Comparative study of satisfaction of users and health professionals with the public dental service

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Abstract  The objective was to confront the view of users and health professionals about the satisfaction with the public dental service. Interviews were conducted with users, professionals considered directly (ESB) and indirectly (ACS) involved in oral health. Variables were evaluated individually and grouped into domains. A score was created for the analysis and the Kruskal-Wallis test was applied. The respondents positively assessed the quality of the dental services. The ACS demonstrated less satisfaction compared to users regarding general satisfaction in the Physical Structure and Medical Care domains and the variables: quality of clinical care; guidance to the patient after treatment performed in the specialty; and period of dental care. The ESB professionals expressed greater satisfaction than the users in the Medical Care domain and in the variables related to the provision of guidance, answering questions, attention solvability and consultation scheduling. It is concluded that the ESB professionals demonstrated a high degree of similarity to the satisfaction displayed by users, although positively expanded, and the ACS expressed more critically discrepant opinions in relation to users.

Key words  Evaluation of health services, Health staff, Patient satisfaction, Primary Health Care, Oral health
Introduction

The evaluation of health services has been a widely discussed necessity for global health policies, considered one of the paths for management to pursue the quality of services provided. An important component of this evaluation process is the apprehension of user satisfaction. It offers support for the reorganization of services through relevant and reliable information, as well as being a popular participation tool in health management.

Despite the increasing use of user satisfaction as a sensitive indicator of quality of health services, it is accessed concisely and in isolation, without the desired articulation between the opinions of those involved in the production of care.

To seize and expand the understanding of the multiplicity of factors affecting user satisfaction, it is necessary to initially have a thorough understanding of their needs. Studies have shown discrepancies between analyses of users and professionals regarding the quality and prioritization of health services. While users tend to value relational aspects of the work process, health workers attach more importance to the technical skills of health care and tend to present, in different evaluative contexts, higher satisfaction levels.

Therefore, it is important to develop listening strategies, integrated or minimally, for a gradual approximation between the different opinions. The first step in this direction is the promotion of innovative assessment practices within teams and government health management. The present study provides an opportunity to align the expression of workers and users on the same study subject: the satisfaction with public dental services, believing that their results can drive improvements in labor relations, in decision-making and exercising control of public health management.

Based the above, the present study sought to compare the user view with the professionals involved directly or indirectly with oral health with regards to satisfaction with aspects related to the public dental service.

Methodology

Type of study, sample and sampling

The present is a transversal research, developed in the urban area of a medium-sized municipality in Paraná, with an estimated population of 311,611 inhabitants, predominantly urban and of a young adult profile. The study population was composed of users and dental service professionals in the field of primary health care, distributed in 27 regular health clinics in the urban area of the city, divided into 14 basic health units and 13 family health units.

In the field of professionals, the total of subjects in the working hours during this evaluated period were included, linked to the study scenarios, namely: 40 dentists, 06 technicians in oral health, 21 auxiliary oral health care assistants and 159 community health workers. For the purposes of the survey, all categories mentioned above were considered to be “involved directly or indirectly with oral health”.

Faced with the infeasibility of collecting information together from the total number of users ascribed in the study areas, a sample calculation was performed. A representative sample was then given with the use of the Epi.Info 7.1.4 software, considering the estimated adult population in the city studied (172,600 inhabitants) with an accuracy of 5%, confidence interval of 95% and design effect 1, for a prevalence of 50% of adults satisfied with the quality of dental services. This prevalence was used in an attempt to get the highest possible sample. The calculated total (384) was increased by 20% in order to enhance the results, resulting in a final sample of 461 adults.

Users were randomly selected and stratified in the various health units in the days and alternating periods of operation in order to access the multitude of views and enhance the representativeness of the sample.

The eligibility criteria for users were: user of Brazilian public dental network of the primary health care; have received dental care in a referral center for a maximum of one year from the interview; present an age less than 18 years; or the under-aged were accompanied to the dental appointment on the day of the interview.

The professional eligibility criteria were: be part of the framework of the previously guided professions and health units involved in the study, and being in the profession.

Data collection

Two structured forms were developed to obtain the information, one for users and one for professionals, addressing issues related to the objective of the study, represented by the variables...
shown in Chart 01, with response patterns: happy, more or less satisfied and dissatisfied. Note that both forms investigated the same variables, but with a written arrangement appropriate for each research group.

The forms were adapted from protocols for assessing user satisfaction of the PNASS (National Program for Health Services Review)\textsuperscript{12} and PMAQ (National Program for Improving Access and Quality of Primary Care)\textsuperscript{13}, nationally based instruments proposed by the Ministry of Health to evaluate the quality of health services and support for SUS management (Health System). The adjustment was made in order to adapt these instruments which are essentially aimed at the medical health field to tackle specific aspects of dental reality. To ensure the understanding of the instrument regarding the text, the vocabulary used and the sensitivity of the responses, a pilot study was carried out to quantify the internal consistency among the questions through the Cronbach\'s \( \alpha \) (\( \alpha = 0.70 \)), with users from the urban area and professionals from the health units in the rural area of the municipality. The data obtained in this stage were not part of the sample.

Data collection was conducted through individual interviews, conducted by a trained investigator to gather the necessary information and welcome any questions without influencing the answers. This step took place in a private environment within the health units. The average time of the interview lasted fifteen minutes and, at its end, the respondent received oral hygiene kits and a printed information sheet, designed specifically for the study, containing information on the rights and duties of the SUS and oral health care for the different life cycles.

**Processing and data analysis**

Prior to the actual examination, the sample of professionals was divided into two groups: group of professionals considered "indirectly involved with oral health", made up of community health agents (CHA); and the group of professionals "directly involved with oral health", made up of dentists, oral health technicians and oral health assistants, which together make up an oral health team (OHT).

For the first analysis, the variables of interest were grouped into domains. The formation of these areas was initially decided by the use of factor analysis, through diagnosis with orthogonal rotation, which seeks to identify similarities between variables that allow the grouping, usually by a linear relationship of the responses of individuals with latent traits\textsuperscript{14}. However, the factor analysis creates some strong postulations that do not always match the reality of the facts\textsuperscript{15}, especially when it comes to a very homogeneous sample, similar to those studied. In applying the test, one group was proposed, thus opting for the use of conceptual analysis for creating the domains, which took place from a literature review and in-depth analysis about the dimensional concepts routinely used in the evaluation of health services\textsuperscript{15}.

The variables were then grouped by the researchers according to proximity to the basic dimensions of evaluation of public health services in Brazil, namely: Medical Care, Information and Support, Organization of Services and Physical Structure, which proved to be in line with the groupings adopted in equivalent studies\textsuperscript{16-18} (Chart 1).

To obtain the overall satisfaction level in every domain, a 0-1 index was created, calculated by using the average of their forming variables, assigning values to possible answers, namely: satisfied (value 1), more or less (value 0.5) and dissatisfied (value 0).

In order to better exploit the results, as well as the analysis by areas, a second analysis was conducted, where the forming variables in each domain were evaluated individually. Only the number of individuals satisfied in each evaluative variable was considered in the data exposure. The percentage content was calculated according to the total number of individuals responding to each variable, because some evaluative variables were different from the total number of the study sample.

The normality test (Kolmogorov-Smirnov) was used to define the use of parametric or non-parametric analyses. The data were not normally distributed, thus the nonparametric Kruskal-Wallis with the post Dunn\'s test at a significance level of 5% were applied.

**Research ethics**

All subjects were informed about the purpose of the research, their character and willingness of non-identification, as well as how to collect, analyze and destinate the data. Those who acquiesced to their participation did so by signing a free and informed consent. The study was approved by the Ethics Committee in Research with Human Beings of Araçatuba Dental School - UNESP and the State University of Ponta Grossa – UEPG, re-
The final sample was consisted of 461 members, 133 professionals indirectly involved with oral health (CHA) and 52 professionals directly involved with oral health (30 dentists, five oral health technicians and 17 oral health assistants). The loss of subjects occurred by the absence of the professional in the days of the interview, because of vacation or sick leave. Figure 1 shows the evaluation results of the users and professionals by dissociation in domains.

The overall satisfaction rate of users was 0.8 and the CHA was 0.75, with a significant difference \( (p < 0.05) \). The overall satisfaction expressed by the OHT \( (0.80) \) showed no significant difference when compared to the user group \( (p > 0.05) \).

Individually analyzing the fields, the CHA group had values of satisfaction below those expressed by users in all domains evaluated, with a significant difference for the Physical Structure \( (p < 0.05) \) and Medical Care \( (p < 0.05) \). When comparing the OHT to the users, greater satisfaction was presented by the OHT group in all domains, with significant differences only for the Medical Care \( (p < 0.05) \). All categories of the subjects investigated attributed the Service Organization domain as the lowest level of satisfaction, however, the values were not significantly different \( (p > 0.05) \).

Table 1 shows the percentage of the satisfaction of users and professionals in each variable formed by the domains, and the statistical values resulting from the comparison of satisfaction among users and the CHA and between users and the OHT.

Overall, users reported being satisfied with the public dental services offered. The CHA group exhibited lower satisfaction than the users, presenting a significant difference for the variables: "quality of clinical care offered by the oral health team" \( (p < 0.001) \); "orientation to the patient after treatment used in the specialty" \( (p < 0.01) \); "dental care period at the clinic unit" \( (p < 0.01) \); and for all the variables of the Physical Structure domain \( (p < 0.001) \).

Professionals in the OHT expressed high satisfaction, statistically higher than that of users for the variables "capacity to resolve all oral health problems" \( (p < 0.05) \); "answering questions, oral health concerns and problems by the dental team" \( (p < 0.01) \); "guidance during the consul-

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**Chart 1.** Evaluative domains of satisfaction with public dental services and their forming variables.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Care</td>
<td>Quality of clinical care offered by the dental health team.</td>
</tr>
<tr>
<td></td>
<td>Ability to solve all the problems of oral health.</td>
</tr>
<tr>
<td>Information and Support</td>
<td>Clarification of doubts, concerns and problems of oral health on the part of the dental team.</td>
</tr>
<tr>
<td></td>
<td>Guidance during the consultation on the prevention of oral diseases, by the dental team.</td>
</tr>
<tr>
<td></td>
<td>Guidance to the patient after treatment performed in the specialty, by the dental team.</td>
</tr>
<tr>
<td>Organization of services</td>
<td>Period of operation of dental care at the health unit.</td>
</tr>
<tr>
<td></td>
<td>Time to schedule a dental appointment at the clinic.</td>
</tr>
<tr>
<td></td>
<td>Form of scheduling dental appointment at the clinic.</td>
</tr>
<tr>
<td></td>
<td>Time anticipated to be answered by the oral health team.</td>
</tr>
<tr>
<td>Physical structure</td>
<td>Cleaning the environments in which the oral health team provides care.</td>
</tr>
<tr>
<td></td>
<td>Comfort of the environments in which the oral health team provides care.</td>
</tr>
<tr>
<td></td>
<td>Signaling the dental office at the health unit.</td>
</tr>
</tbody>
</table>
tation on the prevention of oral diseases by the dental team” (p < 0.01); and “time to schedule a dental appointment at the health clinic” (p < 0.01).

Discussion

The first aspect to be highlighted from the results of the present study was the high degree of satisfaction indicated by users in relation to public dental services investigated. This finding corroborates satisfaction surveys found in the national and international literature⁴,⁷,⁸,¹⁸,¹⁹.

However, these results should be analyzed with caution, since Brazilian health users tend to exhibit some conformity in relation to services², low critical content and vindicating²² and even a mistaken view in the recognition of health care as a benefit and not as a right, which may lead to a false high quality of health services researched⁶. In this sense, it is important to build a space in which users can understand their rights and feel encouraged to develop a critical and reflective vision about their needs and the work process in the health units²⁰.

Despite the close proximity to the user and indirect involvement in oral health, community health workers, when compared to users, showed greater dissatisfaction with the public dental services. These findings reflect the importance of rethinking of the managers and trainers of evaluation policies on the inclusion of this group of professionals in the planning of health services, a fact which would allow the view of the same object under investigation by another lens and certainly the enrichment of the whole process.

The fact that community health workers do not act directly in dental services, one can get them to present a more critical view, demanding and less prone to conflicts of interest than those directly involved subjects (OHT), exposing a larger perception of rights and duties of citizenship, fundamental conditions for there to be progress in action planning and improvements in the quality of health services. Another proposition is the close relationship established between the CHA and users with alleged apprehension and exposure of yearnings and aspirations of users, which remain often veiled when investigated by researchers. It is inferred that the reasons that lead users to not express themselves properly may be related to users' fear of losing the right to service and being perceived negatively by professionals⁴.

Studies show a recurring factor of dissatisfaction among users and health professionals is the precariousness of the physical structure of the health units²¹. However, for users of the present study, these conditions were quite satisfactory, a result that diverges significantly from the perception of the investigated CHA. This discrepancy of opinions may suggest different levels of expectations among subjects⁸, considering the various aspects of the physical area and the regulatory systems of health units, and even a supposed lack of user knowledge about the technical aspects (hard technology) of services²⁰, causing

Figure 1. Average index of satisfaction of users and professionals of public dental services according to the domains fields. Ponta Grossa/PR, 2014.
them to more positively evaluate the structure of the units.

The domain holder of criticism among users and health professionals is the Organization of Services\textsuperscript{4,7,8,20-22}, which reached the lowest level of satisfaction among the investigated. Studies have reported high dissatisfaction with the long waiting time to schedule a consultation, inefficient organization of the flow for the host and also the insufficient period of dental services\textsuperscript{4,7,8,20-22}. These factors constitute a challenge in the search for completeness and solvability of attention regarding the approach of the relationship between the actions of network services at different levels of complexity and skills. Reorganization initiatives of work processes as well as optimization of internal flows can also contribute to improve the quality of services and thus the satisfaction of users\textsuperscript{7} and should, therefore, enable the organization of services and health practices to carry out an expanded grasp of the needs of the population under their responsibility.

### Table 1. Frequency and comparison of user satisfaction, CHA and OHT with dental public service, according evaluative variable. Ponta Grossa/PR, 2014.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Variable</th>
<th>USER (n = 461)</th>
<th>CHA (n = 133)</th>
<th>OHT (n = 52)</th>
<th>(n)\textsuperscript{a}</th>
<th>(%)\textsuperscript{a}</th>
<th>(n)\textsuperscript{b}</th>
<th>(%)\textsuperscript{b}</th>
<th>p value\textsuperscript{c}</th>
<th>(n)\textsuperscript{a}</th>
<th>(%)\textsuperscript{a}</th>
<th>p value\textsuperscript{c}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Care</td>
<td>Quality of clinical care offered by the dental health team.</td>
<td>356</td>
<td>77%</td>
<td>78</td>
<td>356</td>
<td>77%</td>
<td>83</td>
<td>59%</td>
<td>p &lt; 0.001</td>
<td>48</td>
<td>92%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td></td>
<td>Ability to solve all the problems of oral health.</td>
<td>283</td>
<td>63%</td>
<td>75</td>
<td>283</td>
<td>63%</td>
<td>75</td>
<td>58%</td>
<td>p &gt; 0.05</td>
<td>40</td>
<td>78%</td>
<td>p &lt; 0.05</td>
</tr>
<tr>
<td>Information and Support</td>
<td>Clarification of doubts, concerns and problems of oral health on the part of the dental team.</td>
<td>343</td>
<td>76%</td>
<td>85</td>
<td>343</td>
<td>76%</td>
<td>85</td>
<td>70%</td>
<td>p &gt; 0.05</td>
<td>47</td>
<td>96%</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>Guidance during the consultation on the prevention of oral diseases, by the dental team.</td>
<td>316</td>
<td>70%</td>
<td>79</td>
<td>316</td>
<td>70%</td>
<td>79</td>
<td>68%</td>
<td>p &gt; 0.05</td>
<td>43</td>
<td>88%</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>Guidance to the patient after treatment performed in the specialty, by the dental team.</td>
<td>42</td>
<td>84%</td>
<td>54</td>
<td>42</td>
<td>84%</td>
<td>54</td>
<td>53%</td>
<td>p &lt; 0.01</td>
<td>38</td>
<td>76%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td>Organization of services</td>
<td>Period of operation of dental care at the health facility.</td>
<td>358</td>
<td>78%</td>
<td>76</td>
<td>358</td>
<td>78%</td>
<td>76</td>
<td>60%</td>
<td>p &lt; 0.01</td>
<td>35</td>
<td>70%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td></td>
<td>Time to schedule a dental appointment at the clinic.</td>
<td>221</td>
<td>49%</td>
<td>50</td>
<td>221</td>
<td>49%</td>
<td>50</td>
<td>40%</td>
<td>p &gt; 0.05</td>
<td>30</td>
<td>62%</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>Form of scheduling dental appointment at the clinic.</td>
<td>299</td>
<td>66%</td>
<td>67</td>
<td>299</td>
<td>66%</td>
<td>67</td>
<td>54%</td>
<td>p &gt; 0.05</td>
<td>37</td>
<td>80%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td></td>
<td>Time anticipated to be answered by the oral health team.</td>
<td>258</td>
<td>57%</td>
<td>54</td>
<td>258</td>
<td>57%</td>
<td>54</td>
<td>44%</td>
<td>p &gt; 0.05</td>
<td>27</td>
<td>56%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td>Physical structure</td>
<td>Cleaning the environments in which the oral health team provides care.</td>
<td>401</td>
<td>87%</td>
<td>88</td>
<td>401</td>
<td>87%</td>
<td>88</td>
<td>67%</td>
<td>p &lt; 0.001</td>
<td>47</td>
<td>92%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td></td>
<td>Comfort of the environments in which the oral health team provides care.</td>
<td>363</td>
<td>79%</td>
<td>72</td>
<td>363</td>
<td>79%</td>
<td>72</td>
<td>55%</td>
<td>p &lt; 0.001</td>
<td>35</td>
<td>68%</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td></td>
<td>Signaling the dental office at the health unit.</td>
<td>399</td>
<td>88%</td>
<td>89</td>
<td>399</td>
<td>88%</td>
<td>89</td>
<td>69%</td>
<td>p &lt; 0.001</td>
<td>46</td>
<td>91%</td>
<td>p &gt; 0.05</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Only the total of those satisfied were computed. \textsuperscript{b}The percentage of satisfied individuals in each evaluative variable. This number was calculated according to the total n in each variable obtained, since this, in some evaluative variables, was different from the study sample. \textsuperscript{c}Kruskal-Wallis test with post Dunn’s test, having the user satisfaction as a dependent variable.
In the Medical Care domain, the opinion among the OHT and CHA users was divergent. The CHA presented lower satisfaction and professionals in the OHT, the highest satisfaction when compared to users, both with significant values. This difference of opinion suggests the need for closer ties between professionals and users, as well as strengthening monitoring and site assessment activities so that weaknesses and new possibilities in the production process of public health services are identified.

To individually analyze the evaluative variables, differences were also observed among the views of users and the OHT group of professionals for the variable “quality of clinical care offered by the oral health team”. The study by Reis et al. converges with the present study, since the professionals investigated in these studies were more likely to positively evaluate the quality of services in health when confronted by users.

The variable “orientation to the patient after treatment performed in the specialty” was assessed by the CHA group with satisfaction values significantly below those expressed by users. This low satisfaction may be related to the interpretation of professionals to consider the existing barriers in the process of referrals and counter-references, which hinder the return of the user and its access to guidelines. Examples of these obstacles are the difficulties encountered in many services in the scheduling of consultations for specialized care, non-cordial treatment in reference services and the absence of counter references. Still, the significant dissatisfaction expressed by the CHA, when compared to users, may be related to the development of numerous extra functional activities performed by this category, such as scheduling outpatient visits to the clinic, which would give them an even closer look at the existing difficulties.

Still confronting the opinions of users and the CHA, the satisfaction in relation to the dental care period at the clinic was significantly lower for the CHA. It is possible that this more critical view from the CHA is related to the fact that they know the community’s desires as a whole, especially the formal workers, who often have difficulties in gaining access to the units and health services due to the layout of their work schedules, and that at the time of the interview, these aspects were taken into consideration. The expansion of the health unit service office hours beyond the working hours and weekends might be a strategy for facilitating access to the use of health services.

In the comparison of opinions between the users and OHT, it was verified that professionals showed significantly greater satisfaction in the variables related to the provision of guidance, doubts clarification and attention resolution. The most favorable view of the OHT in relation to these labor factors, which directly reflect the activities that are developed at the facility level, can be explained by the natural tendency of individuals to issue a favorable value judgment of their relationship with their own actions and behaviors. Moreover, it can be related to a low criticality and high receptivity expressed by users for the provision of public services and non-performing formal complaints.

The time to schedule an appointment at the health center is a source of high dissatisfaction for users of the health service in general. This finding converges with the data expressed by the users of the present study, albeit on a less stricter view of the OHT. In the study by Reis et al., a more condescending perception by professionals regarding the scheduling of time was verified. This vision of professionals draws attention to the need for active categories in services, being more attentive to the barriers of the public health system and community aspirations.

Sonneveld et al. also found significant differences between the views of users and professionals in various organizational aspects of dental services. The findings also showed that oral health professionals were able to correctly estimate the user’s point of view only half the time they were questioned. The authors suggest greater attention to the priorities of users and the channels of communication with the team.

With the findings herein, emerge the appreciation of different subjects involved in the health production process, with a view for the execution and expansion of humanization in public services. Thus, the present study contributes to the understanding of satisfaction with public dental services, through the perspective of users and different health professionals, an approach not yet sufficiently explored in the scientific field.

The development of different apprehension technologies for the awareness of health workers and users of health services is suggested, in scenarios of different practices, as a complementary method to pre-established government instruments. It is important that the managers launch methodological assessment innovations to expand communication between different perceptions, fostering theoretical knowledge and design to contribute to a better quality of health ser-
services. As suggestions, in addition to the inclusion of community workers in the evaluation process, the use of concomitant qualitative methods with quantitative methods may be a useful strategy to managers because it allows for the deeper issues and points more clearly to the reasons that infer the quality of services.

Final considerations

The results presented by users revealed high levels of satisfaction with the various aspects related to public dental services. Overall, the CHA exposed the most critical views on these services, compared to users. The professionals directly involved with oral health (OHT), for the most part, expressed satisfaction similar to the users, and in a few situations, expressed a positively larger view.

Despite the high parity between the users’ opinions and the OHT, it is deemed important to devote attention to the discrepancies found. It is then suggested that the public practices of oral health in the municipality can be improved and are linked to sensitive and periodic evaluations, aiming to deepen the quality of the relationship between the professionals and users; and still be able to respond positively to the Primary Health Care in Brazil for the dental area.
Collaborations

D Bordin prepared the collection instrument, carried out the collection and tab the data, tried the information collected and wrote the article. CB Fadel prepared the collection instrument, such as treated information collected and wrote the article. SAS Moimaz, CAS Garbin outlined the study, designed the collection tool and wrote the article. NA Saliba wrote and review critical the article.

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References


