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Case Study

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Decision-making Support for A Patient Immediately Hospitalized from Subarachnoid Hemorrhage and A Senior Family Member with Cognitive Impairment

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Abstract

Objective: To clarify nurses' roles and issues from a case study on decision-making support for a patient immediately hospitalized and admitted to the intensive care unit (ICU) from subarachnoid hemorrhage, as well as for the patient's senior family member with cognitive impairment.

Methods: A case study approach was employed in this study, subjecting a female patient suffering from subarachnoid hemorrhage who was immediately admitted to the ICU and her senior family member with cognitive impairment. Data on the patient's medical history, condition, and treatment progression were collected. Responses, comments, and actions of the patient's family member during hospitalization were also carefully observed. Nursing practices for the patient and her family from admission to discharge were retrospectively investigated and described by reflecting nurses' thoughts and practices. Nurses' thoughts, actions, and judgments were chronologically organized for analysis and discussed with relevant nurses for veracity. Regarding ethical considerations, the study was conducted by receiving approval from the ethics committee of the Nursing Department of the Nippon Medical School Hospital and consent from patients' families upon oral explanation of the research details.

Results: Nursing practices were focused on reducing the mental and physical stresses of the patient's husband and establishing emotional support and communication for him. Later, coordination among family members and connection of the family to the community support system were established, thereby consensus building among family members and relevant decision-making support progressed smoothly. Additional coordination of connecting the patient and her family to available job opportunities and resources was implemented before the patient's discharge; then, the patient was transferred to a different hospital.

Discussions: The patient's husband experienced tiredness and a sense of isolation under the circumstances where he could not control his actions due to cognitive impairment. He could not ask for help from other family members, and immediate support for him was highly necessary. In this case, the nurses who attended the patient expanded their support scope not only to her husband but also to the whole family, thereby assisting each family member in reconfirming their family bonding, probably leading to the nursing practice that supports family empowerment.

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Introduction

Population aging has been rapidly progressing recently in Japan and diseases that affect older adults exhibit an increasing trend each year. Notably, subarachnoid hemorrhage exhibits substantially high occurrence and fatality rates among cerebrovascular diseases. In addition, it causes various sequelae, including higher brain dysfunctions, and requires long-term rehabilitation. It severely impacts not only the patient's prognosis but also the lives of the patient's family.

Subarachnoid hemorrhage occurs by a cerebral aneurysm rupture and subsequent bleeding on surrounding brain tissues, leading to symptoms of abrupt severe headache, consciousness disturbance, and vomiting. Surgical treatments, such as craniotomy with clipping and endovascular treatment, are often employed as treatment methods. However, surgery imposes risks and requires a decision-making process based on the patient's condition and the intentions of the patient's family. Older adult patients suffering from subarachnoid hemorrhage often exhibit high risks of complications and degradation of cognitive functions, leading to anxieties about making decisions in the treatment plans or about their prognosis. The decision-making process can be more complicated when there is a senior member with cognitive impairment in the patient's family. Older adults with cognitive impairment often have difficulties understanding relevant information regarding the patient's conditions and necessary treatments. Some of them also have problems expressing their intention clearly. Therefore, the patient's family members have to face various issues aside from the decisions regarding treatment plans for the patient, including the care for the senior family member with cognitive impairment, household support, financial matters, and other relevant problems.

In Japan, the government's fundamental principles regarding policies for cognitive impairment were organized into a document

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titled "*Ninchisho Shisaku Suishin Taiko* (Comprehensive Strategies in Promoting Measures for Cognitive Impairment)" in 2019, toward the goal of a society where every citizen with cognitive impairment can live with hope and dignity. The document discusses various topics as essential issues that require immediate attention, including establishing local communities that support people with cognitive impairment, enhancing public awareness of preventive measures for cognitive impairment, and improving relevant medical and care services. However, the social support system for families with senior members with cognitive impairment has not been fully established yet; no effective support measures are available for the families to reduce their burdens and resolve their anxieties.

Here, we report our nursing practice experiences on the decision-making process in the case of a female patient suffering from subarachnoid hemorrhage who was immediately admitted to the ICU and a senior member of her family who had cognitive impairment.

Objective

To clarify nurses' roles and issues from a case study on decision-making support for a patient immediately hospitalized and admitted to the intensive care unit (ICU) from subarachnoid hemorrhage, as well as for the patient's senior family member with cognitive impairment.

Methods

Data collection

The relevant data were collected through interactions with the patient and her family, including interview sessions and conferences. The family members' emotional conflicts or hesitations in the decision-making process, the contents of nurses' intervention, and family members' reactions to the intervention were carefully observed and collected as description data from nursing, interview, and conference records. In addition, the patient's medical history, conditions, treatment progression, as well as family members' responses, comments, and behaviors were carefully observed and organized chronologically as data (Table 1).

Data analysis

Nursing practices for a patient suffering from subarachnoid hemorrhage who was immediately hospitalized and for her family from admission to discharge were retrospectively examined, and thoughts and practices of the primary nurse (PN) were discussed with other registered nurses (RN). Specifically, nursing practice records were organized chronologically, and PN's thoughts, actions, and judgments at each stage were described in detail to confirm their backgrounds and reasons with other RNs for veracity.

Research period

Three weeks from July to August 2024.

Ethical consideration

This study was approved by the Ethics Committee of the Department of Nursing at Nippon Medical School Hospital. The research participants received detailed explanations in plain language regarding the research objective, methods, contents, and privacy policy; their consent for research participation was obtained in writing.

Case Information

Facility outline

The facility where the investigation was conducted is the core hospital in the area with an advanced emergency medical service center that receives patients with critical medical emergencies 24 hours a day, 365 days a year.

Case outline

The participant was Mrs. A, a female patient in her 80s. Her chief complaint was a sudden headache with consciousness disturbance, and she was transported to the hospital by ambulance. As a result of the initial inspection, she was diagnosed with subarachnoid hemorrhage (World Federation of Neurosurgical Societies scale: Grade IV) and underwent immediate cerebral aneurysm embolectomy; after the surgery, she was admitted to the ICU. Mrs. A's family structure was a husband in his 80s who lived with her and a son in his 50s who lived in a distant place (Figure 1. A: Mrs. A's genogram).

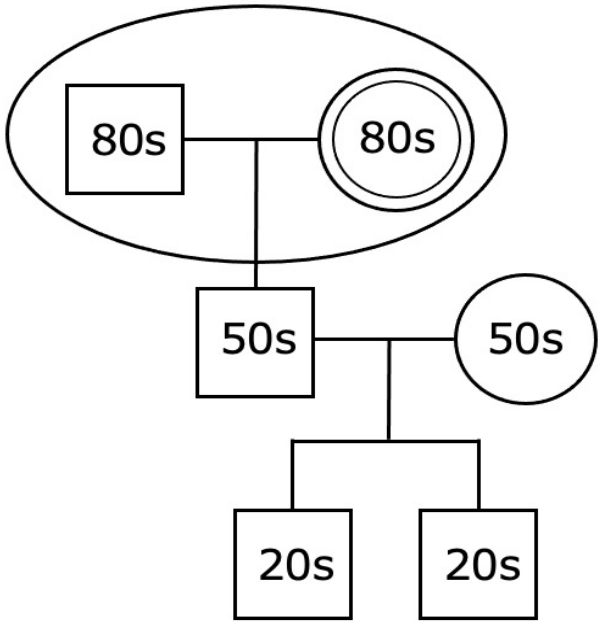

Figure 1: A- Mrs. A's genogram

Nursing Practices

Patient's conditions (progress of symptoms and treatments) and nursing practice

Mrs. A's consciousness level measured by the Glasgow Coma Scale (GCS) immetiately after the surgery was GCS 10 = E3, V2, M5. She exhibited symptoms of disorientation and severe articulation disorder, requiring total care assistance in all activities of daily living (ADLs). Her consciousness level on Day 3 at the ICU was GCS 11 = E3, V3, M5. Disorientation and articulation disorder symptoms remained; she barely responded to verbal stimuli. No evident paralysis in the extremities was confirmed. Minor on-bed rehabilitation with constant monitoring of fluctuations in her vital signs was initiated.

The consciousness level improved up to GCS 13 = E4, V4, M5 by Day 7 at the ICU, and rehabilitation therapies by physical, occupational,

Day in Hospital	Patient's Conditions	Care for Patient	Family Conditions and Assessment	Family Nursing Practice
Day 1	"·Emergency hospitalization from subarachnoid hemorrhage ·Underwent immediate cerebral aneurysm embolectomy ·Consciousness level at GCS 10 = E3, V2, M5 ·Exhibited disorientation and articulation disorder"	"·Vital sign measurement/ biological monitoring (performed constantly during hospitalization) ·Safe and comfortable care"	"·The husband could not understand Mrs. A's conditions ·The husband's first visit to the ICU, so he was strongly anxious ·Family crisis ·Existence of a son living in a distant place, but details were unknown"	"·Informed the husband regarding Mrs. A's conditions ·Attending conferences/listening to anxieties/emotional support ·Establishing communication with the husband ·Contacted her son"
Day 3	"·Consciousness level at GCS 11 = E3, V3, M5 ·Exhibited disorientation and articulation disorder"	·Initiated minor on-bed rehabilitation	"·The husband began to understand Mrs. A's conditions gradually ·The husband's visit to the ICU (everyday during hospitalization) ·The husband's anxieties/sense of isolation ·Stabilizing the husband's daily life ·The son visited the hospital (his first visit to the ICU)"	"·Coordinated the family member's visit to the ICU ·Interview with the husband/listening to anxieties/emotional support ·Interview with the son/listening to anxieties/emotional support ·Investigated community support service system"
Day 7	"·Consciousness level at GCS 13 = E4, V4, M5 ·Exhibited disorientation and articulation disorder"	"·Continued on-bed rehabilitation (with increased load) ·Explained Mrs. A of her conditions"	"·Concerns regarding Mrs. A's future ·Lack of prospects for the future ·Physical and mental exhaustion of the family members ·The son's visit to the ICU"	"·Coordinated the family member's visit to the ICU ·Interview with the husband and son/listening to anxieties/emotional support ·Coordinated community support service system ·Decision-making support"
Day 14	"·Consciousness level at GCS 14 = E4, V4, M6 ·Exhibited disorientation and articulation disorder"	"·Expanded target ADLs/initiated gait training ·Multi-professional conference ·Guidance for transfer preparation"	"·Understanding and anxieties regarding Mrs. A's conditions and future life ·Facing reality ·Preparing themselves for the hospital transfer ·The son's visit to the ICU"	"·Coordinated the family member's visit to the ICU ·Organized multi-professional conference ·Decision-making support ·Coordinated multi-professional support/resources ·Provided guidance for preparation of transfer"
Day 18	·Transferred to a rehabilitation hospital	·Explanation and guidance at transfer	·Each family member confirmed their roles in the family in a new environment	·Explanation, guidance, and interview at transfer

Table 1: Chronological Process from Hospital Admission to Discharge.

and speech therapists were initiated. Mrs. A's condition exhibited gradual improvement since the start of the rehabilitation, and by Day 14 at the ICU, she became able to walk with assistance from a caregiver and perform several ADLs by herself, such as having meals and excretion. However, her condition in articulation disorder did not show evident improvement, having communication difficulties. In response to this situation, the PN called for an interdisciplinary conference to discuss the support plans for the post-discharge lives of Mrs. A and her family and Mrs. A's transfer to a different hospital. On Day 18 at the ICU, Mrs. A was decided to be transferred to a rehabilitation hospital.

Family outline and identification of issues by family assessment results

Mrs. A lived with her husband in his 80s. He suffered from symptoms of cognitive impairment in his old age, requiring assistance in performing several ADLs. Mrs. A's sudden hospitalization impacted him severely with anxiety and confusion, and a sense of isolation inevitably grew in him. Mrs. A was solely in charge of all household, including care for her husband. Her husband lost his support from Mrs. A's sudden hospitalization and worried about his future. He expressed his feelings to the PN: "I believe my wife wished to go home with me because she and I have lived together so long. But I don't know what to do for the future. Tell me, can't she ever come home again?"

Although the presence of a son was informed at admission, relevant details regarding the son were unknown.

Family nursing plans and intervention

(1) Reducing mental and physical stresses of the patient's husband and establishing emotional support and communication

The PN began her intervention by focusing on reducing the mental and physical stresses of Mrs. A's husband and establishing communication with him. First, she politely explained Mrs. A's conditions and treatment progress in plain language so that he could understand. The PN also allowed him to meet his wife and informed him of recent developments in her condition at her bedside so that he could perceive the existence of Mrs. A. In addition, the PN set up interview sessions with the husband as a part of emotional support for him, during which she consciously kept in mind to hear him out with

patience and attend to him empathically. She showed her willingness to listen to him whenever he wanted to talk, trying to relax his feelings as much as possible by sharing good and fun memories of Mrs. A. The PN also kept in mind to speak clearly and slowly at his pace in establishing communication with him. She observed his expressions and listened to him carefully, always minding to understand his feelings, in her attempt to build trust with him.

The PN collaborated with other RNs as a team during Mrs. A's hospitalization, in which she continued emotional support for her husband, focusing on reducing his anxieties and problems. She also shared a policy in the medical team to employ communications suitable to the husband's cognitive abilities and supported him to fulfill the husband's role by minding and not allowing his mental and physical stresses to grow.

(2) In-family coordination and intervention with the local support system

The PN collected relevant family information to coordinate a suitable facility to transfer Mrs. A and concluded that deciding on a key person to entrust the decision-making process was essential. During the data collection, she learned that, though Mrs. A lived alone with her husband, she had a son who lived with his wife in a distant place. The PN interviewed her husband regarding his thoughts on Mrs. A's treatment progress and prognosis and contacted their son by phone to inform him of the conditions of Mrs. A and her husband. The son said that since he lived in a distant place, it was challenging for him to come to the hospital at once, and direct involvement in Mrs. A's care and support was also challenging. At the same time, he worried about his parents very much and was willing to provide as much support as he could. The PN decided to contact the son regularly by phone to update his parents' conditions and attend to his anxieties and problems.

From the necessity of reducing the husband's mental and physical stresses, the PN also suggested the son to use social resources to support the household for the husband during Mrs. A's hospitalization. Specifically, she provided connection and coordination between the son and the local support office from where the husband received support so that the husband could receive the same service and support continuously at home. The PN organized information regarding each family member's conditions and utilized local resources in her attempt to ensure an environment where Mrs. A, her husband, and her son could continue their lives without worries.

(3) Support for the family's consensus-building and decision-making

Mrs. A's consciousness level gradually improved since the surgery for subarachnoid hemorrhage. However, her articulation disorder persisted, and she had difficulties communicating with others. Her husband was very old with symptoms of cognitive impairment, and understanding Mrs. A's intentions correctly was challenging for him. Her son lived in a distant place, making it challenging always to maintain direct on-site involvement with Mrs. A. Therefore, the PN set her initial goal as to build consensus among the family members and intervened accordingly, minding to respect the wishes of Mrs. A, the husband, and the son. First, the PN explained to Mrs. A her condition and treatment progression in plain language with occasional assistance from the doctor and other professionals so that Mrs. A could understand her health status and proactively engage in the decision-making process. Then, the PN carefully explained Mrs. A's condition and treatment progression during the hospitalization. She also set up meeting opportunities according to the dates the son could visit the hospital so that she could explain details directly in a face-to-face setting. She also organized and implemented meeting opportunities involving the husband, the son, medical practitioners, and community representatives to facilitate discussions regarding Mrs. A's future life among relevant parties. The PN organized information regarding treatment plans and recovery support for Mrs. A and facilitated discussions from a neutral standpoint while respecting each party's opinions to support the family's consensus-building, thereby assisting each family member in making the best decision for them while paying attention to opinions and concerns of the husband and son in collaboration with the family and the medical team.

(4) Coordination with other professionals and resources

The PN assumed that Mrs. A would return to the community in-home nursing in the near future and investigated care resources available in the area. She contacted the care office that provided support to her husband to share relevant information regarding the future life of Mrs. A and her husband and made necessary preparations for future care support. Specifically, the PN collaborated with the care manager and social worker and shared information regarding the status of her husband's cognitive impairment in order to ensure support for Mrs. A's post-discharge life. She also shared information regarding the expected life conditions of Mrs. A and her husband after discharge, their health status, and their usage status of nursing services, and coordinated the support contents with the community representatives whenever necessary.

Discussion

The case discussed in this paper describes the collective family nursing practice by the PN for Mrs. A in her 80s, who suffered a subarachnoid hemorrhage and was immediately hospitalized, her husband with cognitive impairment from his old age, and her son, who lived in a distant place. Mrs. A survived emergency surgery and was eventually transferred to a hospital specialized in rehabilitation, whereas her husband lost his support due to Mrs. A's hospitalization and temporarily fell into a mentally unstable state. In addition, her son experienced a conflict between his worries about his parents' conditions and his own life due to the geographic distance that prevented him from providing on-site support directly for his parents.

As for her husband, he had difficulties understanding the situation of Mrs. A's hospitalization because of his cognitive impairment from his old age, leading to anxieties and a sense of isolation. He also had difficulties controlling his actions, unable to ask other family members for help; he needed support as much as his wife. The PN first focused on resolving the husband's anxieties and problems in response to these circumstances. Specifically, she listened to him carefully about his anxieties regarding Mrs. A's condition, treatment progression, prognosis, his life without Mrs. A, his own health, and his nursing support, constantly minding to listen politely with showing empathy for him. She was also careful about how to discuss Mrs. A's conditions and treatments with him. She constantly reminded herself to communicate with him according to his cognitive abilities: to avoid medical terms and use plain words, to speak slowly, to repeat important matters several times, and to use visual materials.

The ICU in Japan is characterized by its policy of focusing on patient life-saving and recovery as the top priority by utilizing the facility fully equipped with various medical devices capable of monitoring patients 24 hours in a quiet, convalescent environment. However, in Mrs. A's case, the interaction with unfamiliar medical staff in these extraordinary circumstances could be intimidating for her husband, possibly leading him to fear excessively. Therefore, the PN focused on providing emotional support to her husband, constantly minding to interact with him in a manner by which he could feel relaxed and ensured. Thanks to the PN's intervention, the husband gradually regained his composure enough to smile occasionally. He began to show understanding regarding Mrs. A's condition and treatment progress, mentioning hope for Mrs. A's recovery. During Mrs. A's life-threatening event of subarachnoid hemorrhage, the PN provided her husband with thorough explanations and emotional support from the early stages of hospitalization and focused on establishing communication with him, probably leading to a favorable outcome of reducing his anxiety and enhancing emotional stability.

The aging of society in Japan progresses at a speed unparalleled in the world, with its population of those aged 65 and above reaching approximately 30% of the nation. In addition, the aging of society and changes in family structures are significant issues for Japanese society, including the increase of nuclear families and one-person households and the decrease of three-generation households. Mrs. A's family members were old, with her husband with cognitive impairment and a son living in a distant place. With each situation of Mrs. A, her husband, and her son differed from one another, organizing in-family coordination at the early stage of the hospitalization was the issue requiring immediate attention in order to provide support in decision-making regarding Mrs. A's condition and treatment plans, as well as regarding Mrs. A and her husband's future lives. Therefore, the PN assumed the role of a mediator among Mrs. A, her husband, and her son, as well as the community representatives to forward Mrs. A's condition and feelings and thoughts to each of them to assist them in understanding each other. She also suggested her husband and son to utilize social resources to reduce the husband's physical and mental burdens. In Japan, home-visit medical care/nursing and rehabilitation services are available, in which users can receive relevant medical services from doctors and nurses at home. In addition to the services covered within the scope of the Long-Term Care Insurance, such as day services, one can arrange services that support other ADLs, including meal delivery, monitoring, and purchase support. Regarding the support for the husband's daily life at home, the PN collaborated with the community support center and its care managers, who already supported the husband, to coordinate suitable support services according to the husband's living conditions that changed from Mrs. A's hospitalization. By these interventions focusing on in-home and out-of-home systems, Mrs. A, her husband, and her son each could understand the current situation and were able to maintain a safe and secure living environment for the time being. At the same time, the conditions of her husband's cognitive impairment and decrease in his cognitive functions possibly prevented him from fully understanding Mrs. A's conditions and treatment progressions. In addition, his son lived in a distant place, making it challenging for him to proactively support Mrs. A and her husband in nursing; they could have experienced anxieties and conflicts beyond our imagination. Further investigation should be necessary regarding communication methods with older adults with cognitive impairment to establish effective methods in information provision and emotional support for families with members suffering from cognitive impairment. Moreover, the utilization of tools for online meetings or information sharing should be promoted for the support of family members living in distant places. It is also desirable to expand the scope of nursing intervention to include other family members to construct a support system enabling positive approaches targetting the family as a whole.

As Mrs. A's condition and consciousness level improved, she could gradually remember what had happened to her. However, she had difficulties remembering some of her memories immediately before her hospitalization, and she also had a hard time expressing her thoughts or feelings correctly to others because of her articulation disorder. Considering her life in the future, allowing her to return to her home immediately after she regained consciousness was not an option, and an understanding shared among medical team members was to continue her life with medical treatment focused on rehabilitation. Therefore, the PN promoted information sharing among relevant parties regarding Mrs. A's treatment progressions and prognosis, grasped her husband and son's situations, and supported each family member to proactively participate in the decision-making process regarding Mrs. A's life with medical treatment in the future.

As for the decision-making regarding treatment plans for Mrs. A, the PN intentionally arranged meeting opportunities so that all family members concerned could discuss the matter while respecting Mrs. A's wishes and hearing opinions from her husband and son. In these meetings, the PN promoted smooth communication, in which each family member could respect other member's opinions to understand each other. During this period, Mrs. A remained in the hospital, and fully picturing life with treatment after transfer from the ICU was challenging. Nevertheless, supporting the family to make the best choice based on the consensus obtained from all concerned parties of the family and medical staff members was essential. To this end, the PN unified the information regarding Mrs. A's treatment plans and medical support to assist consensus-building while respecting each opinion and facilitating discussions from a neutral standpoint. In retrospect, collaborating with the family and the medical team, the PN's support practice successfully assisted Mrs. A and her family in making the best decision, considering the husband and son's opinions and concerns.

Although the study revealed that various conflicts occurred among the family members, it was essential and indispensable for Mrs. A, her family, and the multi-professional medical staff to work together to reform the future life of Mrs. A and her family toward the goal of respecting Mrs. A's independence and sustaining her quality of life. In this case, the nursing support practice can be considered a success in terms of the decision-making process regarding Mrs. A's treatment plans and future life in the point that Mrs. A and her family could make a choice satisfactory for each family member by building consensus among them, though the period of ICU hospitalization was relatively short.

Mrs. A was eventually transferred to a hospital specializing in rehabilitation. Thanks to the PN's intervention and continuous support for the decision-making process focusing on Mrs. A and her husband's post-discharge lives from the very beginning of her emergency hospitalization, the whole support practice seamlessly led to continuous nursing support. In addition, the collaboration with other professionals and re-coordination of the community and in-home resources initiated from the early stages of the hospitalization must also have played a significant role in ensuring support aiming at assisting Mrs. A's return to social life and stabilizing her in-home life.

Conclusion

This study investigated a case of a female patient suffering from subarachnoid hemorrhage and immediately hospitalized to describe some part of the support practice for the patient and her family. Not only the patients requiring intensive care but also their families are the subjects of nursing support. In this study, necessary information obtained at the early stages of hospitalization was limited. However, by expanding the scope of nursing practice to include not only the husband, who was the only family member living together with the patient, but also the whole family, the PN could organize information regarding their in-home situations to arrange necessary support. It could lead to a nursing practice that assisted Mrs. A's family members in reconfirming their family bond to enhance family empowerment.

Japanese medical services are based on the universal public insurance system and provide a relatively high level of sevices compared to those in other nations in the world. However, the rapid aging of society has brought about drastic changes in the medical field; establishing a comprehensive community care system is an essential issue that requires immediate attention. In this situation, various challenges remain to be addressed in the actual situation in the medical setting, such as improving the quality of medical and care services, resolving regional differences in relevant services, and promoting multi-professional collaboration in medical, care, and welfare support fields. The study results also suggested the necessity of multi-dimensional intervention, namely, multi-professional collaboration, community resource utilization, in-family coordination, and decision-making support, in the nursing support for a patient suffering subarachnoid hemorrhage and a family member with cognitive impairment.

Challenges to be addressed in the future include improving communication methods with older adults with cognitive impairment, examining an effective support method for family members living in distant places, and establishing a system for continuous support. To this end, those who engage in nursing must consider the background of social changes surrounding the patient's family, recognize the significance of the care practice targeting them, and further investigation of quality family nursing cases should be mandatory.

Competing Interests

There are no conflicts of interest to disclose in this case study.

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