Perceptions and attitudes on interprofessional relations in dental care during prenatal care

Percepções e atitudes sobre relações interprofissionais na assistência odontológica durante o pré-natal

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ABSTRACT The study describes perceptions and attitudes of primary healthcare workers on interprofessional relations in dental care during the prenatal period. It is a descriptive observational study using administrative records and semi-structured interviews, which addressed issues of hierarchy, ability to prevent conflicts, and interprofessional collaboration. In conclusion, despite the general perception in favor of interprofessional collaboration, formal and organizational resources are not being employed, reflecting a gap between the potential perceived by the interviews and the practice supported by the instruments used in antenatal care.

KEYWORDS Prenatal care; Interprofessional relations; Dental care.

RESUMO O estudo descreve percepções e atitudes de profissionais da atenção primária sobre as relações interprofissionais na assistência odontológica durante o pré-natal. Trata-se de um estudo analítico, observacional transversal, utilizando registros administrativos e entrevistas semiestruturadas abordando questões sobre hierarquia, habilidade para evitar conflitos e colaboração interprofissional. Conclui-se que, apesar da percepção geral favorável à colaboração interprofissional, recursos formais e organizacionais não estão sendo empregados, refletindo um distanciamento entre o potencial percebido pelas entrevistas e a prática apoiada pelos instrumentos utilizados nas ações de atenção ao pré-natal.

PALAVRAS-CHAVE Cuidado pré-natal; Relações interprofissionais; Assistência odontológica.

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Introduction

Pregnancy is a special situation for the diagnosis of changes in the structures that support the teeth. On one hand, the immunocompetence changes during pregnancy can create an exaggerated inflammatory response of periodontal supporting structures. Immune mediators at high levels can reach the fetal-placental unit, resulting in prematurity and low birth weight. On the other hand, the periodontal condition prior to the pregnancy, due to the fluctuation in the level of circulating hormones, may influence the progression and severity of periodontal disease, a major cause of tooth loss (HUCK; TENENBAUM; DAVIDEAU, 2010).

Approximately 40% of pregnant women experience some sort of periodontal disease. Data from an important System of Monitoring of Risk Assessment in Pregnancy showed that fewer than half of pregnant women (44%) reported receiving guidance/care in oral health during pregnancy (LACHAT ET AL., 2011). Observations in Jordan and in the US have shown that doctors, besides not addressing oral health issues during prenatal visits, advise to postpone dental treatment until after delivery (MORGAN ET AL., 2009).

A Brazilian study reported that, despite the obstetricians being aware of the association between gingival inflammation and adverse effects during pregnancy, their attitudes were not accordingly to the knowledge informed on periodontal disease and its possible repercussions (ROCHA ET AL., 2011). Dentists and obstetricians diverge from the scientific literature and from each other in a number of recommendations related to dental care as, for example, the use of local anesthetics, prenatal fluoride supplementation, and radiographs of the mouth cavity (ZANATA; FERNANDES; NAVARRO, 2008). A study of about a thousand puerperal mothers in a Brazilian metropolitan area showed that only 12% of them received proper dental care during the prenatal care (SANTOS NETO ET AL., 2012).

Access to dental care during pregnancy is fraught with obstacles and involves, on the one hand, anxiety, fear and beliefs of pregnant women and, on the other hand, scientific ignorance and insecurity of professionals in planning and lack of preparation in the treatment of pregnant women. The overcoming of the distance and the pursuit of greater coordination of actions depend, among other things, on how primary health care is structured in each country and on the degree of interprofessional collaboration in the development of prenatal care activities.

Interprofessional collaboration concerns the nature of the interaction between professionals from different fields of knowledge, providing a more comprehensive health care (MATUDA ET AL., 2015). It involves open and direct communication, respect for different perspectives and the pursuit of a shared solution to the problems. Collaboration is one of the crucial aspects for a health care focused on the needs of individuals and families and has been the agenda in the discussion of health policies, in order to improve quality and access to services, in the perspective of a more continuous and comprehensive health care (D'AMOUR ET AL., 2008), being identified as a resource that can be mobilized to increase the effectiveness of health systems. As an innovative strategy, it can play an important role in addressing the care model and health workforce problems, contribute to strengthen the health system, and improve the achieved results (WHO, 2010). A literature review concluded that interprofessional collaboration improves patient care, especially those with complex and/or chronic conditions, but is still far from being an integrant part of the practice of primary care in work routines (MORGAN; PULLON; MCKINLAY, 2015).

The perception, that is, the subjective image that the human being has about certain aspects of reality and the attitude of professionals before opportunities to improve the quality of care and develop new areas of interprofessional relationships have been identified as key facilitators of interprofessional

collaboration in primary care (SUPPER ET AL., 2015). Furthermore, formal features to support collaboration, such as planning meetings and medical records/forms, can be set up to facilitate interaction (D'AMOUR ET AL., 2008). However, collaborative work faces difficulties related, inter alia, with the traditional business logic and the model of care focused on specialized procedures (MATUDA ET AL., 2015).

Although the production of scientific information on how certain perceptions and attitudes are distributed among workers before situations regarding interprofessional relations is essential for the planning of actions in the field of labor management in primary care aimed at a high level of collaboration, there are few studies exploring aspects related to the change in the perception and attitude of professionals in a health system with multiple units of primary care.

Considering the relevance of the theme for the quality of the health care of women during pregnancy, this study aimed to describe perceptions and attitudes of doctors, dentists, nurses and technicians in oral health on interprofessional relations in dental assistance during pre-natal care in health units of a Brazilian medium-sized municipality, collating with the use of formal resources and tools that facilitate interaction.

Method

This is a descriptive observational study of exploratory nature conducted as part of a larger study entitled 'Oral health in maternal and child care: a glimpse at interprofessional cooperation and the quality of care'. For the present study, we used administrative records relating to resources at the level of prenatal primary care and data obtained from semi-structured interviews. Administrative records were examined to allow the characterization of the resource structure that the municipality has to attend pregnant women, and included the outpatient records

of the Unified Health System (SUS) related to maternal and child actions, such as the percentage of registered pregnant women, gestational age and the age of the pregnant woman. They were also used to identify the units that held attention to prenatal care. The interviews were conducted to obtain data on the training of professionals, the organization of work, the production of care, and professional interaction. The study was approved by the Ethics Committee of the Public Health College of the University of São Paulo (number: 312.904). Its achievement was authorized by the Primary Health Care Coordination of the Municipality of Uberlândia. All participants signed an informed consent form.

Study population

The study population comprised four categories of health professionals (doctors, dentists, nurses and technicians in oral health) of 13 primary health care units of the city of Uberlândia that are part of the Family Health Strategy (ESF). Those units were selected assuming that the principles that guide the ESF represent an adequate space to increase the level of interprofessional collaboration.

Indicators used

To investigate the perception of the participants, we used three questions in which respondents had to define the degree of hierarchy of labor relations; the degree of skill to avoid conflict in the division of activities and responsibilities; and the degree of importance of collaborative activities (e.g., joint sessions, shared consultations, joint visits etc.). The definition of the degree was evaluated by the respondent within a 5-point scale, where 1 corresponds to the lowest degree and 5 to the highest, in order to indicate the option that best portrayed the work relationships between the health unit staff. To investigate the attitudes, two questions

were employed: one on whether the team members collaborated together to develop a joint action plan and the other on whether the various professional team requested support (advice, opinion etc.) among themselves, when necessary. On a scale of five points, like the previous one, the respondent had to define the option that best portrayed the attitudes of professionals in their work relationships within the health unit. Those issues were selected based on previous studies (SAN MARTÍN-RODRÍGUEZ; D'AMOUR; LEDUC, 2007).

Still regarding attitude, comparing the previous answers, respondents were asked how many times out of ten patients, on average, the professional requested or recoursed to other professionals from other areas to plan or perform the service.

Regarding the formal resources of interprofessional collaboration used in the organization of work for the production of care, four questions were applied: the first on the existence of planning meetings for the care of the population assisted; the second on whether the medical records of pregnant women was shared among health unit staff; the third whether the medical record of pregnant women contemplated questions about oral health; and the fourth if there was a specific record for oral health.

Data collection

The collection lasted 45 days and was conducted by means of semi-structured interviews in a private room in the work space itself to ensure privacy. An interviewer has been specially trained for this purpose. The training had a theoretical phase and a practical phase in a pilot plant. The form contained 56 questions and 20 items, totaling 76 responses. Of this total, 55 questions had closed answers and 21 questions had opened answers. It consisted of four blocks of questions: including general and professional data; data on the health unit; on the organization of work and production of care; and

on professional interaction.

The issues addressed age, gender and training of workers, functions performed in the unit, years of experience, working time and employment contracts, assistance modalities offered at the facility, growth and professional achievement, support in the workplace, action planning, groups of pregnant women, medical records and the working relationships among professionals. In this paper, we present and discuss the results for the indicators of perception and attitude of professionals and of work organization and production of care.

Data analysis

In the data analysis, two hypotheses were explored: one on the presence of differences relating to the professional category of the respondent, and the other about possible differences related to the health unit. The first is based on the assumption that the professional categories do not realize the interprofessional collaboration under the same perspective and tend to adopt attitudes that reproduce inequalities founded in decision-making patterns linked to the classical model of professional autonomy (SAN MARTÍN-RODRIGUEZ ET AL., 2005). The second was related to the notion that work groups or teams whose agents have wide autonomy in decision-making are traversed by aspects related to interpersonal relationships between team members, such as willingness to cooperate, mutual trust, respect and open communication, that undervalue possible differences linked to professional categories (SAN MARTÍN-RODRIGUEZ ET AL., 2005).

Due to the non-standard feature of distribution in each group, analysis of variance was used for three or more samples using Kruskal-Wallis test. The Kruskal-Wallis test is a useful test to decide whether independent samples come from different populations. The sample values almost invariably differ among themselves, and the problem is

to decide whether these differences between samples mean effective differences between populations or represent only random variations which can be expected from random samples from the same population. The test assumes that the variable under study has continuous distribution and requires measurement at least at the ordinal level. To check the differences in age, Fisher's exact test was applied, which tests differences between two independent groups, in relation to a variable which admits two alternatives in response.

A synthesis measure contained in scale of -100 to +100 (200 points) was obtained. The adoption of this type of scale is of greater interest in the event than in its manifestation categories. We accept the premise that the best strategy derives from the reduction of the measurement to the category of maximum expression of the event and of the calculating of standard average and error

to interpret a set of measures (PEREIRA, 2001). Given the exploratory nature of the study, differences between estimates were analyzed assuming the 10% level to reject the null hypothesis (p <0.10).

Results

Participants of the interview were the following health professionals who work in maternal and child care: dentist, technician in oral health, nurse and doctor, from the total of 13 family health care units visited, totaling 52 professionals, of which 43 (82, 7%) were women and 9 (17.3%) were men, 31 (59.6%) were up to 35 years old and 21 (40.4%) were 36 years old or more. For doctors and dentists, the younger age group was predominant, and for technicians in oral health the age group above 35 years of age was predominant (*table 1*).

Table 1. Distribution of respondents by professional category and age

Age			>35 years		
Professional Category	N	%	N	%	
Dentist	9	69,2	4	30,8	
Oral health technician	4	30,8	9	69,2	
Nurse	7	53,8	6	46,2	
Doctor	11	84,6	2	15,4	
Total	31	59,6	21	40,4	

Source: The authors.

Note: Value of p = 0.044 (Fisher's exact test).

Regarding the perception, the degree of hierarchy in labor relations had an average (A) equal to 3.77 and standard error (SE) equal to 0.12. The value 38.5 in the range of 200 points indicates the presence of hierarchy in relations, an unfavorable factor for interprofessional collaboration. The average values

for the degree of skill to avoid conflicts, (A = 3.94 and SE = 0.13) and the degree of importance of collaborative activities (A= 3.98 and EP = 0.12), and the values on the scale of 200 points, respectively 47.0 and 49.0, are indicative of a more favorable perception of interprofessional collaboration ($table\ 2$).

Table 2. Distribution of respondents according to the degree of perception of the hierarchy, ability to avoid conflict and importance of collaborative activities

									A	nswers		
Questions		1		2		3		4		5		Scale
_	n	%	n	%	n	%	n	%	n	%	m (ep)	-100 to +100
Degree of hierarchy in work relations	1	1,9	1	1,9	17	32,7	23	44,2	10	19,2	3,77 (0,12)	38,5
Degree of ability to avoid conflicts	1	1,9	1	1,9	16	30,7	17	32,7	17	32,7	3,94 (0,13)	47,0
Degree of importance of collaborative activities	0	0	1	1,9	15	28,8	20	38,4	16	30,7	3,98 (0,12)	49,0

Source: The authors.

Note: Answers (1, 2, 3, 4, 5): 5 point scale, where 1 corresponds to the lowest level and 5 to the higher level.

a= average value; se= standard error.

There was difference of perception by professional (Kruskal-Wallis p=0.064) in relation to the degree of hierarchy in labor relations, finding to doctors the lowest average (A= 3.31 and SE=0.23), and to dentists the highest (A=4.23 and SE=0.23). For the degree of skill to avoid conflicts, the highest average was found to dentists (A=4.23 and SE=0.25), and to doctors the lowest (A=3.69 and SE=0.20) with no statistically significant differences. To the degree of importance of collaborative activities, the highest average was for doctors (A= 4.38 and SE=0.18), and the lowest for dentists (A=3.69 and SE=0.28) with no statistically significant differences.

Regarding the differences of perception between the units, there was a difference both to the degree of skill to avoid conflicts (Kruskal-Wallis p=0.053) as to the degree of importance attributed to the collaborative activities (Kruskal-Wallis p=0.021). For the first item, the highest average value was 4.50 (SE=0.28), and the lowest 2.75 (SE=0.62), whereas for the second the highest average was 4.5 (SE=0.28), and the lowest 2.75 (SE=0.25).

As for the attitude, when asked if professionals work together to develop a joint action plan, the average (A) was equal to 4.22, and standard error (SE) equal to 0.12. The value 61.0 in the range of 200 points indicates that professionals have attitudes in favor of interprofessional collaboration. The average values for the question 'when necessary, do different professional team request professional support among them?' (A=4.77 and SE=0.11) and the values in the range of 200 points of 73.5 were indicative of a favorable attitude towards interprofessional collaboration (table 3).

Table 3. Distribution of respondents according to attitude regarding interprofessional collaboration

									Α	nswers		
Questions		1		2		3		4		5		Scale
_	n	%	n	%	n	%	n	%	n	%	m (ep)	-100 a +100
Do professionals collaborate among themselves to elaborate a joint action plan?	0	0	2	3,8	7	13,4	20	38,4	23	44,2	4,22 (0,12)	61,0
When necessary, do different team members solicit professional support among themselves?	0	0	2	3,8	3	5,7	16	30,7	31	59,6	4,47 (0,11)	73,5

Source: The authors.

Note: Answers (1, 2, 3, 4, 5): 5 point scale, where 1 corresponds to the lowest level and 5 to the higher level.

There was no difference by professional category in the reported attitude, but significant differences between the units were observed (p <0.10). In relation to the question 'do professionals work together to develop a joint action plan?', the highest average was 5.00 (SE = 0.01), and the lowest 3.00 (SE = 0.40). As to the question whether 'team members solicit professional support among themselves', the highest average was 5.00 (SE = 0.01), and the lowest was 3.5 (SE = 0.64).

When asked about the average frequency with which they request/resorts to other professionals from other areas, every 10 patients, the average value was 3.2 with no

significant difference by professional category, however there was difference per unit (Kruskal-Wallis p = 0.020), with the lowest average of 2.00 (SE = 0.01) and the highest equal to 4.50 (SE = 0.50).

Regarding the formal resources of interprofessional collaboration used in the organization of work for the production of care, 44 (84.62%) professionals said there are no planning meetings; 47 (90.38%) answered that the records are not shared; 39 (75.00%) indicated that the records do not include oral health issues, and 38 (73.08%) stated that there are specific records for the registration of dental care actions (*table 4*).

Table 4. Distribution of respondents according to issues related to formal resources of interprofessional collaboration

Answers		Yes		No	No answ		
Questions	n	%	n	%	n	%	
Are there planning meetings?	7	13,46	44	84,62	1	1,92	
Is the medical record of pregnant women care shared among health unit staff?	3	5,77	47	90,38	2	3,85	
Does the medical record of pregnant women care contemplate issues regarding oral health?	12	23,08	39	75,00	1	1,92	
Is there a specific medical record for oral health?	38	73,08	9	17,31	5	9,61	

Source: The authors

a= average value; se= standard error.

Discussion

The perceptions and attitudes of doctors, dentists, nurses and technicians in oral health on interprofessional relations in dental assistance during prenatal care in a medium-sized Brazilian municipality were described in this study in order to identify their meaning in relation to interprofessional collaboration and to explore whether the pattern of responses was different according to professional category and the primary care unit.

In general, it was observed that the perception of professionals is overall favorable to interprofessional collaboration both in the degree of skill to avoid conflict in the division of activities and responsibilities as in the degree of the importance of cooperation activities, though the hierarchical relations and asymmetries perceived differently by certain professional categories may represent a subjective barrier to the implementation of protocols that would require a greater degree of collaborative work.

The study that investigated the perceptions on communication and collaboration showed that nurses and doctors do not share the same opinions and that the most important barrier to the establishment of good relations between these professions was that doctors did not recognize the professional role of nurses. The study also indicated that the absence of interprofessional collaboration can result in a greater chance of errors and omissions in the care of patients and that both nurses and physicians should recognize the importance of effective communication and shared work (MATZIOU ET AL., 2014).

In this study, we observed significant differences in the perception of the professionals concerning the degree of hierarchy in labor relations. Interprofessional collaboration in health teams can be attributed to several factors, including the work processes in interpersonal relationships

within the team (interactional determinants), the conditions within the organization (organizational determinants) and the organization's environment (systemic determinants). Among the systemic determinants, we highlight the professional and educational systems (SAN MARTÍN-RODRIGUEZ ET AL., 2005). The professional system based on rigid boundaries between health professional categories could mean a major barrier to the development of collaborative practice. The dynamics of professionalization tends to produce a professional differentiation strengthening territorial and disciplinary behaviors within the team, a prospect that is in direct opposition to the collaboration logic.

On the other hand, the development of a collaborative practice depends on the mutual recognition of professional interdependence, as well as the acceptance of interdisciplinary areas and 'gray areas' of multidisciplinary action, in which their contributions can be shared bringing benefits to both the patient and the organization (NANCARROW; BORTHWICK, 2005).

When the results were analyzed per unit of primary care, we noted significant differences related to both the degree of skill to avoid conflict in the division of activities/responsibilities as to the degree of importance of collaborative activities, showing that certain teams of primary care share different perceptions that are probably linked to the internal dynamics of the team in which intragroup factors are more important than any differences associated with the model of autonomy or the tradition of each professional category.

Regarding attitudes, the differences between the primary care units stood out more than the differences between the professional categories, showing that the characteristics of how the interaction is between team members can overcome difficulties arising from the isolated and distinct way in which each professional category is formed. Van Schaik *et al.* (2014), in a study on perceptions of multidisciplinary health teams, show that the perceptions of each member contribute to effective teamwork and reveal some potential barriers to effective work in interprofessional team, such as tensions regarding hierarchy, security, and leadership.

According to Vygotsky (1998), the development of perception fundamentally as it apprehends the meanings, senses, ultimately, the knowledge stored in the language. The perception, that is, the subjective image that man has of reality, is defined in and through social practice, because in addition to their individual activities with the objects, men relate, communicate and, in this interactive activity, appropriate from the knowledge of how to understand and interpret their culture and the environment in which they live. According to the experience of each individual and the larger, more articulate and more reasoned knowledge is, the more enhanced the perception tends to be.

In collating the findings on the perceptions and attitudes of professionals working in prenatal care with formal resources of interprofessional collaboration employed in the organization of work for the production of care, it was observed that most professionals do not betake tools such as planning meetings and unified medical record under the guidance of a shared care protocol.

Studies have shown that those features, combined with other tools, such as discussion of cases in a regular and formal manner and management activities of support through supervision, monitoring and/or permanent education are essential to raise the level of interprofessional collaboration in health services (SAN MARTÍN-RODRIGUEZ ET AL., 2005). Managers of health services need to understand how to act to support clinicians to work interdisciplinarily, developing leadership skills for collaborative interprofessional practice

(PROCTER ET AL., 2015).

In fact, studies have shown that professional interaction problems in primary care may adversely affect the results of the care provided to patients. Among the factors that can prevent effective collaboration among professionals, we highlight aspects related professionals (lack of knowledge and confidence in the skills and experience of other professionals, and lack of understanding of the roles of other professionals), as well as external factors, such as a professional culture, time constraints and problems of getting in contact with other professionals (FEWSTER-THUENTE; VELSOR-FRIEDRICH, 2008). In a survey about health care resoluteness in primary care, Costa et al. (2014) pointed out that professionals relate resoluteness with the action carried out by a multidisciplinary team, producing bond and autonomy in the work process, showing that a multidisciplinary team connects different knowledge, establishes bonds based on knowledge of the other's work, and that promotes understanding between professionals and the enhancement of their participation in the production of care, making the work more resolute.

When services are very limited in range or depth, and do not explore interdisciplinarity, preventable diseases may not be prevented, diseases may evolve for longer than justified, the quality of life may be put at risk. Therefore, engaging the health teams in an interprofessional collaborative work within the health services can improve the quality of prenatal care. A simple action of directing pregnant women to prevent and control periodontal disease can reduce the gingival inflammation levels, improve oral health and systemic health, elevating the quality of prenatal care to an important condition to reduce adverse pregnancy outcomes, as, for example, prematurity and low birth weight.

Among the limitations of the study, we highlight the difference in the age

composition of the professional categories under study. Another limitation concerns the number of respondents that do not let us to extract more robust estimates and to deepen the conclusions beyond an exploratory study. On the other hand, this study is one of the first works in the oral health field investigating interprofessional collaboration, looking at the relationships and interactions between professionals of prenatal care. Without considering nursing, collaboration between health professionals groups remains relatively unexplored in literature (SUPPER ET AL., 2014).

Conclusion

Considering the results found, it can be concluded that despite the general perception of the professionals having been in favor of interprofessional collaboration, formal resources and tools such as planning meetings and unified records under the guidance of a shared care protocol are not being used to enhance interprofessional relations, reflecting a clear gap between the perceived potential captured by the interviews and the practice supported by the instruments used for the actions of prenatal care.

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Received for publication in: October, 2015 Final version: February, 2016 Conflict of interests: non-existent Financial support: Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), process: 476505/2012-7. The last author is a CNPq's researcher (304251/2012-7)