheiros são confortáveis, limpos e aconchegantes?							
Os dentistas estão sempre arrumados e com jalecos limpos?							
Os auxiliares têm uniforme limpos e estão bem arrumados?							
Os cartões, fichas e outros materiais gráficos são visualmente agradáveis e chamativos?							
Os funcionários demonstram segurança ao lidar com problemas com os pacientes?							
Um bom dentista se preocupa com minha saúde bucal, mesmo se eu tenho poucas condições para pagar um tratamento?							
Um bom tratamento odontológico não deve ser refeito. Não preciso voltar ao dentista pelo mesmo problema.							

O tratamento termina no prazo prometido e as consultas sempre são nos dias marcados?	○	○	○	○	○	○	○
Não é necessário remarcar consultas nem prolongar o tratamento além do prazo combinado?	○	○	○	○	○	○	○
Há disponibilidade e prontidão para atender os pacientes?	○	○	○	○	○	○	○
Há boa vontade em ajudar os pacientes?	○	○	○	○	○	○	○
Os funcionários de uma clínica estão disponíveis para responder minhas questões?	○	○	○	○	○	○	○
A habilidade dos dentistas, instalações da clínica, instrumentais e lugar lhe dão segurança para o seu tratamento?	○	○	○	○	○	○	○
Os dentistas são sempre educados e gentis com os pacientes?	○	○	○	○	○	○	○
Os auxiliares sempre são simpáticos e gentis com os pacientes	○	○	○	○	○	○	○
Os funcionários têm o conhecimento necessário para execução dos serviços?	○	○	○	○	○	○	○
Uma clínica exemplar trabalha em horários convenientes para todos seus pacientes?	○	○	○	○	○	○	○
Os funcionários de uma clínica dão atenção personalizada para você?	○	○	○	○	○	○	○

Anexo 2

COMITÊ DE ÉTICA EM PESQUISA
FACULDADE DE ODONTOLOGIA DE PIRACICABA
UNIVERSIDADE ESTADUAL DE CAMPINAS

CERTIFICADO

O Comitê de Ética em Pesquisa da FOP-UNICAMP certifica que o projeto de pesquisa **"Desenvolvimento de software para avaliação da qualidade dos serviços de planos odontológicos"**, protocolo nº 040/2010, dos pesquisadores Juliana Rocha Gonçalves e Gláucia Maria Bovi Ambrosano, satisfaz as exigências do Conselho Nacional de Saúde - Ministério da Saúde para as pesquisas em seres humanos e foi aprovado por este comitê em 20/05/2010.

The Ethics Committee in Research of the School of Dentistry of Piracicaba - State University of Campinas, certify that the project **"Software development for evaluation of quality in dental service plans"**, register number 040/2010, of Juliana Rocha Gonçalves and Gláucia Maria Bovi Ambrosano, comply with the recommendations of the National Health Council - Ministry of Health of Brazil for research in human subjects and therefore was approved by this committee at 05/20/2010.

Prof. Dr. Pablo Agustin Vargas
Secretário
CEP/FOP/UNICAMP

Prof. Dr. Jacks Jorge Junior
Coordenador
CEP/FOP/UNICAMP