

Material

A Review of Educational Support Approaches According to the Characteristics of Candidate Diagnoses and Queries Considered during Nursing Diagnosis Case Study Review Meetings

看護診断事例検討会における診断候補と
疑問点の特徴に基づく教育的サポートのあり方の検討

Yasuko Kume^{1)*}, Yoko Aso¹⁾, Megumi Katayama¹⁾

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Abstract

In this study, we investigated candidate nursing diagnoses and queries raised during nursing diagnosis case study review meetings by considering the characteristics of the types of queries raised, their underlying circumstances, and the thought process involved. We also identified differences in queries between earlier and later case review meetings and trends during these two periods, and considered future approaches to educational support.

We carried out analysis of summary records of discussions during case study review meetings held at Hospital A. The queries raised at the case study review meetings were classified according to thought processes rather than actual case contents. A total of 12 case studies were discussed, six during the first part and six during the second part of the study period. Fisher's exact test was used to compare the types of queries raised during each period. The Egawa diagnosis-oriented process (E-DOP) was used as the conceptual model for investigating differences in the types of query and their characteristics, and issues in the thought process were isolated.

We found that the types of queries raised concerned clinical assessments of patients' conditions, interrelated diagnoses that might occur simultaneously, candidate diagnoses at the screening stage, diagnoses indicating similar mental and physical functions or conditions, the distinction between nursing diagnoses and medical problems (complications), how to understand self-care deficit, and diagnoses for which guidance with a view to hospital discharge or family intervention would be appropriate. Our results suggest that these queries were associated with stages 3 (interpretation), 5 (analysis), and 6 (integration) in the E-DOP.

Our results suggest that conceptual learning connected to case studies and a review of the content of case studies may be necessary, together with support for integrated approaches that account for the characteristics of each medical institution.

要 旨

本研究では、看護診断事例検討会における診断候補と看護診断上の疑問点を明らかにし、その傾向から今後の教育的サポートのあり方を検討した。具体的には、A病院開催の事例検討会の要約記録の分析を行い、全12事例を6事例ずつ2期に分けて看護診断候補と疑問点を抽出した。看護診断における思考プロセスの観点から分類した疑問内容について

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所 属 1) Mukogawa Women's University School of Nursing
連絡先 *E-mail : kume@mukogawa-u.ac.jp

は、フィッシャーの正確確率検定を用いて比較し、E-DOP(Egawa diagnosis-oriented process)に基づいて思考過程の課題を考察した。

その結果、疑問点では、「患者の状態の臨床判断」「同時に発生する可能性がある診断」「スクリーニング段階の診断候補」「類似の心身状態を示す診断」「医療問題との判別」「セルフケア不足の捉え方」等があげられた。これらの疑問点に対し、事例と結びつけた概念学習や事例内容の見直し、各施設の特性を踏まえたサポートの必要性が示唆された。

I Background

Nursing diagnosis is a clinical judgment that provides the basis on which nurses choose effective, necessary nursing interventions at their own discretion. Nursing diagnosis is thus important for effective nursing practice. Nursing diagnosis is taught as part of the nursing curriculum using the terminology of the North American Nursing Diagnosis Association (NANDA) (Gordon, 2000). In a survey of faculties at teaching institutions in Japan, approximately 70% of respondents stated that nursing diagnosis was incorporated into the basic nursing training curriculum in most or some subjects (Kuroda et al., 2001).

The use of nursing diagnosis varies in clinical practice. In a survey by Sagara et al. (2006), although approximately 60% of participating hospitals used NANDA International nursing diagnoses or other existing standard nursing diagnosis terminology, around 40% used their own nursing terms. A survey of the use of nursing diagnosis in psychiatric nursing found that it had been introduced by 24.1% of institutions, with differences depending on the nursing field (Shiraishi et al., 2015). With respect to the actual utilization of nursing diagnoses, one study pointed out issues with the accuracy of nursing diagnoses performed by nurses after graduation (Konno, 2001). Another study using written case studies also found that accurate diagnoses were produced by only about 50% of nurses (Hasegawa et al., 2007). This suggests that there are still issues concerning the actual teaching of nursing diagnosis and its increased utilization in nursing practice. The accuracy of nursing diagnosis has been found to affect the quality of care provision (Thoroddsen & Ehnfors, 2010), and effective use of nursing diagnosis is an important issue.

Egawa (2011) suggested the importance of understanding frequently used nursing diagnoses and studying the deployment of case studies with respect to training in the thought process involved

in nursing diagnosis. Therefore, to enable case study review meetings in clinical settings to proceed more effectively, it is necessary to review approaches for supporting the utilization of nursing diagnoses in ways consonant with actual practice by analyzing the content reviewed in these meetings. These include matters such as queries raised in case study review meetings and situations in which diagnoses are difficult to achieve.

II Purpose

This study aimed to investigate candidate nursing diagnoses and queries raised during nursing diagnosis case study review meetings by considering the characteristics of the types of queries raised, their underlying circumstances, and the thought process involved. We also identified differences in the queries between earlier and later case study review meetings, and trends during the two periods. Thus, we evaluated issues with case study review meetings, and suggested future approaches to educational support.

III Methods

1. Case Study Review Meeting Procedure

The case study review meeting aims for every nurse to steadily conduct the process of case-oriented diagnosis, share information on the supplementary lecture after diagnosis with other colleagues in the department, and apply the knowledge in the daily conference.

(a) The first step was the presentation of case studies by different units in turn. At every meeting, each department provides a case orderly, and record-keepers make revisions and additions on each case to use at the actual meeting. The cases were distributed to the units after the data had been supplemented and corrected for training purposes by the Recording Committee at the hospital concerned.

(b) Using the cases they had been given, nurses from all 13 departments respectively developed a nursing diagnosis at their own department.

(c) A member of each unit then summarized the content of the meeting and the opinions of the unit as a whole, recorded the nursing diagnosis and candidate diagnoses, the reason for the diagnosis, and any queries, or other comments, and submitted the record to the Recording Committee.

(d) The opinions of all the units were summarized, and an external lecturer gave a 90-minute supplementary lecture on case reviews on the basis of the results. This supplementary lecture was attended by the nursing diagnosis core members from each unit. Three staff members from each department attended the lecture and conveyed its contents to their respective departments afterwards. The authors joined the lecture as advisors.

2. Data Collection and Analysis

We analyzed the content of candidate nursing diagnoses (definitive diagnosis and potential diagnoses) and queries raised during nursing diagnosis case study review meetings held at Hospital A by considering the characteristics of the types of queries raised. Hospital A is a general hospital with 499 beds in the Kansai region of Japan. It focuses on acute care, and has approximately 800 new monthly admissions with an average duration of hospitalization of around 12 days (range: 8.7–26.2 days).

We guessed that queries raised during the process for determining nursing diagnosis would change over time by repeating the case study review meetings. The queries raised at the case study review meetings were classified based on thought process rather than actual case contents. Thus, we compared the characteristics of the queries between early phase (Period 1) and later phase (Period 2) using not only qualitative analysis but also quantitative analysis based on the number of each category of the cases. Content analysis enables not only qualitative analysis but also a quantitative view (Sato, 2008). The characteristics of the types of query raised during the case study review meetings were identified, and the 12 case studies were divided into two groups—those held in the first part of the study (Period 1, July 2011–August 2012) and those held in

the second part (Period 2, September 2012–December 2014)—and investigated separately. Precisely, the trend of questions that are first presented at case study review meetings and finally summarized across Hospital A was considered and examined in separated batches of six cases. The analysis covered summary records of 31 groups that met during Period 1 and 68 that met during Period 2, and Fisher's exact test was used to compare the types of query raised depending on the study period. The unit of recording was a sentence containing a single type of query; sentences were classified on the basis of their similarity in meaning. Content validity was assessed through a content analysis by two members of the society concerned and three researchers connected with the record committee and nursing diagnosis education.

Regarding queries, we divided the dates on which the case study review meetings were held into two periods to investigate the characteristics of the type of queries that emerged during the meetings. In addition, based on the Egawa Diagnosis-Oriented Process (E-DOP; Egawa, 2015), which is a common thought process for nursing diagnosis, we determined appropriate educational support styles corresponding to the characteristics of the queries. The summary record described only candidate nursing diagnosis and essential points for the discussion, i.e., including critical factors and questions during the process to the final diagnosis. For the submission of the summary record, we received approval from the members of the Recording Committee for nursing diagnosis in each department; therefore, the summary record is considered to reflect discussion outcomes accordingly.

The nursing diagnoses used in this study were based on Nursing Diagnoses: Definitions and Classification (2012–2014) (Herdman, 2012). Nursing Diagnoses: Definitions and Classification (2012–2014) was revised, as there were some minor changes in diagnostic scaling (e.g., revision for bathing self-care deficit). However, except for these minor revisions, there were no changes in the process for nursing diagnosis used in our case study review meetings; therefore, the diagnostic terminologies consistent with Nursing Diagnoses: Definitions and Classification (2012–2014) were used.

3. Conceptual-model-based Analytical Framework

We discussed the characteristics of queries in terms of the conceptual framework of the E-DOP (Egawa, 2015). The E-DOP is known among the members of Japan Society of Nursing Diagnosis as a model that indicates the process of thinking from observation to diagnosis. Under the E-DOP, the observed data are first sorted into clusters (step 1; observation and step 2; organization), after which data providing the evidence for problems were further isolated and analyzed (step 3; interpretation and step 4; synthesis). Data associated with each problem are then grouped together, and the name of the problem is changed to the name of an existing diagnosis (step 5; analysis). An overall view is then produced, problems are narrowed down given the medical circumstances, and relationships between diagnoses are identified to integrate the diagnoses (step 6; integration). Finally, the defining characteristics and related factors for those integrated diagnoses are compared (step 7; matching), and nursing diagnoses are derived. Based on this conceptual process, we investigated the nature of the queries identified in this study in terms of the stage of the thought process involved.

4. Ethical Considerations

Before beginning this study, a form describing its ethical considerations, including objectives and methods, privacy protection with respect to the content of case studies and the identity of participants, and data management, was given to the Director of Nursing. Approval was obtained from the Ethics Committee of Mukogawa Women's University (No. 14-52) and from the institution where the case study review meetings were held.

IV Results

1. General Description of Hospital A and Content of Case Studies Used in Case Study Review Meetings

The cases in Period 1 included patients with chronic diseases or acute exacerbation such as neurodegenerative disease, respiratory disease (aspiration pneumonia), gastrointestinal cancer,

malignant lymphoma, urological cancer, and cardiovascular disease. The cases in Period 2 included patients with gastrointestinal cancer, kidney failure, skin disease, respiratory disease (interstitial pneumonia), and respiratory disease (postoperative pneumonia) and gastrointestinal disease. All of the cases in the two periods were chronic diseases or acute exacerbations requiring hospitalization, and a majority of the patients were elderly aged 70 years or older.

2. Candidate Nursing Diagnoses

A total of 436 candidate nursing diagnoses were proposed: 106 in Period 1 and 330 in Period 2. The most common candidate diagnosis was risk for falls (60 cases), followed by impaired skin integrity (41 cases), activity intolerance (25 cases), risk for impaired skin integrity (21 cases), bathing self-care deficit (20 cases), risk for acute confusion (19 cases), and toileting self-care deficit (16 cases), as summarized in Table 1. In other nursing diagnoses, the candidate diagnosis of (unspecified) self-care deficit was only suggested during Period 1.

3. Queries Related to the Determination of Nursing Diagnosis

Of 332 queries in the recorded data, the most common type concerned the clinical assessment of the patient's condition (84 queries, 25.3%). A comparison between Periods 1 and 2 showed that 68 queries (20.5%) were raised during Period 2, a significantly higher frequency ($p < .01$). These included queries concerning the interpretation of patient data, as illustrated by the comment in the record that "It was difficult to judge whether this should be understood as a problem of ineffective health maintenance or one of cognition, because the level of the patient's understanding was unknown." Other queries concerned whether it was appropriate to reach a diagnosis, as illustrated by the following comment: "The decision was made to keep the patient under careful observation, given the reddening around the stoma and loose stools, but we were unsure whether or not it was all right to carry on without reaching a diagnosis at this stage." During Period 2, queries were raised concerning the interpretation of patient data and whether to suggest diagnoses associated with the

Table 1 Comparison of the Top 13 Diagnostic Choices by Period

Nursing Diagnosis	Period 1	Period 2	Total
	n (%)	n (%)	
Risk for Falls	15 (14.2)	45 (13.6)	60
Impaired Skin Integrity	6 (5.7)	35 (10.6)	41
Activity Intolerance	12 (11.3)	13 (3.9)	25
Risk for Impaired Skin Integrity	2 (1.9)	19 (5.8)	21
Bathing Self-Care Deficit	4 (3.8)	16 (4.8)	20
Risk for Acute Confusion	0 (0.0)	19 (5.8)	19
Toileting Self-Care Deficit	2 (1.9)	14 (4.2)	16
Impaired Oral Mucous Membrane	2 (1.9)	11 (3.3)	13
Impaired Comfort	0 (0.0)	13 (3.9)	13
Risk for Infection	1 (0.9)	11 (3.3)	12
Excess Fluid Volume	7 (6.6)	5 (1.5)	12
Ineffective Self-Health Management	7 (6.6)	4 (1.2)	11
Fatigue	0 (0.0)	11 (3.3)	11
Others	48 (45.3)	114 (34.5)	162
Total	106 (100.0)	330 (100.0)	436

patient's treatment status or disease.

The next most common type of query concerned interrelated diagnoses that might occur simultaneously (67 queries, 20.2%); this type of query was raised 41 times in Period 2. These comprised queries concerning pairs of diagnoses that were likely to be observed simultaneously given the patient's condition, such as risk for falls and impaired walking, impaired physical mobility and impaired walking, and disturbed body image and situational low self-esteem. The ratios of the type of queries did not differ between Periods 1 and 2.

The next most common type of query concerned candidate nursing diagnoses at the screening stage; such queries were raised 50 times (15.1%), and concerned diagnoses including impaired skin integrity, risk for impaired skin integrity, insomnia, and ineffective coping as possibilities for consideration.

Other queries were related to diagnoses indicating similar mental and physical functions or conditions; such queries were raised 38 times (11.4%), with queries concerning risk for aspiration and impaired swallowing being raised during both parts of the study, as were queries on the subject of noncompliance, ineffective health maintenance, or ineffective coping. Some queries concerned the distinction between nursing diagnoses and medical problems (complications); such queries were raised 37 times (11.1%). There were also 37 queries (11.1%) concerning how to understand self-care deficit, and

queries were also raised about whether to consider an issue as a nursing diagnosis or a nursing problem (in terms of assistance with activities of daily living, ADL), and about whether to consider interventions in terms of nursing diagnoses such as activity intolerance and fatigue or in terms of self-care deficit.

Nineteen queries (5.7%) were recorded that related to diagnoses for which guidance with a view to hospital discharge or family interventions would be appropriate, and queries were raised concerning how to approach the diagnoses of ineffective self-health management and risk for caregiver role strain.

V Discussion

1. Overall Trends in Queries

The most common type of query concerned the clinical diagnosis of the patient's condition, and, in terms of the type of content recorded, was related to assessments of the causes of the patient's reactions and behavior. Queries concerning the clinical diagnosis of the patient's condition significantly differed between Periods 1 and 2. These queries were associated with stages 3 (interpretation), 5 (analysis), and 6 (integration) in the E-DOP thought process for extracting and interpreting data that provide evidence for the problem. The fact that more queries were raised in Period 2 than in Period 1 suggests that participants were being cautious about interpretation and analysis,

Table 2 Queries Related to the Determination of Nursing Diagnosis

Category	Subcategory		Total
	Period 1 n (%)	Period 2 n (%)	
Queries over clinical assessment of patient's condition	16 (4.8)	68 (20.5)	84 (25.3) **
	The question of the interpretation of the information indicated by the patient: "Acute Confusion," "Anxiety," and "Situational Low Self-Esteem," "Ineffective Self-Health Management" of cognitive issues The questions about the stage of diagnosis: Perceptions of "Impaired Skin Integrity" ect.	Perceptions of psychological and cognitive aspects: Situational Low Self-Esteem, Ineffective Coping, Defensive Coping, Stress Overload, Impaired Comfort, Anxiety, Decisional Conflict, Hopelessness, Powerlessness etc. How to catch the psychological and physiological aspects: Activity Intolerance, Fatigue, Excess Fluid Volume, Risk for Imbalanced Fluid Volume. The relevance of the limitations and nursing diagnosis on the patient regarding the therapeutic situation and daily life ect.	
Queries over fitting diagnosis that relates to possible simultaneous onset	26 (7.8)	41 (12.3)	67 (20.2)
	Way of diagnosis: "Risk for Falls" and "Impaired Walking" Way of diagnosis: "Impaired Physical Mobility" and "Impaired Walking" Way of diagnosis: "Impaired Walking" and "Impaired Bed Mobility" Way of diagnosis: "Risk for Injury" and "Impaired Skin Integrity" Way of diagnosis: "Risk for Falls" and "Impaired Transfer Ability" Way of diagnosis: "Impaired Swallowing" and "Feeding Self-Care Deficit" etc.	Way of diagnosis: "Activity Intolerance" and "Impaired Gas Exchange" or "Decreased Cardiac Output" or "Risk for Decreased Cardiac Tissue Perfusion" Way of diagnosis: "Anxiety" and "Insomnia" Way of diagnosis: "Insomnia" and "Activity Intolerance" Way of diagnosis: "Ineffective Protection" and "Imbalanced Nutrition: Less than Body Requirements" Way of diagnosis: "Insomnia" and "Activity Intolerance" Way of diagnosis: "Fatigue" and "Impaired Comfort" etc.	
Queries over candidate nursing diagnoses at screening stage	22 (6.6)	28 (8.4)	50 (15.1)
	The concept of nursing diagnosis for the possibility of consideration only: Impaired Skin Integrity, Risk for Impaired Skin Integrity, Insomnia, Ineffective Self-Health Management, Caregiver Role Strain, Impaired Transfer Ability, Ineffective Coping, Deficient Fluid Volume, Fatigue, Anxiety, Constipation, Risk For Falls etc.	The concept of nursing diagnosis for the possibility of consideration only: Risk for Infection, Anxiety, Death Anxiety, Activity Intolerance, Ineffective Role Performance, Risk for Unstable Blood Glucose Level, Risk for Electrolyte Imbalance, Acute Confusion, Disturbed Sleep Pattern, Acute Pain, Deficient Fluid Volume, Imbalanced Nutrition: Less than Body Requirements etc.	
Queries over a diagnosis that exhibits similar physical/mental function and state	13 (3.9)	25 (7.5)	38 (11.4)
	Differentiate from "Risk for Aspiration" "Impaired Swallowing" Differentiate from "Disturbed Sleep Pattern" "Insomnia" "Sleep Deprivation" Differentiate from "Risk for Infection" "Ineffective Protection" Differentiate from "Acute Pain" "Chronic Pain" Differentiate from "Noncompliance" "Ineffective Health Maintenance" etc.	Differentiate from "Risk for Aspiration" "Impaired Swallowing" Differentiate from "Acute pain" "Chronic pain" Differentiate from "Impaired Gas Exchange" "Ineffective Breathing Pattern" Differentiate from "Diarrhea" "Dysfunctional Gastrointestinal Motility" Differentiate from "Ineffective Health Maintenance" "Risk-Prone Health Behavior" Differentiate from "Noncompliance" "Ineffective Health Maintenance" etc.	
Queries over distinguishing between nursing diagnosis and medical problem (complication)	17 (5.1)	20 (6.0)	37 (11.1)
	The determination of issues related to nutrient state The determination of issues related to respiratory state (Impaired Gas Exchange and Ineffective Breathing Pattern) The determination of issues related to nausea The determination of issues related to circulation state (Excess Fluid Volume, Decreased Cardiac Output) etc.	Determine about issues related to fatigue Determine about issues related to nutrient state Determine about issues related to liver or intestine function (Risk for Impaired Liver Function and Diarrhea) Determine about issues related to intervention in skin (Impaired Skin Integrity) Determine about issues related to intervention in sleep (Insomnia) etc.	
Doubts over conclusions on lack of self-care	15 (4.5)	22 (6.6)	37 (11.1)
	How to identify self-care shortages and ADL assistance The view of two or more diagnoses (Toileting/ Bathing / Dressing Self-Care) Examination with other diagnostic candidates (Activity Intolerance) ect.	How to identify self-care shortages and ADL assistance Other diagnostic candidates (Activity Intolerance, Fatigue, Acute / Chronic Pain, Risk for Falls) etc.	
Queries over diagnosis of suitability for family intervention or instruction to discharge	7 (2.1)	12 (3.6)	19 (5.7)
	Method of diagnosis of "Ineffective Health Maintenance" Method of diagnosis of "Caregiver Role Strain" Method of diagnosis of "Ineffective Self-health Management" etc.	Diagnosis of the nature of "Ineffective Self-health Management" Diagnosis of the nature of "Caregiver role Fretage" Diagnosis of the nature of "Risk for Caregiver Role Strain" Diagnosis of the nature of "Caregiver Role Strain" ect.	

Note. ** $p < .01$ using Fisher's exact test

having become aware of these stages. The available patient data were limited to those provided by the case study and they may have been insufficient for interpretation. In addition, in the process of analysis, it might have been difficult to decide on which problem to concentrate on and with which diagnosis to replace when changing the name of the problem to that of an existing diagnosis.

Other queries related to clinical diagnoses included clinical hesitation in "integration" when narrowing down problems within the overall presentation. When narrowing down the diagnosis, queries may arise when considering whether a problem such as impaired skin integrity is a condition that requires active monitoring or interventions.

The next most frequent type of query concerned interrelated diagnoses that might occur simultaneously. These were queries concerning pairs of diagnoses that both included the same related factors, such as risk for falls and impaired walking or disturbed body image and situational low self-esteem, or queries related to diagnoses in the same domain or class that might occur simultaneously, such as impaired physical mobility and impaired walking. These were presumably queries associated with stage 6 (integration) of the E-DOP thought process, whereby data are interpreted and the problem is inferred, after which the defining characteristics of the provisional nursing diagnosis are compared with the related factors to arrive at the final diagnosis. Such queries could have arisen if the scope of meaningful information covered both diagnoses or if participants were hesitant about how to regard situations in which one diagnosis constituted the cause and the other the outcome. According to Nursing Diagnoses: Definitions and Classification (2015–2017), the recommended procedure for narrowing down candidate diagnoses is to consider diagnoses with characteristics that are more obviously associated with the patient than others (Herdman, & Kamitsuru, 2014a). It is important to adopt the viewpoint of considering the diagnoses that are most closely focused on the conditions exhibited by the patient.

In the event of this type of query, the question may also arise on whether to diagnose both. Generally, there is a need for data to be shared more efficiently in the clinical setting in the form of assessments and

records in the context of everyday tasks. Hospital A accepts a large number of new admissions who remain in the hospital on average for less than 10 days. Thus, there was a tendency to look for practical ways to deploy nursing diagnosis in a focused way in as short a time as possible. In the event of nursing diagnoses with overlapping interventions, the prevailing pattern of thought may be to combine the diagnoses.

The next queries concerned candidate nursing diagnoses at the screening stage. These can be regarded as queries related to stages 5 (analysis) and 6 (integration) of the E-DOP. The defining characteristics and related factors are considered, but the extent to which they can be matched to reach a definitive diagnosis is unclear. Nursing Diagnoses: Definitions and Classification (2015–2017) points out the importance of a subsequent more in-depth assessment in the process of identifying candidate nursing diagnoses (Herdman & Kamitsuru, 2014b). This requires more focused data collection to confirm or rule out candidate diagnoses. Because case study review meetings deal with paper cases, however, investigations are based on a limited amount of data. Hence, additional information that can be obtained when considering potential candidate diagnoses is limited. Queries may thus have stemmed from the fact that more in-depth assessment was unfeasible.

Queries concerning diagnoses indicating similar mental and physical functions or conditions can be regarded as related to stage 6 (integration) of the E-DOP. Nursing diagnoses such as risk for aspiration and impaired swallowing both concern swallowing as their cause or condition, while differing in terms of the severity of symptoms and the severity or extent of their potential mental and physical effects. According to Nursing Diagnoses: Definitions and Classification (Herdman & Kamitsuru, 2014a), comparing groups of classes of candidate diagnoses may be helpful. Diagnoses must also be ranked in order of priority, and considered in terms of whether they will be effective. In stage 6 (analysis), it is important to re-examine the focus of each diagnosis and what will be effective in light of the priority of the diagnostic class and the definitions of the diagnoses concerned.

Queries related to the distinction between nursing diagnoses and medical problems arise when it is

unclear whether the focus should be on medical treatment by doctors or whether a feasible intervention can be planned at the discretion of nurses, and concern stages 5 (analysis) and 6 (integration) of the E-DOP. According to the Tripartite Model of Nursing Practice, nursing actions in nursing practice can be divided into three types: treatment or surveillance in accordance with medical diagnoses, nursing interventions in accordance with nursing diagnoses, or basic care in accordance with organizational protocols (Herdman & Kamitsuru, 2014c). Nursing actions based on a nursing diagnosis are thus only one part of the nursing actions performed by nurses. Nevertheless, in clinical settings, the requirement to keep records of much of the care performed by nurses is a cause of conflict, and it might be difficult to distinguish between these three categories of nursing action. It is important to carefully examine the symptoms associated with the problem and their causes, and to consider nursing actions and interventions.

Queries concerning the understanding of self-care deficit may involve some degree of confusion between the assessment of the patient's condition and the shared awareness of the qualitative maintenance of assistance with ADL in the hospital. Egawa (2011) described self-care deficit as nursing diagnosis terminology that is easily misunderstood, and emphasized that this diagnosis must be differentiated from situations in which nursing interventions are performed for patients who are required to rest and for whom assistance with ADL is appropriate. However, some nurses working in clinical settings in Japan may face difficulties keeping records and assessments outside the nursing diagnosis process when providing ADL care that is not part of a nursing diagnosis. Nursing problems other than physical circumstances are highly susceptible to cultural influences (Kim, 2011), and Japanese nurses, who tend to emphasize ADL care, may understand it from a particular viewpoint. It may be necessary to adjust their understanding of the meaning of ADL care and the system of record keeping in line with the nursing diagnosis system.

Other queries were raised with respect to diagnoses for which guidance with a view to hospital discharge or family interventions would be appropriate; these represented queries when involving the family, such

as risk for caregiver role strain. Hospital A is an acute care hospital at which patients are hospitalized for a relatively short time, meaning that nurses' involvement must also take patients' post-discharge living situations into account. This may have generated doubts concerning nursing support and nursing diagnosis when discharge was imminent. According to Egawa (2011), ineffective self-health management is a nursing diagnosis that cannot be used in hospital, and risk for caregiver role strain is mainly used by visiting nurses. From the perspective of nursing in Japan, however, nurses' involvement must consider self-management after discharge and long-term care by family members.

2. Consideration of the Educational Support System

Unspecified self-care deficit was not proposed in Period 2. Studies have found that the use of a program with the aim of familiarizing participants with nursing diagnosis, as well as practice in reaching nursing diagnoses, affects attitudes toward nursing diagnoses (Romero-Sanchez et al., 2013). Notably, "unspecified self-care deficit," a terminology used daily, was not used in period 2; thus, continuously conducting nursing diagnosis case study review meetings may contribute to usage of clearer diagnostic terminologies. This suggests that the continuing case study review meetings may have led to basic knowledge on some diagnoses becoming established.

The clinical assessment of the patient's condition queries were significantly more common in Period 2 than in Period 1. Queries concerning clinical assessment presumably indicate the difficulty of changing the name of the problem to that of an existing diagnosis at the analysis stage. The process of analyzing patient data for specific cases and making connections may be affected by the difficulty of utilizing knowledge about the clinical status, definition, and theoretical background that is the focus of each diagnosis. Given the additional difficulty of interpreting on the basis of the limited patient data available, this may also add to the doubts that emerge. A study by Kuroda et al. (2005) found that nurses had difficulty with the nursing diagnosis terminology used in electronic medical records and were anxious that they were not using it properly. Similarly, the present

study suggests the existence of issues with nurses' understanding of the definitions of nursing diagnoses and with making comparisons between patient data and their defining characteristics. NANDA-I points out that an understanding of the concepts underlying the foundations of nursing diagnosis is essential for identifying candidate nursing diagnoses (Herdman & Kamitsuru, 2014b). The types of queries raised in this study indicate that educational support for clinical nurses was not enabling them to make connections between theoretical or conceptual learning and actual individual cases, and that they did not really know the subject well. This suggests that as case study review meetings proceed, it may also be necessary to combine them with theoretical and conceptual learning about the nursing diagnoses that have been the subject of queries.

The queries about interrelated diagnoses that occur simultaneously and similar diagnoses suggest the importance of the process of coming up with a diagnosis with characteristics that are more obviously associated with the patient than are those of other diagnoses when differentiating between or narrowing down candidate diagnoses. The ratios of this type of queries did not differ between the two periods. Collins (2013) measured the accuracy of diagnoses when case studies were used for continuing education, and found that developing clinical reasoning was effective in improving nurses' attitudes toward and the accuracy of nursing diagnoses. The queries about interrelated diagnoses that occur simultaneously and similar diagnoses suggest the importance of the process of coming up with a diagnosis with characteristics that are more obviously associated with the patient than are those of other diagnoses when differentiating between or narrowing down candidate diagnoses. Etheridge et al. (1992) also discussed the limitations of the data included in paper cases. To enable the meetings to proceed effectively and training this thinking process, it may also be important to provide support at the stage of revising the content of case studies for use in case study review meetings.

Queries at the stage of how to combine multiple diagnoses were also evident in clinical situations, in relation to the large number of acute patients, the short time they spent in hospital, and the volume of

records required by the number of diagnoses. This suggests that, taking into account the characteristics of the hospital in which the nurses were working, it will be meaningful to explore the way in which nursing diagnoses consonant with the actual situation should be determined while engaged in practical consideration of the characteristics of each diagnosis and the course of interventions. It will also be necessary to continue to consider approaches for nursing diagnosis that can be practically applied.

VI Limitations

This study focused on the relation of multiple candidates nursing diagnoses upon determining the nursing diagnoses behind the queries. The analysis of queries in this study did not focus mainly on a nursing diagnosis of a clinical judgment concerning a human response to health conditions/life processes. However, since the connection between the nursing diagnoses and the case content is not clear, we regard the present results as preliminary, and we will consider analyzing them in association with case content in the future.

This study analyzed only case study review meetings held at a single hospital. To establish their effectiveness, more widespread investigations involving other institutions will be required in the future, as well as verification of the accuracy of the diagnoses proposed. The attributes of nurses conducting nursing diagnoses and degree of share of a lecture may influence the process of the diagnoses. Although a summary of the results of examinations made by each department was analyzed, it was difficult to identify a clear relationship between each attribute of the study session participants and their thought processes. These questions remain a topic for future research.

VII Conclusions

We carried out quantitative content analysis of summary records of discussions during case study review meetings held at Hospital A. The types of queries raised concerned the clinical assessment of the patient's condition, interrelated diagnoses that might occur simultaneously, candidate diagnoses at the

screening stage, diagnoses indicating similar mental and physical functions or conditions, the distinction between nursing diagnoses and medical problems (complications), how to understand self-care deficit, and diagnoses for which guidance with a view to hospital discharge or family interventions would be appropriate. Our results suggest that these queries were associated with stages 3 (interpretation), 5 (analysis), and 6 (integration) in the E-DOP. Conceptual learning connected to case studies and a review of the content of case studies might be necessary, together with support for integrated approaches that account for the characteristics of each member institution.

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Conflicts of Interests

There is not the problem about the profit reciprocity.

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