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ALVEOLAR BONE GRAFT: DIAGNOSES, INTERVENTIONS AND RESULTS ACCORDING TO NURSING CLASSIFICATIONS

ENXERTO ÓSSEO ALVEOLAR: DIAGNÓSTICOS, INTERVENÇÕES E RESULTADOS SEGUNDO AS CLASSIFICAÇÕES DE ENFERMAGEM

INJERTO ÓSEO ALVEOLAR: DIAGNÓSTICO, INTERVENCIONES Y RESULTADOS SEGÚN LA CLASIFICACIÓN DE ENFERMERÍA

Marli Luiz Beluci¹, Suely Prieto de Barros², Cassiana Mendes Bertoncello Fontes³, Katia Flores Genaro⁴

ABSTRACT

Objective: to identify the most frequent nursing diagnoses, the risk factors, defining characteristics, related factors, nursing interventions and results, according to the classifications of nursing in patients who underwent surgery of alveolar bone graft. **Method:** a descriptive study with 150 patients of both genders, mean age of 13,9 years old, assessed by the nurse through daily interview and physical examination in postoperative alveolar bone graft, with the approval of the research project by the Research Ethics Committee, CAAE 0097.0.289.000-08. **Results:** four risk diagnoses, seven interventions and nine results; five real diagnoses, seven interventions and five nursing results were identified. **Conclusion:** the nursing care needs in postoperative alveolar bone graft, described by the diagnoses, determined the proposition of interventions and results. **Descriptors:** Nursing Diagnosis; Classification; Cleft Lip; Surgery Oral.

RESUMO

Objetivo: identificar os diagnósticos de enfermagem mais frequentes, fatores de risco, características definidoras, fatores relacionados, intervenções e resultados de enfermagem, de acordo com as classificações de enfermagem em pacientes submetidos à cirurgia de enxerto ósseo alveolar. **Método:** estudo descritivo com 150 pacientes, de ambos os sexos, média de idade de 13,9 anos, avaliados pelo enfermeiro com entrevista e exame físico diário no pós-operatório de enxerto ósseo alveolar, com aprovação do projeto de pesquisa no Comitê de Ética em Pesquisa, CAAE 0097.0.289.000-08. **Resultados:** foram identificados quatro diagnósticos de risco, sete intervenções e nove resultados; cinco diagnósticos reais, sete intervenções e cinco resultados de enfermagem. **Conclusão:** as necessidades de cuidados de enfermagem em pós-operatório de enxerto ósseo alveolar, descritas pelos diagnósticos, determinaram a proposição de intervenções e resultados. **Descritores:** Diagnóstico de Enfermagem; Classificação; Fenda Labial; Cirurgia Bucal.

RESUMEN

Objetivo: identificar los diagnósticos de enfermería más frecuentes, factores de riesgo, las características definidoras, factores relacionados, las intervenciones y los resultados de enfermería, de acuerdo con las clasificaciones de la enfermería en los pacientes sometidos a cirugía de injerto de hueso alveolar. **Método:** un estudio descriptivo con 150 pacientes de ambos los sexos, con una edad media 13,9 años, evaluados por el enfermero con entrevista y el examen físico al día en el postoperatorio de injerto óseo alveolar, con la aprobación del proyecto de investigación por el Comité de Ética en Investigación, CAAE 0097.0.289.000-08. **Resultados:** se identificaron cuatro diagnósticos de riesgo, siete intervenciones y nueve resultados; cinco diagnósticos reales, siete intervenciones y cinco resultados de enfermería. **Conclusión:** las necesidades de cuidados de enfermería en el post-operatorio de injerto de hueso alveolar, descritas por los diagnósticos, determinaron la proposición de las intervenciones y los resultados. **Descriptores:** Diagnóstico de Enfermería; Clasificación; Labio Leporino; Cirugía Bucal.

¹Nurse, Doctorate in Rehabilitation Sciences, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo / USP. Bauru (SP), Brazil. Email: mlbeluci@ig.com.br; ²Nutritionist, Doctorate in Pediatrics, Clinical Nutrition Service, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo / USP. Bauru (SP), Brazil. Email: suelyprieto@yahoo.com.br; ³Nurse, Doctorate in Adult Health Nursing, Department of Nursing, Faculty of Medicine of Botucatu, Paulista State University "Julio de Mesquita Filho". Botucatu (SP), Brazil. Email: cmbf@fmb.unesp.br; ⁴Speech Therapist, Doctorate in Sciences, Department of Speech Pathology, Faculty of Dentistry of Bauru, University of São Paulo / Postgraduate Program in Rehabilitation Sciences, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo / USP. Bauru (SP), Brazil. Email: genaro@usp.br

INTRODUCTION

Considered among the most common craniofacial malformations, cleft lip and palate, besides the anatomical impairment, involve aesthetic and functional implications, which require complex treatment and rehabilitation carried out by a multidisciplinary team.¹ In surgical rehabilitation, alveolar bone graft is indicated for filling the alveolar bone discontinuity with autogenous cancellous bone from the iliac crest, in cases which the cleft involves the alveolar ridge.²

Due to the graft, agents of comorbidities are present postoperatively and among the main, are: surgical trauma and graft removal of a second surgical site; edema (intra and extraoral and facial); as well as painful swallowing, chewing restriction and changes in diet consistency, on average 40-60 days,³⁻⁵ can lead to insufficient intake of nutrients.

In the institution where the study was conducted, the nurse integrates a multidisciplinary team and employs the Nursing Process (NP) as the planning of individualized and humanized care tool to the patient.⁶ The NP comprises the steps: data collection, diagnosis, planning, implementation, and evaluation of nursing,⁶⁻⁷ methodologically that underlies the NP⁶. According to NANDA-I,⁷ nursing diagnoses can be: of risk, real, health promotion, wellness and syndrome. In the current study we describe the nursing risk diagnoses and actual risk.

The use of Nursing Classifications, North American Nursing Diagnosis Association - International (NANDA-I);⁷ Nursing Interventions Classifications (NIC);⁸ and Nursing Outcomes Classification (NOC),⁹ are common, especially in hospitals and also inserted in teaching and research. Periodic and systematic reviews of the results are indispensable procedures in programs of guidance, training and monitoring of staff that provide support in the programs care process of patients with cleft lip and palate.¹⁰ Thus, knowing the demand and the characteristics of specific populations helps to direct the planning of patient care.¹¹

It is essential to develop and promote studies those describe nursing diagnoses, interventions proposals and the results derived from this practice. The aim of this study is:

- To identify the most frequent nursing diagnoses, risk factors, defining characteristics, related factors, interventions and nursing results, according to classifications of nursing in patients undergoing surgery for alveolar bone graft.

METHOD

This is a descriptive study, performed from February to July 2009, in the inpatient unit of a public hospital with 150 patients who underwent surgery for alveolar bone graft, of both genders, mean age 13,9 years old, 95 (63,3%) males, that remained hospitalized for four days, on average.

The daily postoperative assessment was performed by nurses and consisted of interview and physical examination, with accompanying caregiver / guardian of the patient. The records of nursing care plan in the medical record were also considered.

The data collection instrument was composed of two parts. Part I was prepared from a reference 12 and included the following: patient identification, data on treatment (surgeries, chronic disease and family history, use of medications), eating habits and body care (eating, sleeping, resting, presence of food allergies and intolerances, physiological deletions), psychosocial factors (adhesion to diet, social interaction) and physical exam realized by the nurse (vital signs, level of consciousness and movement) and observations.

Part II consisted of a field for citation of risk diagnoses and their risk factors, as well as the actual diagnoses with their defining characteristics and related factors following the NANDA-I,⁷ besides the proposition of appropriate interventions according to the NIC⁸ and results according to NOC.⁹ For analysis we considered the diagnoses equal or above 25% of frequency.

The research project was approved by the Ethics Committee on Human Research of the institution, CAAE 0097.0.289.000-08 and data collection began after the agreement and signing the Informed Consent by the caregiver / guardian of the patient. The study was conducted with financial support from the Coordination of Improvement of Higher Education Personnel (CAPES).

RESULTS

Table 1 shows the frequencies of nursing diagnoses of risk, their risk factors and it is noted that the Risk of Infection, Risk and Aspiration and Risk of Constipation diagnoses were identified in all patients.

Table 1. Frequency of nursing diagnoses of risk and their respective risk factors according to NANDA-I ⁷ Bauru, SP, 2009.

Diagnosis of Risk	Risk Factors	% (n)
Risk of Infection	Invasive procedures (surgery, venous device)	100%(150)
Aspiration Risk	Oral Surgery	100%(150)
	Impaired swallowing (oral surgery)	
	Oral Trauma (oral surgery)	
Risk of Constipation	Physiological: change in habitual patterns of food (soup, water, supplement, juice)	100%(150)
	Functional: recent changes of environment (hospital environment, absent bowel eliminations, with difficulty or impossibility)	
Risk of Suffocation	Interns: harmful process (oral surgery; partial/total nasal obstruction, oral breathing, trouble swallowing)	35%(52)

Table 2 shows the frequencies obtained for the real nursing diagnoses, defining characteristics and related factors, which may be observed that the diagnoses Impaired Oral

Mucous and Impaired Tissue Integrity were identified in all patients and most of them also presented Impaired Physical Mobility.

Table 2. Frequency of real nursing diagnoses, defining characteristics and related factors, according to NANDA-I⁷. Bauru, SP, 2009.

Real Diagnostic	% (n)	Defining Characteristics	% (n)	Related Factors	% (n)
Impaired Oral Mucous Membrane	100%(150)	Oral discomfort	100%(150)	Oral surgery	100%(150)
		Trouble eating	100%(150)		
		Edema (labial/facial)	100%(150)		
		Bleeding (oral)	12%(18)		
		Oral lesions (lesions of labial commissure)	7%(10)		
		Oral Pain	3%(4)		
Impaired Tissue Integrity	100%(150)	Injured tissue (skin/subcutaneous tissue)	100%(150)	Withdrawal of iliac bone graft	100%(150)
Impaired Physical Mobility	83%(124)	Limited range of motion, walking with help/support	83%(124)	Loss of integrity of bony structures	83%(124)
		Trouble turning in bed	83%(124)	Discomfort	83%(124)
Acute Pain	37%(55)	Verbal report of pain (oral region, neck, abdominal, pelvic, lumbar, body)	37%(55)	Pain	2%(3)
Impaired skin integrity	27%(40)	Invasion of structures, oral cavity and iliac region	27%(40)	Harmful physical agent (oral and iliac)	37%(55)
				Ecchymosis	27%(40)

In table 3 shows the nursing diagnosis of risk identified with their respective interventions and results proposed,

accompanied by the codes of the classifications of nursing.

Table 3. Nursing diagnosis of risk following NANDA-I⁷, as NIC⁸ interventions and results according to NOC⁹. Bauru, SP, 2009.

Diagnosis of Risk	Interventions (NIC code)	Results (NOC code)
Risk of Infection	Infection Control (6540) Care for incision site (3440)	Knowledge: infection control (1842) Self-care: hygiene (0305) Risk control (1902)
Aspiration Risk	Precautions against aspiration (3200)	Prevention of Aspiration (1918)
Constipation Risk	Bowel Control (0430) Nutritional Monitoring (1160)	Bowel Elimination (0501) Nutritional status: intake of food and fluids (1008) Hydration (0602)
Risk of Suffocation	Precautions against aspiration (3200) Airway control (3140)	Aspiration Prevention (1918) Respiratory status: airway permeability (0410)

The actual nursing diagnoses identified can be observed in table 4, as well as the interventions and results proposed,

accompanied by the respective nursing ratings codes.

Table 4. Actual nursing diagnoses following NANDA-I⁷, as NIC⁸ interventions and results according to NOC⁹. Bauru, SP, 2009.

Real Diagnosis	Interventions (NIC code)	Results (NOC code)
Impaired Oral Mucous Membrane	Restoration of Oral Health (1730)	Self-care: oral hygiene (0308)
Impaired Tissue Integrity	Skin care: site of donation (3582) Skin care: site of the bone graft (3583)	Healing of wounds: first intention (1102)
Impaired Physical Mobility	Caring for rest (0740) Self-care assistance: transfers (1806)	Mobility (0208)
Acute Pain	Pain control (1400)	Pain control (1605)
Impaired skin integrity	Skin supervision (3590)	Tissue integrity: skin and mucous membranes (1101)

DISCUSSION

Among the nursing diagnoses risk identified, it was found that all patients showed Risk for Infection and as proposed interventions for this diagnosis, infection control and care for incision site⁸ were adopted and, as expected results, knowledge: infection control; self-care: hygiene, and risk control.⁹ It is known that surgical procedures performed in the respiratory tract and oral cavity are potentially contaminated , because the tissues are colonized by abundant bacterial flora, that makes decontamination very difficult,¹³ which justifies the findings.

Another diagnostic risk found in the entire sample was the Risk of Aspiration, whose intervention was proposed as precaution against aspiration,⁸ yielding the expected result: Preventing aspiration.⁹ Among the guidelines for postoperative oral surgery it is recommended maintaining the head elevated, with pillows or other apparatus, which reduces the risk of bleeding, effective intervention,¹⁴ obtain the expected result. Therefore, it is recommended to avoid lowering his head in the postoperative period, so there is no increased blood flow to the operated region, minimizing the chances of hemorrhage and edema, and consequently the risk of aspiration of this.

In proceedings involving patient safety, nursing staff plays a key role and responsibility of their practices and identification of faults that can generate errors. ¹⁵For instance, for the nursing actions in preventing aspiration and suffocation in patients undergoing or likely to risk factors, implementation of preventive practices minimize the occurrence of adverse events.

As for the nursing diagnosis Risk for Constipation, the proposed interventions were: bowel control and nutritional monitoring,⁸ and the expected results: intestinal elimination, nutritional status: food intake and adequate fluids, and hydration.⁹ The aggravation of constipation after cleft lip surgery is related to the period of use of the homogeneous liquid diet without residue.

Therefore, this approach is necessary to avoid damaging the wound and promoting their healing, but lack of residue diet is an impediment to the proper intestinal transit,¹⁶ which justifies such interventions and proposed results.

The current study also allowed the identification of actual nursing diagnoses, defining characteristics and related factors. Actual diagnoses found most frequently were: Oral Mucosal and Impaired Tissue Integrity.

Impaired Oral Mucous for the proposed intervention was to restore oral health.⁸ The expected result was self-care: oral hygiene.⁹ Patients can be agents of their own self-care and, therefore, they must be guided by the nursing staff on care to the oral hygiene of teeth and labial mucosa. Injuries resulting from surgical manipulation during intubation procedures, and surgical technique itself, generate external and internal facial features of facial edema, leading to pain and discomfort, especially during speech and eating. Thus, this may compromise oral hygiene. However, the team of surgeons also promotes mechanical cleaning actions and individual guidance to reduce the incidence of such problems and prevent them, which justifies the restoration of oral health and self-care related to oral hygiene.

The nursing diagnosis Impaired Tissue Integrity presented as proposed interventions skin care: donation site and graft site.⁸ The expected outcome was wound healing: First intention.⁹ These care needs relate more to the site that removed the bone graft (iliac crest region), which calls for attention on ambulation, activity and rest, since that period gait and daily activities may be impaired, and the donor site requires post-operative care. Gradually, patients show improvement in gait pattern, and posture, and receive guidance from a physiotherapist daily.

Nursing diagnosis Risk for Infection, Acute Pain, Impaired Physical Mobility Impaired Skin Integrity and identified in this study, are also among the most frequent in studies performed with different samples in medical surgical unit.¹⁷⁻⁸ This fact demonstrates the

importance of identifying the most frequent nursing diagnoses, to propose interventions and achieve the desired results in the postoperative alveolar bone grafting by means of standardized nursing classifications. The description of the nursing care needs from the nursing diagnoses, as well as the proposition of interventions and outcomes, can contribute to the planning of postoperative care.

Subsequent studies will be conducted to verify the importance of the proposed interventions and how to evaluate the results obtained nursing, which will contribute to the improvement of the scientific practice of nursing in rehabilitation of cleft lip and palate.

CONCLUSION

Four nursing diagnoses of risk were identified: Risk of Infection, Risk for Aspiration, Risk for Constipation and Risk of Suffocation, obtaining seven interventions and nine nursing results. For the five real nursing diagnoses: Oral Mucosal Impaired, Impaired Tissue Integrity, Impaired Physical Mobility, Acute Pain and Impaired Skin Integrity, totaled seven interventions and five nursing results.

The description of the nursing care needs from the nursing diagnoses, as well as the proposition of interventions and results, can contribute to the care planning in the postoperative alveolar bone graft.

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Corresponding Address

Marli Luiz Beluci
A/C da Seção de Nutrição Clínica
Hospital de Reabilitação de Anomalias
Craniofaciais da USP
Rua Silvio Marchione, 3-20
Bairro Vila Universitária
CEP 17012-900 — Bauru (SP), Brazil