The multidisciplinary work of the resident in neonatal hospital dentistry in the Brazilian Healthcare System: an experience report

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ABSTRACT
The restructuring of the national healthcare system in line with the HumanizaSUS program has enabled a multidisciplinary care of the individual. Consistent with this, the incorporation of dental professionals into healthcare teams aims to aggregate efforts to provide a comprehensive care, which includes the conditions affecting the stomatognathic system of hospitalized patients. The residency in neonatal hospital dentistry, as an integral part of the multidisciplinary approach, is extremely important to ensure a comprehensive care of pregnant and puerperal women and newborns. The activities of neonatal dental residents are focused on dental prenatal care, early and late puerperium, outpatient clinical care, and neonatal and pediatric intensive care units. This study aims to report the experience of residents in neonatal hospital dentistry in a school hospital of the Brazilian Healthcare System (SUS) in the state of Paraná.


1 INTRODUCTION
Healthcare services and governmental policies have required professionals to focus on the humanization of assistance and integrality of the human being. With regard to dental education, the National Curricular Guidelines (NCG) emphasize the need for a training framework based on these requirements¹. Hospital dentistry frequently
undertakes a comprehensive role towards the assisted subject, in that preventive or curative actions aim at the care of oral conditions relating to general health through low, medium or high complexity procedures.\textsuperscript{1,2}

Considering that no single professional category has the knowledge required to meet all the needs of an individual, multiprofessional teamwork may ensure the holistic approach that must be provided to the hospitalized patient.\textsuperscript{3} Accordingly, the insertion of dentists into the hospital staff has contributed to the improvement of the individual's quality of life; to a reduction in the time of hospitalization and use of medications and, as a consequence, to a reduction in the overall cost of treatment.\textsuperscript{3,4} Dental care at the hospital level involves the establishment of protocols for oral hygiene, diagnosis of oral disorders, emergencies, and the control and prevention of bacteremia and microbiota alterations. In this setting, dental practice usually takes place in outpatient and inpatient clinics, surgical centers, emergency rooms, and intensive care units.\textsuperscript{3,4}

The restructuring of the healthcare services in line with the Humaniza\textsuperscript{5}SUS program has enabled a multiprofessional intervention to approach the difficulties encountered in the provision of health care.\textsuperscript{5} This reorganization places humanization as the guiding path, which is expected to consolidate participative management and facilitate users' access and continuing education of professionals.\textsuperscript{5} From the perspective of a multiprofessional residency, neonatal hospital dentistry is expected to assist in the biopsychosocial and integral maternal-child care, thereby improving the quality of life of the binomial mother-child.

While the dentist’s involvement in multiprofessional teams of maternal-child hospital care is a recent experience, with few reports in the literature describing their work strategies, some institutions have implemented this since a long time. One of these experiences is found in the S\textsuperscript{5}ão Francisco de Assis Hospital, located in the city of Tup\textsuperscript{5}ã, SP, Brazil, where neonatal hospital dentistry service has been developed since 1997.\textsuperscript{6} It is worth mentioning that health actions directed at pregnant women and newborns are an important preventive short-term and long-term oral health strategy for the family unit.\textsuperscript{7}

Neonatology, a specialty dedicated to the care of the newborn, pregnant and puerperal woman, mainly focuses on the reduction of perinatal morbidity and mortality as well as survival of the newborn under the best possible functional conditions.\textsuperscript{8} The concern with perinatal health has been addressed in the strategies of the Ministry of Health in Brazil,\textsuperscript{4} since the neonatal component is one of the major challenges in reducing childhood mortality. Brazil has made commitments and adopted internal and external strategies to improve the quality of health care during the pregnancy-puerperal period.\textsuperscript{9} The strategies aimed at improving the quality of neonatal care include all actions focused on humanizing birth, improving the technical assistance provided to this population and addressing the integrity of the human being.

In addition to providing the basis for professional training in accordance with the Brazilian Healthcare System (SUS), the multiprofessional residency in neonatology aims to encourage critical thinking within professional, social and political spaces, to collectively create solutions to the problems that affect healthcare users. This study reports the experience of residents in neonatal hospital dentistry in a school hospital in the state of Paraná, Brazil.
2 EXPERIENCE REPORT

Workplaces of the resident in neonatal hospital dentistry

Within a hospital complex, the resident in neonatal hospital dentistry can perform in several practice scenarios, such as:

1. Prenatal care - education of high-risk pregnant women about the importance of prenatal dentistry in the prevention of oral and systemic disorders, benefits of exclusive breastfeeding, changes in eating habits, oral hygiene instructions, as well as dental treatment.

2. Immediate (early) puerperium - maternal follow-up to help the skin-to-skin contact (creating an affective bond between mother and infant) and to stimulate breastfeeding immediately after birth, emphasizing the importance of exclusive breastfeeding.

3. Late puerperium - screening for the diagnosis of oral alterations, neonatal tongue screening test, lingual frenotomy, and management of the correct position for breastfeeding, aiming at preventing breast fissures and early weaning.

4. Dental ambulatory care (outpatient clinics) - dental evaluations and follow-up of the infant up to the age of two years, mainly focused on oral health promotion.

5. Neonatal Intensive Care Unit (neoICU) and Pediatric Intensive Care Unit (pedICU) - oral hygiene bundle protocols to reduce the rates of ventilator-associated pneumonia (VAP), diagnosis of stomatognathic system disorders and assistance with breastfeeding.

In all fields of practice, the resident makes it possible to create Standard Operating Procedures (SOPs) and guidance materials, as well as to train and supervise the multiprofessional team regarding the oral hygiene of the newborns.

Prenatal care

Oral health promotion is a fundamental part of maternal and child health care. The practice of the resident in neonatal hospital dentistry in the prenatal period seeks, above all, maternal awareness on the importance of dental follow-up during the pregnancy-puerperal period, aiming at health promotion and creation of a bond between dentists and pregnant women. Moreover, the importance of oral health care and its relation to the health and development of the newborn should be pointed out during the prenatal period. Pregnant women should be aware that although scientific evidence does not clearly indicate a relationship between periodontal disease and preterm/low birth weight, the knowledge and prevention of problems may lead to a reduction in bacteria that are mediators of inflammation. It should be noted that prenatal dental care is a key moment for the development of oral health, through preventive and/or curative approaches, thus minimizing undesirable effects during fetal development and birth.

While providing prenatal care, residents are assisted by undergraduate dental students participating of a university extension project. Together, residents and students developed an approach protocol, an anamnesis form, and educational materials. The topics covered during prenatal care are related to demystification of beliefs and myths about pregnancy and dental treatment; relationship of lifestyle and habits with the fetal health and development; awareness of oral problems; information on the effects of drug, cigarette and alcohol use; the importance of oral hygiene and biofilm control, especially during pregnancy due to hormonal changes that may favor the development of periodontal diseases; and the importance of healthy eating habits and
exclusive breastfeeding\textsuperscript{13}. Thereby, the neonatal resident contributes to the community awareness regarding the need for prenatal dental care, which is advocated in the National Oral Health Policies\textsuperscript{14}.

\textit{Immediate (early) puerperal care}

The humanization of childbirth implies that professionals should be considerate to the physiological aspects involved, do not intervene unnecessarily, acknowledge the social and cultural aspects of the childbirth, as well as provide the necessary emotional support to the mother and her family\textsuperscript{15,16}. Likewise, the presence of dentists in the immediate pre- and postpartum moments is essential for the formation of the professional-patient bond, since soon after birth, the professional can assist in the identification of oral reflexes and, consequently, in breastfeeding.

Breastfeeding immediately after birth has been recommended by the World Health Organization (WHO). This strategy is considered a priority for the promotion, protection, and support of breastfeeding, as well as it mediates the newborn-mother interaction in the first minutes of life. This initial contact is fundamental for the establishment of a bond between the binominal mother-child, in addition to increasing the duration of breastfeeding\textsuperscript{17}. Hence, newborns are immediately placed in contact with the mother’s breast to promote breastfeeding. Skin-to-skin contact is encouraged as it results in numerous benefits for maternal and child health, such as stabilizing glucose levels and regulating the infant's body temperature.

\textit{Late puerperal care}

In the late puerperal period, intraoral and extraoral examinations of the neonates is performed to diagnose mainly oral conditions and check for the attachment of the lingual frenulum, which may influence the effectiveness of breastfeeding. The tongue screening test has become a mandatory procedure in all public and private hospitals and maternities, which aims at the early identification of ankyloglossia\textsuperscript{18}. It is a congenital anomaly characterized by the presence of a short lingual frenulum, which may restrict, to varying degrees, the lingual movements. Variations in the lingual frenulum attachment may lead to speech, dentition, and swallowing disorders, as well as to difficulty in sucking and psychological problems between the mother and the neonate during breastfeeding\textsuperscript{19,20}.

The tongue screening test is performed before hospital discharge of the newborn by means of a flow chart established by the team, which is based on the protocol of the Bristol Tongue Assessment Tool (BTAT), according to Technical Note Nº. 09/2016\textsuperscript{21}. In severe cases, the surgical treatment of ankyloglossia (frenotomy) is performed before hospital discharge and the newborn is scheduled for follow-up at the Hospital’s Maternal and Child Health Outpatient Clinic. Frenotomy is considered a safe, practical and effective surgical approach to treat ankyloglossia in infants. The procedure consists of local topical anesthesia with a horizontal incision of the lingual frenulum to allow lingual mobility\textsuperscript{19,20}. In mild and moderate cases, the follow-up appointment is scheduled for the 10th day of life of the newborn.

In the maternity ward, the resident also assists in the management of guidelines and the correct position for breastfeeding, especially in cases of premature neonates. The residents developed illustrative materials for maternal instruction on the importance of exclusive breastfeeding in the development of the infant’s stomatognathic system and on the harms of
non-nutritive sucking.

Dental ambulatory care

The Hospital’s Maternal and Child Health Outpatient Clinic, as part of the Multiprofessional Residency in Neonatology, directs its actions on primary oral care, with extended care and follow-up of infants up to 24 months of age. The main objective of the follow-up is the promotion of oral health during early childhood by reinforcing educational and preventive aspects. As infants return for follow up, parents and caregivers are re instructed, since family awareness is fundamental for eliminating inappropriate habits and preventing future problems. The follow-up has proved to be satisfactory, because it results from a natural desire of the parents to offer the best care for their children. It is worth emphasizing that the subjects' education is one of the main components of the preventive philosophy. It can be affirmed that prevention is primarily education-based, which has the potential to guide individuals to adopt healthy practices and take on responsibility to maintain the oral health condition of their family.

In the outpatient clinic, the first follow up is on the 10th day after birth, in which the neonates scheduled for return (presence of ankyloglossia or difficulty in breastfeeding until hospital discharge) are reevaluated. At this time, the neonates are reexamined by means of the BTAT. In addition to oral examination, the importance of exclusive breastfeeding, assistance in the correct position for breastfeeding and clarification of the doubts of the puerperal women, are reinforced. The newborns who received frenotomy are rescheduled for follow-up after seven days. In all follow-up cases, residents perform the examination of the oral cavity looking for abnormalities in the teeth, gingiva, and facial functions such as suction, breathing and swallowing.

At three months of age, the mother participates in a lecture on the project Maternal and Child Health, in which she receives reinforcement on breastfeeding and oral hygiene of the infant, dental irruption, non-nutritive sucking habits, unnecessary introduction of sugar, healthy nutritional habits, and caries disease. At six months, dental care targets the prevention of dental caries. The follow-ups are carried out at 6, 12, 18 and 24 months of age and have the purpose of reinforcing the understanding that preventive interventions bring unquestionable benefits to the quality of life of the individuals.

Dental Care in Neonatal and Pediatric Intensive Care Units (neoICU and pedICU)

The dental practice in neo/pedICUs contemplates the need for care of the individual whose clinical condition requires continuous observation and assistance due to instability. During the hospitalization in the neo/pedICUs, it is common to observe the occurrence of alterations in the stomatognathic system related to the manifestation of systemic diseases or the general health status of the subject, use of medications, or the presence of medical devices such as the artificial respirator tube. These issues justify the importance of dentists in the neonatal multiprofessional team for the benefit of critically ill patients.

The newborns in neoICUs present a high risk of colonization by pathogenic microorganisms. Among the risk factors related to nosocomial bacteremia in newborns are immune system immaturity, low weight, frequent need for invasive procedures and mechanical ventilation, as well as factors associated with the environment and health.
professionals. One of the main infections in ICUs is ventilator-associated pneumonia (PAV). This alteration consists of an infection by microorganisms that are disseminated to the pulmonary parenchyma after 48 hours or more of orotracheal intubation in an ICU, causing local and systemic alterations.

To reduce PAV rates, a protocol for oral hygiene care of neonates under mechanical ventilation was instituted herein, once these protocols tend to reduce the number of infections caused by microorganisms and improve survival rates of individuals. The protocol proposed by Weber (2016) was followed, in which the oral cavity is cleaned with sterile gauze soaked in distilled water, followed by orotracheal aspiration. This technique has been shown to be effective in reducing the propagation of microorganisms to the lower respiratory tract. It is worth noting that mechanical ventilation affects the salivary flow, usually drying mucous membranes and thus contributing to mucositis, colonization of gram-negative bacteria, and labial fissures, which are entry ports for microorganisms. The protocol for such cases includes the hydration of dried mucous membranes with fatty acids-containing oils. As for children in pedICUs under spontaneous ventilation and oral feeding, sterile gauze or swab embedded in non-alcoholic solution of chlorhexidine gluconate 0.12%, is used. The friction is performed smoothly on the mucosa and tongue and can be supplemented by a dental brush to remove food debris adhered to the dental surfaces.

The work of the resident in neo/pedICUs is multiprofessional, with emphasis on interprofessional relationships, diagnosis of oral conditions, and establishment of oral hygiene protocols. Therefore, it is important to point out that oral hygiene alone does not lead to a reduction in PAV rates in the ICU, requiring a bundle of activities developed together by the team to result in significant improvements. The incorporation of bundle procedures, consisting of professional’s hand hygiene, patient’s oral hygiene, orotracheal aspiration, positioning and hydration of mucous membranes, aims at reducing the propagation of bacteria to the lower respiratory tract so that to prevent possible bacteremias.

The experience

The work of the neonatal multiprofessional team of the Campos Gerais Regional University Hospital (HURCG), composed of professionals of Nursing, Dentistry, Physical therapy, Pharmacy, Clinical Analysis, Social Assistance, Medicine, Nutrition, Speech and Hearing Therapy, and Psychology, offers a differentiated experience from the routine dental practice. The training of dentists is conventionally focused on a biological, technicist, curative, and individualistic approach for ambulatory care, which creates a barrier for the work of dental professionals in a hospital environment with a multiprofessional team.

The activities of the neonatal dentistry residency include the prenatal follow-up of high-risk pregnant women, activities in neo/pedICUs, surgical and/or delivery room, joint units (puerperium and Kangaroo unit), neonatal intermediate care unit and postpartum outpatient clinic. The work in these workplaces requires basic and complex skills that are often not addressed during dental school, including the management of pregnant women, newborns and puerperal women. Thus, the residency in this area requires constant scientific and clinical understanding of the dentists, who constantly provide oral care to this group that
is often pointed out in literature as being resistant to such a practice\textsuperscript{30}.

Likewise, dental training in general does not address the management of interdisciplinarity in the care of the individual. Of note, multiprofessional care is not synonymous with interdisciplinary care. In the first, there is a joint action of disciplines in isolation, while the second refers to the exchange of knowledge and experiences among professionals\textsuperscript{31}. Therefore, the activities reported herein have been an enriching experience, since they have allowed the deconstruction of the idea of isolated care by each specialty. In addition to emphasizing the interlocution among several work areas, such an approach contributes to interprofessional relationships and ultimately favors the construction of a collective knowledge from each professional category into one case.

Thus, the residents have pointed out that learning for interprofessional management is the result of the multiprofessional residency, once the mistaken view of isolated care of each category is suppressed by a valuable experience. The interprofessional relationships in the HURCG neonatal residency can be seen daily as an effort to correlate the disciplines and professionals involved. The residency provides not only an isolated view of a clinical situation by different specialties, but also an opportunity of a unique approach centered on an integrated proposition, in which the resolution of the clinical situation is the common goal of the whole team. One example is the follow-up of high-risk pregnant women, in which the multiprofessional team acts in a way to guarantee the compliance of pregnant women to dental prenatal care, given that oral health care is addressed to them during the gestational period. Thus, the understanding of the multiprofessional team is fundamental for the development of an interdisciplinary practice.

In addition, it has been noted that there is some resistance regarding the practice of dentists in this scenario from professionals who underwent training particularly structured for the hospital setting. Therefore, besides the specialized oral health care provided to the newborns, the residency in neonatal hospital dentistry has also allowed a steady education of the multiprofessional team through the practical/theoretical demonstration of the importance of in-hospital dental practice. As such, a good relationship of the team supporting comprehensive care of the mother and neonate is crucial for the improvement of assisted individuals\textsuperscript{32}.

3 FINAL CONSIDERATIONS

Oral health care is crucially important for hospitalized individuals. Thus, dental professionals need to understand the aspects of dentistry focused on a humanized and comprehensive care. The work of the resident in neonatal dentistry in collaboration with the multiprofessional team aims to improve the quality of care provided to the mother-child binomial, consequently with positive effects on the family’s quality of life. The residency in neonatal hospital dentistry offers to the dentist a differentiated experience of dental care, emphasizing interprofessional relationships. Furthermore, it allows the interlocution and reinforcement of information centered on an integrated proposition of the different professional categories, thereby providing comprehensive and humanized care to pregnant women, puerperal women and neonates in all three health care complexity levels.

RESUMO

A atuação do residente em Odontologia Hospitalar neonatal na abordagem multidisciplinar do SUS: relato de experiência
A reorganização dos serviços de saúde vinculada ao programa Humaniza SUS possibilita o cuidado multiprofissional do indivíduo. Neste sentido, a inclusão do cirurgião-dentista nas equipes visa somar esforços para o alcance da integralidade da atenção, a qual abrange as diversas alterações que podem acometer o sistema estomatognático de sujeitos em cuidados hospitalares. A residência em odontologia hospitalar neonatal, como parte integradora da abordagem multiprofissional, é extremamente importante para garantir a abordagem adequada de gestantes, puérperas e recém-nascidos (RN) em sua plenitude. As frentes de atuação do residente em odontologia neonatal envolvem, principalmente, o pré-natal odontológico, o puerpério imediato e mediato, a abordagem ambulatorial e as unidades de terapia intensiva neonatal e pediátrica. Este artigo objetiva relatar a experiência de atuação de residentes em odontologia hospitalar neonatal em um hospital escola pertencente ao Sistema Único de Saúde (SUS) do Paraná.


REFERENCES


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