Characteristics of nursing intervention of an expert nurse for stroke patients based on the Roy Adaptation Model: Elucidation of tacit knowledge hidden in good practice

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Introduction

- When looking at the great practice of an expert nurse, you may feel an unexplained "intuition." An expert's power is defined as "tacit knowledge"—knowledge that is difficult to verbalize and is acquired from experience.

- Tacit knowledge is a concept advocated by Michael Polanyi (1966), a philosopher, physiologist, and physicist from Budapest, Hungary and is based on the concept that "we can know more than we can tell."

- Tacit knowledge is said to be challenging to translate into real language. We think tacit nursing knowledge that is difficult to verbalize in the nursing conceptual area includes intuition, caring, clinical judgment, ethical sensitivity, etc.

- Nurses who comprehend the RAM understand humans holistically with four adaptive modes and specialize in nursing that promotes people's adaptation. Therefore, we hypothesize that nurses' level of understanding of the RAM will make a difference between nurses' tacit knowledge and their practice.

Purpose

- The two cases introduced in this study reflect instances when intervention of an expert nurse greatly promoted patients' adaptive behavior.

- The purpose of this study was to report the characteristics of nursing interventions to promote adaptation in four adaptive modes by an expert nurse using the RAM.

Methods

- The study period: April 2017–April 2021

  (These cases' intervention period: Case1; Feb〜Mar 2019, Case 2; July〜August 2020）

- Research method: A qualitative study (using context analysis)
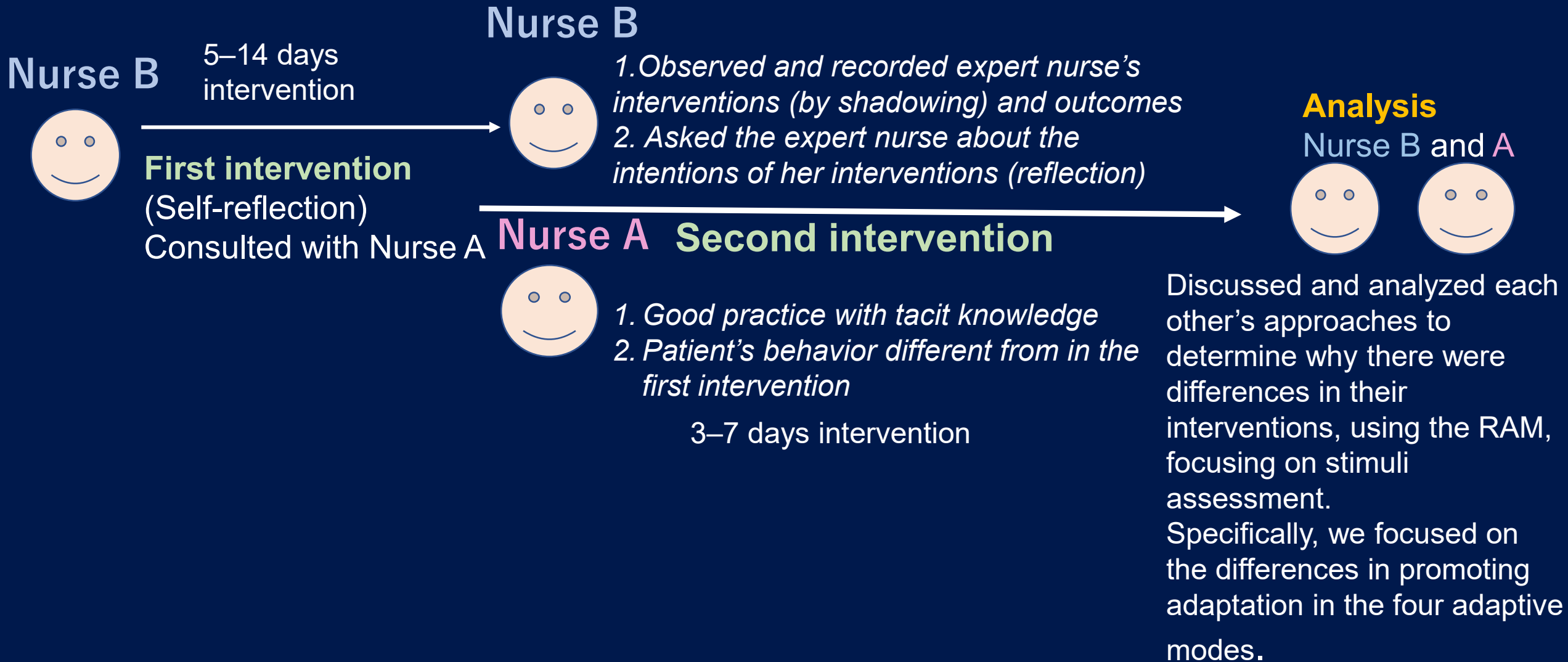
- Procedure:

1) An expert nurse *(Nurse A)* and a competent nurse *(Nurse B)* participated in this study. These nurses' specialty areas were stroke rehabilitation and nursing interventions based on the RAM's assessment. The nurses conducted interventions for two stroke patients.

2) First, *Nurse B* performed the intervention for the patients and then consulted with *Nurse A* on those interventions. *Nurse B* participated in the intervention settings and then observed and recorded *Nurse A*'s expert practice (by shadowing) as well as patient outcomes.

3) After these intervention periods, *Nurse B* reflected on both practices, and the two nursing researchers compared each other's practices and outcomes. Informed consent was obtained from all participants.

Procedure: How to compare the nursing practice based on the RAM

Nurse B

Nurse B

5–14 days intervention

First intervention
(Self-reflection)
Consulted with Nurse A

1.Observed and recorded expert nurse's interventions (by shadowing) and outcomes
2. Asked the expert nurse about the intentions of her interventions (reflection)

Nurse A **Second intervention**

1. Good practice with tacit knowledge
2. Patient's behavior different from in the first intervention

3–7 days intervention

Analysis
Nurse B and A

Discussed and analyzed each other's approaches to determine why there were differences in their interventions, using the RAM, focusing on stimuli assessment.
Specifically, we focused on the differences in promoting adaptation in the four adaptive modes.

Results: Patients' Characteristics

Case 1	Case 2
・A 72-year-old female ・Severe right hemisphere stroke	・A 60-year-old female ・Severe right hemisphere stroke
【Physiologic Mode】 ・Severe hemiplegia (Manual Muscle Testing; Left side 1/5) ・Unilateral Spatial Neglect ・Dysarthria ・Edema (Left side hand）　・Self-care deficits.	【Physiologic Mode】 ・Severe hemiplegia (Manual Muscle Testing; Left side 1/5) ・Sensory loss（Left side） ・Unilateral Spatial Neglect ・Dysphasia・Self-care deficits.
【Self-Concept Mode】 ・She expressed a sense of depression: "I am not worthwhile…" and cried every day.	【Self-Concept Mode】　・Facial expression looked sad ・She said, "I tried to do my best in my rehabilitation, but my husband didn't think I did. I did my best, so I can't do more."
【Role Function Mode】 ・She has a mother and a grandmother role. ・Before the onset of her stroke, she lived with her daughter's family and took care of them.	【Role Function Mode】 ・She lived with her husband and son before her stroke. ・She supported her family members as a wife and mother.
【Interdependence Mode】 ・Her daughter strongly worried about her depression because she has been a very cheerful, energetic person before the stroke.	【Interdependence Mode】 ・Her husband visited the hospital every day and eagerly encouraged her and did his own rehabilitation repeatedly, which was not an appropriate method for her.

Case 1: *Difference between Nurse B and A*

Assessment based on the RAM	Nursing intervention and patients' outcome
【Nurse B's thoughts】 ・ND＃Self-care deficit F: Severe hemiplegia C1: USN ・ND＃Lower self esteem F: Severe hemiplegia C1: Need for assistance from others for her self-care activities.	・Interventions focused on supporting self-care deficits. ・Gave positive feedback if the patient did her self-care. ・Supported her self-care with the rehabilitation team. ・Carefully listened to her thoughts about her disabilities. 【Patient outcomes】 ・Joined the rehabilitation every day but cried due to regret afterwards. ・When she asked nurses to assist her in using the toilet, she expressed her sympathy toward the nurses .
【Nurse A's (Expert) thoughts】 ・ND＃Self-care deficit F: Severe hemiplegia C1: USN ・ND＃Lower self esteem F: Severe hemiplegia, Patient's characteristics (high coping process) C: Need for assistance from others for her self-care activities. Deep trust or love for her daughter.	・Interventions focused on the patient's personality characteristics and encouraging her high-coping process. ・Throughout assessment in the self-concept mode, Nurse A assessed the patient's stimuli as her deep trust and love for her daughter and deep appreciation for the others who helped in her life.

Case 1: Intervention Differences between Nurse B and A

- Nurse A planned to intervene, as she became part of the support system for the patient and her daughter.

- Nurse A set a time for lunch with the patient, nursing students, and rehabilitation therapists, which was the most enjoyable aspect of the patient's hospital life.

- After the intervention, the patient expressed, "I did not expect that so many people would support my recovery and that I would have such a fun experience at the hospital. It is true that my disability is very demanding, but I feel deep appreciation for those who supported me. In a sense, there was meaning to this suffering."

Case 2: *Difference between Nurse B and A*

Assessment based on the RAM	Nursing intervention and patients' outcome
【Nurse B's thoughts】 ・ND # Self-care deficit F: Severe hemiplegia C1: USN, C2: sensory deficit C3: Attention disorder ・ND # Lower self esteem F: Severe hemiplegia C1: Need for assistance from others for her self-care activities. C3: Her husband was overly concerned about the patient's recovery.	・ Interventions focused on support self-care deficits and lower self-esteem. ・ Supported her self-care with the rehabilitation team. ・ Carefully listened to her thoughts about her disabilities. 【Patient outcomes】 ・ Joined rehabilitation every day, but after rehabilitation she looked depressed. ・ "I tried to do my best in rehabilitation, but my husband didn't think so. I did my best, so I can't do more."
【Nurse A's (Expert) thoughts】 ・ND # Self-care deficit F: Severe hemiplegia C1: USN, C2: sensory deficit C3: Attention disorder ・ND # Lower self esteem F: Severe hemiplegia C1: Need for assistance from others for her self-care activities. R: Her husband has some problems himself	・ Nurse A focused on the interdependence mode assessment and predicted that the behavior of her husband, who came to the hospital and worried about the patient, might have other residual stimuli than worrying about the wife's recovery. ・ To clarify the stimulus, Nurse A planned a meeting with therapists, nurses, and the patient's husband and created an opportunity for him to join in the patient's rehabilitation.

Case 2: *Intervention Differences between Nurse B and A*

- When the husband joined his wife's physical therapy, he appeared very surprised and stared crying suddenly.

- He acknowledged her efforts and said, "I didn't know she was working so hard." The patient cried at his words. Also, Nurse A judged that she needed to explore the interview of the husband's interdependence mode and planned to interview her husband together with student nurse.

- Nurse A understood that the husband's behavior, e.g., excessively encouraging his wife's rehabilitation, was motivated by feelings of guilt toward his wife's disability.

- Nurse B was surprised by Nurse A's judgment and that she (Nurse A) quickly took action to enlist rehabilitation team members, which strongly stimulated the patient's husband's self-concept mode.

- After Nurse A's intervention, her husband expressed a deep appreciation to the medical staff involved in the rehabilitation team, including Nurse A.

Considerations:
Characteristics of Nurse A's practice

1. Nurse A swiftly responded to the patients' major complaints and assessed the stimuli and coping processes that caused patient behaviors and intervened to promote four adaptive modes of adaptation, not only for the patients but also for their families.

2. Nurse A also showed compassion for the patients' suffering.

3. Nurse A's intervention in the stimuli also affected the other adaptive modes. Thus, the patients' adaptive behaviors increased significantly.

4. Nurse A assessed the patients' coping process and attempted interventions to enhance those coping process.

Conclusion

- Roy (2009) noted that complex relationships among modes further demonstrate the holistic nature of humans as adaptive systems.

- The difference between both nurses' recognition of how to weigh patients' stimuli and how to promote the four adaptive modes' interconnectedness based on their tacit thoughts led to a gap in the interventions taken, as well as in patient outcomes.

- Further study is needed to express the collective "tacit knowledge" hidden in practice, so future research should address this through a phenomenological study.

References

- Michael Polanyi (1966): The tacit dimension. The University of Chicago Press.
- Sister Callista Roy (2009): The Roy Adaptation Model. 3rd edition. Pearson.

Thank you very much for your attention!