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Content validation of the diagnosis ineffective breastfeeding and readiness for inhanced breastfeeding

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ABSTRACT

Background: Implementation of the International Classification of NANDA-I in neonatology care in the Czech Republic.
Aim: The aim of the study was to validate the diagnostic elements of nursing diagnoses 00104 Ineffective Breastfeeding and 00106 readiness for inhanced breastfeeding selected file by neonatal nurses-experts and determine which diagnostic elements consider as the main, and which the minor are.
Methods: For the content of validation was used Fehring diagnostic content of validity model (*Diagnostic Content Validity Model*). The sample consisted of 26 neonatal nurses-experts. For expert were considered nurses working in neonatology, which received at least 4 points modified by Fehring standard. To assess the significance of diagnostic elements was used measurement instrument containing 43 items (diagnostic elements) listed in the classification system, NANDA-International.
Results: At nursing diagnosis 00104 Ineffective Breastfeeding, the main key features (score > 0.80) experts considered: the infant isn´t unable to correctly to grasp the breast (0.82). From the related factors achieve score 0.80 in all 3 elements. At the nursing diagnosis 00106 Effort to improve breastfeeding weighted score of > 0.80 reached no character.
Conclusion: For the assess of dissatisfaction or problems of mother and child at the process of breastfeeding on postpartum department, specialists considered to be significant of 4 members from 30, concerning only to nursing diagnoses 00104 Ineffective breastfeeding.

KEY WORDS

DCV model, expert, ineffective breastfeeding, readiness for inhanced breastfeeding, nursing diagnosis, validation

INTRODUCTION

The NANDA-I classification system (*North American Nursing Diagnosis Association – International Taxonomy*) is currently subject of interest in nursing research and is also incorporated into the training curriculum for future nurses and midwives. The process of validation of nursing diagnoses is a prerequisite for its use in clinical practice.

In the Czech nursing practice, there appears criticism of the vagueness and ambiguity of terminology of defining characteristics (determining features). Though we can draw experience from international validation studies, this process is in the beginnings in our country. Validation studies are therefore necessary to verify whether the defining characteristics that have arisen in different social and cultural environments are important in determining nursing diagnoses for Czech nurses and midwives. For these reasons, it is necessary to expand the number of Czech nurses and midwives who are involved in verifying the validity of nursing diagnoses.

Taxonomic Committee of NANDA-I regularly discusses the development of new diagnoses and revision of existing diagnoses included in taxonomy (1, 2). Nursing diagnoses Ineffective breastfeeding and Readiness for enhanced breastfeeding are classified into Domain 7: Relations between roles, Class 1: The role of caretakers in the issue of the NANDA-I taxonomy from 2012–2014 (2). In the new version of the NANDA-I taxonomy edition from 2015–2017 these diagnoses are included in Domain 2: Nutrition, Class 1: Food intake after the revision (3).

Ineffective breastfeeding is defined as follows: Dissatisfaction or a difficulty of a mother, an infant or a child during breastfeeding, and it is characterized by 17 defining characteristics, including 13 related features. *Readiness for enhanced breastfeeding* is defined as follows: Pattern of ability and satisfaction of couple mother - infant is sufficient to support breastfeeding, which can be enhanced, and is characterized by 13 defining characteristics (3). Neonatal nurses, who implement lactation counselling, meet with the given nursing diagnoses in everyday nursing practice.

OBJECTIVE OF WORK

Our aim was to validate the diagnostic elements of nursing diagnoses *00104 Ineffective breastfeeding* and *0106 Readiness for enhanced breastfeeding* by a selected group of neonatal nurses – specialists and to find out which diagnostic elements do they consider primary and secondary.

METHODOLOGY

We contacted five hospitals in Ústecký region in order to find clinical experts. Three of them expressed their consent to the realization of research. There were registered nurses with specialized qualifications of paediatric nurse and registered midwives with the performance of clinical practice in the postpartum or neonatal departments included in the group of 26 experts. In their choice, we respected modified Fehring's criteria (4): 1. Achieved education – at least a bachelor's degree; 2. Gaining specialization in neonatology or midwifery; 3. Length of experience at neonatal or postpartum department – at least one year; 4. Final thesis focused on nursing diagnosis and 5. Published article on nursing diagnosis. Those experts, who fulfilled at least four of the above criteria (gained 4 points) and agreed on participation in the research, were included in the examined group of specialists.

Validation of nursing diagnoses was performed using the Diagnostic Content validation model – DCV model (5). We created a research tool to collect data, which included basic socio-demographic information about each expert, entries to identify the criteria for inclusion of a nurse or a midwife into a group of experts and 43 items of diagnostic elements listed in the NANDA-I classification system for diagnoses *Ineffective breastfeeding* and *Readiness for enhanced breastfeeding* (1), including method of evaluating their diagnostic significance on the Likert scale of 1–5.

Although hospital management agreed with the implementation of the research, it was not willing to participate in the distribution of the survey instrument, so the authors of the study distributed it to 26 specific person who consented to participation in the research.

RESULTS

To analyse the significance of diagnostic characteristics IM (identifying marks) and RF (related factors), we used calculation of weighted average using Fehring's DCV model methodology (8). Evaluation of data on Likert scale was carried out as follows: 5 on the scale = 1, 4 = 0.75, 3 = 0.5, 2 = 0.25 a 1 = 0. Then we prepared the weighted averages of DCV for every IM and RF using arithmetic mean. Diagnostic characteristics were classified into three groups. The weighted average > 0.80 = diagnostically significant, weighted average from 0.80 to 0.50 = diagnostically moderately important and weighted average < 0.50 = appropriate for exclusion from the set of diagnostic characteristics. DCV score of content validity of diagnoses *Ineffective breastfeeding* and *Readiness for enhanced breastfeeding* as a whole was prepared by the average sum of the weighted averages of the individual IM and RF (7).

The value of DCV score of nursing diagnosis *Ineffective breastfeeding – 00104* as a whole was 0.74. Only one defining feature was evaluated as diagnostically significant – the infant is unable to properly grasp the breast, because of the weighted score 0.82. Sixteen of the seventeen determining features were categorized as diagnostically moderately important (Table 1).

Table 1 Summary of defining characteristics of validated diagnosis Ineffective breastfeeding

Name of diagnostic element (IM)	M	SD	X
The infant is unable to properly grasp the breast	3.65	1.41	0.82
Infant loses height	4.15	1.06	0.79
Insufficient milk supply	4.12	1.30	0.78
Lack of opportunities to suck the breast	4.11	1.09	0.78
Infant refuses to grasp the breast	4.27	1.06	0.77
Infant is crying at the breast	4.04	1.31	0.76
Infant is not gaining weight	4.00	1.39	0.75
Infant does not respond to further efforts to appease him	4.08	1.36	0.73
Feeling of inadequate milk supply	3.85	1.43	0.71
Unstatisfied process of breastfeeding	3.85	1.03	0.71
Saggy infant at the breast	3.77	1.37	0.70
Infant crying during the first hour after breastfeeding	3.77	1.42	0.70
Inadequate emptying of each breast during breastfeeding	3.81	1.24	0.70
Infant is restless during the first hour after breastfeeding	3.65	1.41	0.66
Nipple pain persitsts after the first week of breastfeeding	3.65	1.47	0.66
No signs of the release of oxytocin	3.61	1.44	0.65
Intermitent sucking of breast	3.62	1.40	0.65

Legend: IM – identifying marks, M – arithmetic mean, SD – standard deviation, X – weighted score

Three related factors were classified as major related factors – anxiety of mother (weighted average of 0.85), premature baby (weighted average of 0.85) and mother's breast abnormalities (0.84). The experts included ten related factors in the category of moderately significant (Table 2).

The value of DCV score of nursing diagnosis Readiness for enhanced breastfeeding – 00106 as a whole was 0.53. The experts identified no character as diagnostically significant. Eleven of the defining characteristics were categorized as moderately important. Two defining features – way of defecation corresponds to age of infant (weighted average of 0.46) and continuous swallowing while breastfeeding (weighted average of 0.41) were included in the category of characters that should be discarded (Table 3).

Table 2 Summary of related factors of validated diagnosis Ineffective breastfeeding

Name of diagnostic element (IM)	M	SD	X
Anxiety of mother	4.39	0.84	0.85
Premature baby	4.38	0.92	0.85
Mother´s breast abnormalities	4.35	1.04	0.84
Previous unsuccessful attemps at breastfeeding	4.19	1.00	0.80
Weak sucking reflex of the infant	4.15	1.10	0.79
Anomalies of the infant	4.12	1.12	0.78
Ambivalent relationship of mother to breastfeeding	4.08	1.14	0.77
Previous breast surgery	4.08	1.10	0.77
Not supporting family	3.92	1.36	0.73
Not supporting partner	3.92	1.27	0.73
Artificial feeding of the infant with a teat	3.77	1.22	0.70
Lack of knowledge	3.73	1.46	0.68
Interrupted breastfeeding	3.62	1.47	0.65

Tabulka 3 Summary of defining characteristics of validated diagnosis Readiness for enhanced breastfeeding

Name of diagnostic element (IM)	M	SD	X
Infant is satisfied after breastfeeding	3.42	1.69	0.61
The mother is able to attach the infant to her breast so that he can properly grasp it	3.38	1.78	0.60
Regular intake while breastfeeding	3.39	1.69	0.60
Weight of the infant corresponds to his age	3.20	1.84	0.59
There is an effective communication between mother and child	3.19	1.69	0.59
Satisfaction of mother with breastfeeding	3.15	1.59	0.54
Regular swalowing while breastfeedeng	3.08	1.71	0.52
There are signs of the release of oxytocin	3.08	1.68	0.52
Infant is eager to suck breast milk	3.04	1.65	0.51
Continuous sucking during breastfeeding	3.00	1.71	0.50
There are symptoms of the release of oxytocin	3.00	1.69	0.50
Way of defecation corresponds to age of infant	2.85	1.76	0.46
Continuous swalowing during breastfeeding	2.92	1.64	0.41

Legend to tables 2 and 3: IM – identifying marks, M – arithmetic mean, SD – standard deviation, X – weighted score

DISCUSSION

Currently, there are very few relevant Czech and foreign scientific evidences dealing with the issue of nursing diagnoses *Ineffective breastfeeding* and *Readiness* for enhanced breastfeeding. Diagnosis Ineffective breastfeeding was included in the NANDA-I taxonomy in 1988. Validity of definitions, related factors and defining characteristics were tested using two-step methodological studies Delphi in 1992. 66 nurses – specialists in the first round, and 34 nurses – specialists in the second round, attended verification of nursing diagnoses. In the end, the definition of diagnosis was simplified, related factors were added and defining characteristics were clarified (6). A 2009 study, carried out in Colombia, was focused on the prevalence of nursing diagnoses *Ineffective breastfeeding* and related factors in children younger than 6 months hospitalized in Faculty Hospital. The authors used the Cross study. The authors selected 108 pairs (mother and child) hospitalized in Faculty Hospital and verified recording forms to identify the diagnosis. The results show that The infant is unable to properly grasp the breast and Infant crying during the first hour after breastfeeding were the most common defining characteristics (7). Only one defining character was evaluated as diagnostically significant in our study (The infant is unable to properly grasp the breast), in accordance with authors of the Colombian study (7). Regarding Czech literature sources for comparison with the data we identified, we can cite outputs of diploma thesis by Michalová (8), which focused on the management of care for physiological newborn using the NANDA-I, NIC and NOC classification system. She tried to validate nine nursing diagnoses using Fehring's DCV model with the participation of 38 experts. She also ranked *Ineffective breastfeeding* among validated diagnosis. Here we are in agreement with our study in 16 defining characteristics, where the experts categorized them as diagnostically moderately important. In the study by Michalová (8) one character has reached a weighted average below 0.5 – Feeling of inadequate milk supply, two characters have exceeded the weighted average of 0.8– Infant is crying at the breast and Insufficient milk supply. For comparison, it is also necessary to introduce another character from our study – The infant is unable to properly grasp the breast. In the study by Michalová, this character reached a weighted

average of 0.75. It is also worth mentioning the four factors with weighted average below 0.5 (Not supporting partner, Not supporting family, Previous unsuccessful attempts at breastfeeding and Interrupted breastfeeding). Two factors reached a weighted score of 1.0 – Anomalies of the infant and Mother's breast abnormalities (8). Because of mentioned findings and in response to NANDA guidelines (the condition of the presence of main diagnostically significant characteristic to the constant diagnosis), including the presence of diagnostically important related factors (2), it is possible to consider the output of our validation study as satisfactory. The outputs of the study may seem surprising. This begs the question, why was the frequency of diagnostically important characteristics significantly smaller in comparison to diagnostic characteristics of NANDA- I taxonomy. Some studies point to the fact that formulation of nursing diagnoses are not always accurate in clinical nursing practice, defining characteristics and related factors are inconsistent (9, 10, 11). In accordance with Bocková et al. (12) may be noted that sets of defining characteristics and related factors for each nursing diagnosis are wide and multiple. Classification of nursing diagnoses is usable in different areas of nursing care, and it is therefore necessary to select the validation for individuals (in sickness and in health) in various medical situations. Vörösová et al. (13) points out that competence of nurses for nursing diagnosis, especially in the area of intellectual, interpersonal, technical and personal characteristics including reflection on practice, play an important role in the validation studies.

Experts can see the causes of final DCV score of nursing diagnosis *Readiness for enhanced breastfeeding* in misunderstanding of the significance of this diagnosis. During our personal contact with the experts during data collection, we were repeatedly asked about the meaningfulness of the diagnosis *Readiness for enhanced breastfeeding*. Evaluation of defining characteristics by our experts can thus be given by cultural specifics, professional competencies and individual preferences. We cannot compare the observed data with similar studies because of lack of relevant publications. The diagnosis was included for the first time to edition of the NANDA International taxonomy from 2012–2014. In the edition of NANDA International taxonomy from 2009–2011 it was included under the title *Effective breastfeeding* (14).

CONCLUSION

There has not yet been published a validation study of nursing diagnosis *Ineffective breastfeeding* with the participation of Czech experts in the Czech Republic in peer-reviewed journals. Two similar studies were published abroad and one Czech postgraduate student dealt with the same issue. An essential finding of the study is that on the basis of DCV score of *Ineffective breastfeeding* as a whole, we can say that this diagnosis is valid for nursing diagnosis in Czech context in mother and newborn during breastfeeding at postpartum department, and it is necessary to identify at least one characteristic in mother and newborn – The infant is unable to properly grasp the breast – as highly indicative characteristic from the set of defining features to identify its presence. Similarly, there has not yet been published a validation study of nursing diagnosis *Readiness for enhanced breastfeeding* with the participation of Czech experts in the Czech Republic in peer-reviewed journals. Inasmuch as the experts did not choose single feature as diagnostically significant, validity of this diagnosis was not confirmed. We are conscious of the limits of our study in relation to validation of included nursing diagnoses. We agree with the opinion of Vörösová et al. (13) that a translation of defining characteristics that may not always identically reflect the characteristics from the original set of defining characteristics in a foreign language is one limit. The second limitation is the low number of nurses - specialists. Nevertheless, we believe that our validation study presents original results and can be a starting point for further validation studies that contribute to the use of standardized nursing terminology, increase the accuracy of the nursing diagnosis and improve the effectiveness of nursing interventions.

ETHICAL ASPECTS OF A CONFLICT OF INTEREST

In terms of a possible conflict of interest, we did not find any circumstances that would endanger the basic principles of publishing. Before the actual research, we had authorized the collection of data by the ethics committee from Faculty of Health Studies of J. E. Purkyně University in Ústí nad Labem, including the review and approval of the written informed consent of respondents to inclusion in the study.

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