Oral Health Management Diagnosis Guidelines to support healthcare planning

Instrumento de Diagnóstico da Gestão em Saúde Bucal para auxiliar o planejamento em saúde

Instrumento de Diagnóstico de Gestión de Salud Bucal para ayudar la planificación en salud

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Abstract
The objective of this study was to present and evaluate the use of the Oral Health Management Diagnosis Guidelines (OHMDG) to support professionals and managers in healthcare planning. The OHMDG was developed with participation of professors, health professionals and policy makers and posteriorly, applied on 4 stages of Oral Health Management Qualification Course, between 2012 and 2019, in 80% municipalities of Paraná State. The participants of the second, third and fourth stages evaluated the OHMDG by electronic form. The approved version of OHMDG consisted of 3 pillars, subdivided into six components, with 3 different scenarios (poor, fair and ideal). The mean score obtained in evaluation of OHMDG was 8.53 ± 1.52; 8.0 ± 1.65; 8.48 ± 1.46, corresponding to stages 2, 3 and 4, respectively. It is concluded that the OHMDG was a tool well evaluated by health professionals to local diagnose and construction of new strategies for improvement of oral health.
Keywords: Oral health; Unified health system; Health services; Health planning; Health management.

Resumo
O objetivo deste estudo foi apresentar e avaliar o uso do Instrumento Diagnóstico da Gestão de Saúde Bucal (IDGSB) para auxiliar os profissionais e gestores no cuidado em saúde. O IDSGB foi desenvolvido com a participação de

docentes, profissionais de saúde e gestores, e posteriormente, aplicado em 4 ciclos do Curso de Qualificação da Gestão em Saúde Bucal, de 2012 a 2019, em 80% dos municípios do Estado do Paraná. Os participantes do segundo, terceiro e quarto ciclo do curso avaliaram o IDSGSB por meio de formulário eletrônico. A versão aprovada do IDSGB consistiu em 3 pilares, subdivididos em 6 componentes e contendo 3 diferentes cenários (precário, intermediário e ideal). A pontuação média obtida na avaliação do IDSGB foi de 8,53+1,52; 8,0+1,65; 8,48+1,46, nos ciclos 2, 3 e 4, respectivamente. Conclui-se que o IDSGB foi uma ferramenta bem avaliada pelos profissionais de saúde para o diagnóstico local e construção de novas estratégias para melhorias da saúde bucal.
Palavras-chave: Saúde bucal; Sistema único de saúde; Serviços de saúde; Planejamento em saúde; Gestão em saúde.

Resumen
El objetivo de este estudio fue presentar y evaluar el uso del Instrumento de Diagnóstico de Gestión de la Salud Bucal (IDGSB) para ayudar profesionales y gerentes en la planificación de la atención médica. El IDGSB se desarrolló con la participación de profesores, profesionales de la salud y gerentes, y posteriormente se aplicó en 4 ciclos del Curso de Calificación para la Gestión en Salud Bucal, de 2012 a 2019, en el 80% de los municipios del Estado de Paraná. Los participantes del segundo, tercer y cuarto ciclo del curso evaluaron el IDGSB a través de un formulario electrónico. La versión aprobada del IDGSB constaba de 3 pilares, subdivididos en 6 componentes y conteniendo 3 escenarios diferentes (precario, intermedio e ideal). La puntuación media obtenida en la evaluación IDGSB fue de 8.53+ 1.52; 8.0 + 1.65; 8.48 + 1.46, en los ciclos 2, 3 y 4, respectivamente. Se concluye que el IDGSB fue una herramienta bien revisada por los profesionales de la salud para el diagnóstico local y la construcción de nuevas estrategias para mejorar la salud bucal.
Palabras clave: Salud bucal; Sistema único de salud; Servicios de la salud; Planificación de salud; Gestión de la salud.

1. Introduction

Considering the negative impact of oral diseases on the life quality of people, policy makers are concerned with the predictable further increase in untreated caries due to the constant growth of the world population, which represents a very serious public health challenge (Kassebaum et al., 2015). Their role is to implement effective public policies, further people's knowledge, and develop new oral health management tools.

In Brazil, the National Oral Health Policy, also known as "Smiling Brazil", was incorporated into Brazilian Unified Health System (SUS, in Portuguese) to change oral healthcare provision by pursuing comprehensive care (Pucca Jr et al., 2015). Despite the advances achieved, important challenges still persist. Healthcare management decentralization has resulted in discrepancies in the quality of service provided by different local governments. There is no common shared view of the system, and adequate management tools to assist the local governments are still lacking. When adequately conducted, planning can be used not only to define responsibilities, but also to empower local governments (Brasil, 2009a). Adequate healthcare planning within a geographical area has the potential to ensure that problems are tackled locally and optimize the resources available (Justo et al., 2017). In this context, the planning (as Situational Strategic Planning -SSP) is an important instrument of the public administration to help on understanding of real social demands and development of strategic actions for public policies management (Matus, 1993).

The organizational culture of the public administration, lack of support from local authorities and engagement by health professionals, communication and budget restrictions, and limitations in management methods and practices, are some of the problems raised by public stakeholders within federal government organizations. Together, they demonstrate the need for new tools to ensure the required support to all involved in providing oral healthcare to the general population (Montezano et al., 2019).

Therefore, the objective of this study was to present and evaluate the use of the Oral Health Management Diagnosis Guidelines (OHMDG) as a planning tool to support the diagnosis of local problems and shortcomings in the service and plan future actions.

2. Methodology

2.1 OHMDG building

The OHMDG was developed with the participation of oral healthcare specialists, university professors, oral healthcare managers, and oral healthcare policy makers from all government levels (National, State, and Local). Communication and consultations among the specialists of different areas were performed to achieve the convergence of opinions.

The OHMDG were designed to provide local healthcare managers with a broader view of the service and contribute to management actions on a variety of health issues. Contributions were included into the OHMDG, and improvements were continuously iterated along the process based on collective analysis to reach conceptual alignment, using Delphi method (Grisham, 2009) adapted to this study as follows:

- *Data collection:* a team of university professors from different areas of expertise (dentistry, education and public health management) searched the relevant literature and collected data on public oral health provision. Data from surveys previously conducted in the State of Paraná, which contained the views of public oral health managers and staff were also gathered for analysis. The data was then organized according to relevant issues such as finance, planning, human resources, administration, service members' views, and public involvement.

- *Organizing ideas:* weekly brainstorm sessions were held to analyse the data and define the main challenges to public oral health in Brazil. The following questions were used to guide discussions: "How can we improve oral healthcare provision in Brazil?"; and "What are the main challenges to the service?" Ideas were compiled and pooled together into three main management areas, which have been termed "Pillars".

- *Clarifying the ideas:* once established, each Pillar was thoroughly analysed and subdivided into six Components, each one of them addressing what was considered an essential management issue. After that, three different Scenarios were then considered for each Component, in such a way that managers and staff could be guided in identifying their own local problems. A draft document was prepared, revised and sent for further analysis and approval.

- *OHMDG approval:* the draft document was presented to a number of oral healthcare policy makers from all government levels (National, State, and Local). Interviews were conducted in person whenever possible; otherwise the OHMDG was sent by email. The OHMDG were also analysed by dental graduate students and professors, as well as local, regional, state and national health professionals and managers. Feedback was analysed and incorporated into the OHMDG. Finally the OHMDG were sent to the National Oral Health Coordination, the State of Paraná Health Secretary, and the Regional and Municipal Oral Healthcare Coordination for their contributions. After approval and consensus was reached on the final version, the OHMDG were applied during the stages of the Oral Health Management Qualification Course sponsored by SUS. In each stage of the Course, all participants were invited to make their contribution and to update the OHMDG.

This study was approved by the Research Ethics Committee CAAE no. 57918616.8.0000.0104 until 3rd stage of the Oral Health Management Qualification Course and CAAE no. 36779120.0.0000.0104 for 4th stage.

2.2 OHMDG Application

The OHMDG was used to assist in situational diagnosis and action planning during the Oral Health Management Qualification Course for oral health managers, coordinators and professionals in the State of Parana. The Course was

developed by the State University of Maringa, Maringá, Brazil in partnership with the Brazilian Health Ministry. The first stage of the Course was initiated in 2012. Since then, 4 stages have been concluded, as described below (Fujimaki et al., 2019):

- 1st stage: Regional Oral Health Coordinators (2012)

- 2nd stage: Local Oral Health coordinators (2013-2014)

- 3rd stage: Oral health team members (2015-2016)

- 4th stage: Multiprofessional team members (2017-2019)

At the conclusion of each stage, participating municipalities were invited to continue to the following stage, establishing a formative wave in which all different actors could progressively get involved in the process. Considering that State of Parana is composed by 22 Regionals of Health, in the first stage of the course (2012), all the 22 Oral Health Regional Coordinators in the State of Parana (100%) participated in the course (Antoniassi et al., 2021) and since of second stage, the course reached 80% (321) municipalities of Paraná (Antoniassi et al., 2021). The participating individuals of second, third and fourth stage were invited to evaluate the Course and the OHMDG using an online form, with scores ranging from 0 until 10.

3. Results

The approved version of the OHMDG consisted of three Pillars, as demonstrated in Figure 1: Pillar 1 – oral healthcare structure; Pillar 2 – oral healthcare provision; and Pillar 3 – oral healthcare staff. Figuratively, the 3 management Pillars together should provide the required support to local managers to improve the quality of the oral healthcare provision both at clinical and educational levels. Each Pillar was subdivided into six essential Components (Figure 1) and each component was composed with three possible Scenarios (poor, fair, and ideal) to help in situational diagnosis (Charts 1, 2 and 3).

Figure 1: Conceptual framework of the OHMDG.
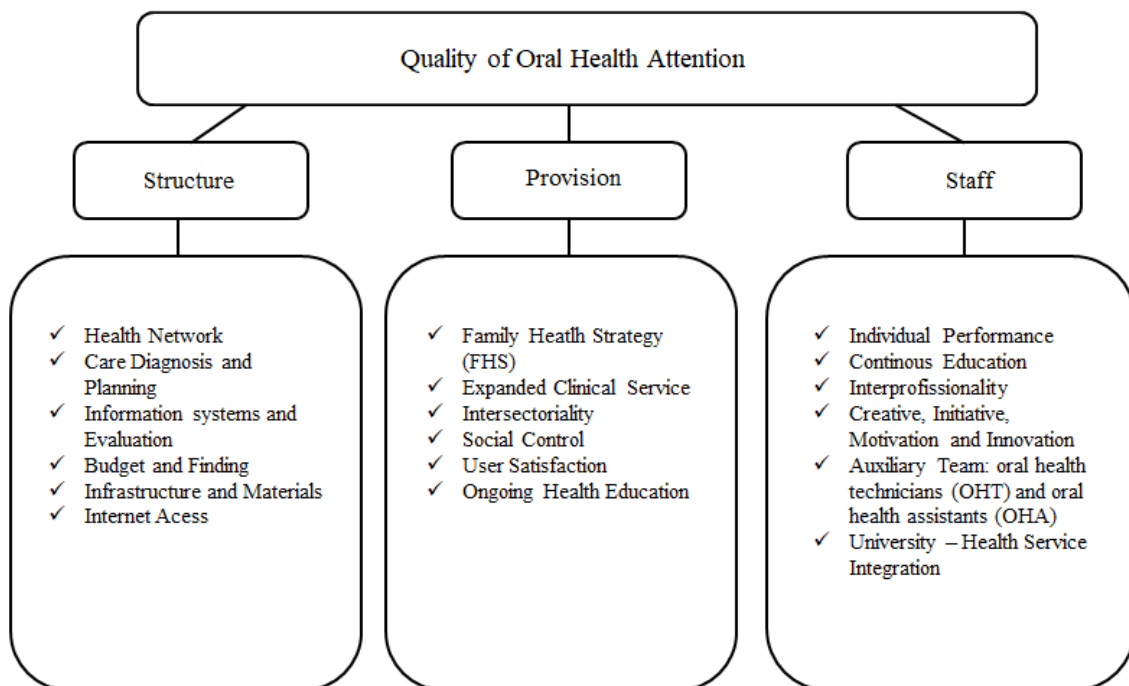
Source: Authors.

Chart 1. Pillar 1 - Oral Healthcare Structure.

Component	Scenario	Description
1. Healthcare networks (Mendes, 2011)	Poor	Local government/healthcare staff demonstrate little understanding about the construction of healthcare networks, giving priority to acute conditions, with little time available to discuss oral health as a whole.
	Fair	Local government/healthcare staff demonstrate some understanding about the construction of healthcare networks. Discussions on the matter are ongoing.
	Ideal	Local government /healthcare staff have identified points of attention, with 100% of the population covered by oral healthcare teams working on chronic and acute conditions. They coordinate care (flow and counter flow of services), serving as communication centers. They have a resolute role in the solution of oral health problems by strengthening primary care, avoiding accessing higher levels of complexity, and becoming co-responsible for their fellow citizens' oral health. Actions are coordinated and integrated into the different existing healthcare networks. They take a comprehensive view while structuring oral healthcare networks at municipal, regional and state level to achieve the best system configuration both in terms of service efficiency and transparency, and resource optimization. There is clarity about the roles and scope of the different levels of care: primary (Basic Health Units – BHUs), secondary (Specialized Dental Clinics – SDCs), and tertiary (Hospitals), which should work in consonance with each other in an articulated manner with appropriate communication.
2. Care diagnosis and planning (Teixeira, 1999; Brasil, 2013)	Poor	Local government/healthcare staff do not know the main oral health concerns of their population. There are no epidemiological surveys to support action planning. Local government has all the management tools currently available, but oral healthcare staff have no say in their construction or updating, nor in action planning. No workshops to plan actions are organized.
	Fair	Local government/healthcare staff know the main oral health concerns of their population through sporadic epidemiological surveys. They also know the demand for dental care, but do not perform urgency classification or risk stratification. They do not recognize the vulnerability of the population and do not use this data to support action planning. The municipality has the management tools currently available, but oral healthcare staff have no say in their construction or updating. Local government sporadically organizes workshops to plan actions.
	Ideal	Local government/healthcare staff know the main oral health concerns, risks and vulnerabilities of their population by conducting epidemiological surveys periodically. They also know dental care demands, and perform urgency classification and risk stratification, supporting action planning. The municipality has all the management tools available, which are constructed and updated with the involvement of all oral healthcare members, in line with the National Oral Healthcare Network guidelines. Additionally, local government/healthcare staff agree on targets to provide better access, improve service quality, build indicators, implement the necessary changes, and monitor the results periodically. Workshops with

		healthcare staff are organized periodically to plan and evaluate required actions.
3. Information systems and evaluation (Brasil 2010a; Brasil, 2014)	Poor	Local government/healthcare staff do not use information systems, do not record actions for monitoring and assessment purposes, and do not participate in the National Program for Improving Primary Care Access and Quality.
	Fair	Local government/healthcare staff use information systems for monitoring, but not for assessment purposes. Local oral healthcare staff partially participate in the National Program for Improving Primary Care Access and Quality.
	Ideal	Local government/healthcare staff use information systems as monitoring and evaluation instruments. Additionally, local government/healthcare staff systematically evaluate the agreed indicators and the impact of proposed actions. Oral healthcare staff fully participate in the National Program for Improving Primary Care Access and Quality. Furthermore, local government/BHUs have access to and use information from systems containing data collected at a local, state and national level.
4. Budget and funding (Marques & Mendes, 2002; Mendes & Marques, 2014)	Poor	Oral healthcare managers/staff have no access to their budget (the amounts transferred, the cost of services, how much comes from the Basic Care Funding or the local government), and do not participate in budget planning or fund procurement/allocation.
	Fair	Oral healthcare managers/staff have access to their budget, but do not participate in budget planning or fund procurement/allocation.
	Ideal	Oral healthcare managers/staff participate in budget planning and fund procurement/allocation. Additionally, oral healthcare managers monitor the use of resources and participate in bidding processes, so that the best value for money is obtained, considering the quality, durability and cost of the services.
5. Infrastructure and materials (Brasil, 2008)	Poor	The infrastructure for clinical dental care at BHUs is poor. There is no access to conventional radiology service or an appropriate room for healthcare team meetings. The availability of materials for clinical care, group activities and management is poor. Healthcare teams have not been implemented. Local population has no access to SDCs, and there are no referrals.
	Fair	The infrastructure for clinical dental care at BHUs is poor. However, conventional radiology service and a room for healthcare team meetings are available. There is good availability of materials for clinical care, group activities and management. Oral healthcare teams have been implemented, or are underway. Access to SDCs is limited.
	Ideal	The infrastructure for dental clinical care at BHUs is adequate, with access to conventional radiology, and a room for healthcare team meetings is available. There is also good availability of materials for clinical care, group activities and

Component	Scenario	Description
		management. Additionally, the local government participates in strategic actions together with oral healthcare staff. SDCs have been implemented, and referral and counter-referral flows have been established.
6. Internet Access (Santos et al., 2017)	Poor	BHUs do not have computers
	Fair	BHUs have computers, but access to the internet is poor or nonexistent.
	Ideal	BHUs have good quality Internet access, which permits communication and data sharing among staff and other areas of government.

Source: Authors.

Chart 2. Pillar 2 - Oral Healthcare Provision.

Component	Scenario	Description
1. Family Health Strategy (FHS) (Alves & Aerts, 2011; Dalazen, De-Carli & Moyses, 2018)	Poor	Local government/healthcare staff do not give priority to the FHS, and most dental clinicians (DCs) do not take part in the oral healthcare teams. There is no oral healthcare network protocol with defined points of attention and primary care coverage, or an established service flowchart for specialties (periodontics, surgery, patients with special needs, endodontics and prosthodontics).
	Fair	Local government/healthcare staff give priority to the FHS, and most DCs are part of the oral healthcare team, but there is no oral healthcare network protocol with defined points of attention, primary care coverage, or an established service flowchart for specialties.
	Ideal	Local government/healthcare staff give priority to the FHS with 100% of the population being covered by oral healthcare teams. The municipality has an oral healthcare network protocol with defined points of attention, primary care coverage, and an established service flowchart for specialties, with defined referral and counter-referral flows.
2. Expanded Clinical Service (Brasil, 2004; Brasil, 2009c)	Poor	Local government/healthcare staff give priority to acute conditions, focusing on curative treatments. There is no interaction with multidisciplinary groups in meetings, or the elaboration of therapeutic projects. There are no care provision protocols (conduct guide, urgency classification, risk stratification, biosecurity, clinical waste management, biological accidents).

	Fair	Local government/healthcare staff give priority to acute conditions, focusing on curative treatments. There is some interaction with multidisciplinary groups in meetings, but no elaboration of therapeutic projects. There are some care provision protocols.
	Ideal	Local government/healthcare staff give priority to an integrated approach, with emphasis on oral health promotion and prevention, comprehensive care for all age groups, accountability, and commitment to the user, promoting their independence both individually and collectively. There is interaction with multidisciplinary groups in meetings, and specific therapeutic projects are collectively elaborated. All care provision protocols have been established.
3. Intersectoriality (Junqueira, 1997)	Poor	Local government /healthcare staff do not articulate with other sectors of society (e.g., education, environment, sports, culture, etc) to solve health-related problems.
	Fair	Partial or sporadic articulation is conducted with other sectors of society.
	Ideal	Local government/healthcare staff conduct actions together with other sectors of society for the resolution of health-related problems, and give priority to the prevention of diseases/accidents and health promotion. There is good coordination with other sectors with a joint periodic agenda. For instance, with the sanitation sector (fluoridation of public water supply), and the education sector (oral health educational programs).
4. Social control (Brasil, 2002; Rolim, Callou Cruz & Sampaio, 2013)	Poor	Local and regional health councils (HCs) have been established, but meetings are held only with the participation of healthcare managers, staff and/or service providers. Local and regional HCs have the participation of some segments of society, but oral healthcare is not discussed.
	Fair	Local and regional HCs have been established, but meetings are held only with the participation of healthcare managers, staff and/or service providers. Local and regional HCs have an unbalanced participation of all segments of society (healthcare managers, staff, service providers, and users), but oral healthcare is not no discussed.
	Ideal	Local and regional HCs have been established, with regular monthly meetings. Local and regional HCs have a balanced participation of all segments of society, and local oral healthcare problems are discussed. Local HCs participate in the management of BHUs.
5. User satisfaction (Gouveia et al., 2009)	Poor	The opinion of users on the services provided by BHUs is not taken into consideration, and no local ombudsman service is available.
	Fair	The opinions of users on the services provided by BHUs are taken into consideration, and a local ombudsman service is

Component	Scenario	Description
		available, but that can result in health servants being punished.
	Ideal	User satisfaction surveys are conducted periodically at the BHUs to evaluate the service, seeking to address the problems systematically. The local ombudsman service is used for the qualification of management and improved services.
6. Ongoing Health Education (Brasil, 2009d)	Poor	Healthcare staff and managers do not conduct periodic discussions about the oral care needs of the population, and no time is allocated during service routine to discuss daily practices.
	Fair	Healthcare workers and managers sometimes hold meetings to solve specific demands.
	Ideal	The workflow is organized so that there is a permanent agenda for meetings to discuss and consider day-to-day problems and to seek solutions according to the relevant factors for the oral health status of the population, with coordinators establishing specific tasks at staff meetings.

Source: Authors.

Chart 3. Pillar 3 - Staff Management.

Component	Scenario	Description
1. Individual performance (Brasil, 2010b; Ditterich; Moyses & Moysés, 2012)	Poor	There is no institutionalized Individual Performance Assessment System (IPAS), and no incentives. A career plan and/or salary policy do not exist. The hiring process is unsuitable, generating high staff turnover.
	Fair	There is an institutionalized IPAS, and occasionally there are some incentives. There is no career plan, but salary policies are discussed at meetings. The hiring process is adequate, but staff turnover is still high.
	Ideal	There is an institutionalized IPAS, and there are incentives. Career plan and salary policy have been implemented. The hiring process is adequate with low staff turnover.
2. Continuing Education (Peduzzi et al., 2009)	Poor	The municipality does not encourage healthcare staff and managers training.

	Fair	The municipality encourages periodic training, but provides no financial support or identify staff needs.
	Ideal	The municipality encourages training, provides financial support, and meets staff needs.
3.Interprofissionality (Ellery, 2014)	Poor	Oral healthcare professionals do not collectively discuss work-related issues with the multidisciplinary FHS team.
	Fair	Oral healthcare professionals collectively discuss work-related issues only with workers from the same area.
	Ideal	Oral healthcare professionals collectively discuss work-related issues with the multidisciplinary FHS team.
4. Creativity, initiative, motivation and innovation (Silva, Souza & Barreto, 2014)	Poor	Oral healthcare staff are demotivated, struggling to perform the tasks assigned to their function. Staff are not heard, and there is resistance to changes and new practices.
	Fair	Oral healthcare staff minimally meet their daily tasks. Staff are heard, but there is resistance to changes and new practices.
	Ideal	Oral healthcare staff conduct their work with motivation and creativity. They are proactive and feel able to propose and suggest innovative solutions to solve problems. Teamwork is based on the identification of individual characteristics, respect for the differences and limitations of staff, and opinions and suggestions are taken into consideration. There is team synergy, endeavoring to improve services and the health of the population.
5. Auxiliary Team: Oral Health Technicians (OHT) and Oral health Assistants (OHA) (Chaves et al., 2017; Brasil, 2018a)	Poor	The municipality has insufficient OHTs and OHAs. They do not work in harmony with other professionals, and there is no training to develop their activities.
	Fair	The municipality has sufficient OHTs and OHAs. However, they still do not exercise their functions properly, neither reach established targets.
	Ideal	The municipality has sufficient OHTs and OHAs. They perform their functions properly, and reach the targets agreed amongst staff.

6. University-Health Service integration (Albuquerque et al., 2008; Ferraz, 2012)	Poor	There are no initiatives for University-Health Service integration.
	Fair	There have been some attempts at University-Health Service integration.
	Ideal	University-Health Service integration occurs through internships supervised by professionals who compose the oral healthcare in the FHS team, in partnership with different existing programs and projects (eg., Pro-Health , PET-Health, Tele-Health Brazil, multidisciplinary Health Residency programs). These partnerships are institutionalized or part of a mandatory curricular activity both at under and postgraduate levels in Dentistry.

Source: Authors.

Individual participants attributed ≥ 8.0 out of 10 to both the Oral Health Management Qualification Course and the OHMDG (Table 1). These participants that concluded the course demonstrated to be eager to share this new vision with other members of their teams, contributing to cause a positive impact on their work.

Table 1. Overall evaluation of the Oral Health Management Training Course and the OHMDG by coordinators, healthcare managers and professionals.

	Mark attributed out of 10 (Mean $\pm$ SD)		
	Stage 2 (n= 301)	**Stage 3 (n= 164)**	**Stage 4 (n= 377)**
Oral Health Management Training Course	8.64 ± 1.45	8.62 ± 1.51	8.99 ± 1.2
OHMDG	8.53 ± 1.52	8.0 ± 1.65	8.48 ± 1.46

Source: Authors.

4. Discussion

Diagnosis of the local scenario can be considered as an important management tool and a strategic step to conduct appropriate planning for interventions on healthcare provision. According to Situational Strategic Planning (SSP), in the first and second moment of planning (explanatory and normative moment) are necessary to make the diagnosis and problem analysis to reach the ideal situation (Matus, 1993). The OHMDG of present study, developed by professionals from different government levels, allows the identification of local problems, with classification among three different scenarios and possibility to formulate the strategies until to reach the ideal scenario (Charts 1, 2 and 3).

The OHMDG was used in all four stages of the Oral Health Management Qualification Course, which had a significant impact on the view and attitude of the vast majority of participants, assisting in raising their awareness of their present needs and shortcomings, while at the same time they were given a target to aim for in their efforts to improve the service.

The positive results observed with the Course can be attributed to the way the OHMDG were developed. At no stage impositions of ideas and visions were made. Rather, participants felt they were part of the process through consensus building. The formative wave in which the OHMDG were used represents a new possibility in health education, based on the collective construction of knowledge, skill development, and communication among stakeholders. Ideally, this could be the starting point of permanent team building, in which all stakeholders will be empowered to provide their best to the service.

Planning is an important management instrument to support the development of public services. It can be used by the authorities to establish policies, produce and organize management processes and spread social practices (Mehry, 1994). The political/administrative decentralization and the universalization of health service access in Brazil have resulted in more responsibilities to managers at all levels, who have the fundamental role of planning and delivering services (Brasil, 2009b). Policy makers and managers must be aware of everything they can about local problems, i.e., they must get closer to the reality of each municipality, identify intervention priorities, and conduct policy analysis. It is important that managers can find solutions to the problems identified during discussions to increase confidence among healthcare team members. Permanent development programs are intended to increase the participation of team members in decision making and action planning (Cardoso, 2012; Lemos, 2016), with institutional support. The methodology adopted during the Course allowed collective

learning supported by the OHMDG through discussions among health professionals addressing the problems affecting the service under their responsibility and searching for solutions.

However, participation was heterogeneous, which resulted in participating municipalities sending their representatives at different stages of the course, compromising the even diffusion of ideas and concepts to all stakeholders within the Health Regions. Nonetheless, the Regional and Local Coordinators who participated in the Course can become vectors of the proposed ideas, generating a multiplying effect, which can result in a greater number of qualified managers and teams. Additionally, the institutional partnership established between the different levels of the public administration can also help in the diffusion of this innovative process.

The National Program for Improving Primary Care Access and Quality, which involves negotiation and agreement among the three levels of SUS management, was recently launched in an attempt to ensure national quality standards are followed, and allow greater transparency and effectiveness of government actions (Brasil, 2012). However, public investment in the health area has not grown at the same pace with changes of the demographic profile (Noronha et al., 2018). Thus, new responses to the growing healthcare demands are required both in terms of system organization and management innovation (Ferreira et al., 2014).

In Brazil, the public health system has evolved from an exclusionary to a universal model, with the legal responsibility to provide healthcare to all populations in the country regardless of their social-economic background (Tancredi, 1998). The promotion of health based on primary care is considered an important strategy to address health problems (Cardoso, 2012). Prior to the implementation of the "Smiling Brazil" program, in 2004, the country did not have an oral secondary care network, which is now in place in many regions of the country (Chaves et al., 2017; Brasil, 2018a). Nonetheless, due to the wide-ranging socio-economic diversity of the Brazilian population, the system today still faces enormous challenges to provide quality oral healthcare services, especially to those individuals with low income and limited access (Lemos, 2016).

Until this moment, no study on oral health management had been carried out using a broad local diagnosis toll. The OHMDG allowed the interaction, conceptual alignment and planning development among the managers and health teams that provide assistance to the population. This experience has already been recognized by the Brazilian Health Ministry/Pan American Health Organization in Laboratory Innovation focused on Ongoing Health Education (Brasil, 2018b) as a very innovative strategy of simple execution and low cost. Preliminary results have demonstrated that the OHMDG could in future be used by other States and municipalities around the country to improve local public healthcare service and management.

5. Conclusion

It is expected that the Oral Health Management Diagnosis Guidelines presented here, constructed by progressive consensus building with the involvement of a series of stakeholders, can be widely used to assist in situational diagnosis and provide the required support to find solutions to local problems. The OHMDG was well evaluated by health professionals for local diagnosis and construction of new strategies for improvement of oral health. At the same time, the OHMDG itself can be continually improved with contributions from all stakeholders, including the community served by the system.

Then, the OHMDG represents an important guiding tool for local problems recognition and planning development among the managers and health teams that provide assistance to the population. Its use can markedly contribute to oral health care improvement by dynamic cycles of diagnosis, planning, implementation and evaluation for progressive improvement of SUS.

The training process established by the Oral Health Management Qualification Course following a formative wave is an innovative concept in public policies with the potential to be spread to other States in Brazil, and even to other countries with universal health systems in accordance with the United Nations Sustainable Development Goals.

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Declaration of conflicting interests

The authors declare no conflicts of interest.

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