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Clarification of Psychiatric Nurses' Intentions and Analysis Contents in Observing Schizophrenia Patient

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Abstract : The purpose of this study was to clarify what psychiatric nurses intended to observe when observing schizophrenia patient and what they analyzed from their observations. Twenty-one experienced nurses were included in the study. Data were collected through semi-structured interviews, and content analysis was conducted. The results were as follows : Nurses' intentions in observing patient were [Observation of psychiatric symptoms], [Observation of normality or abnormality], [Possibility of self-harm or harming others], [Side effects of antipsychotics], [Degree of communication disorder], [Degree of self-care], [Observation of nutritional status], [Effects of external stimuli on patient], and [Less importance of observing doctor]. Nurses' analysis contents were [Analysis of psychiatric symptoms], [No risk of self-harm or harming others], [Effects of antipsychotics], [Presence of communication disorder], [Lack of trust in doctor], [Problems in daily life], [Consideration of future nursing intervention], [Assessment of normality or abnormality], [Unhealthy physical state], and [Unnecessary analysis]. The results of this study revealed the nurses' observational process. J. Med. Invest. 71 : 54-61, February, 2024

Keywords **:** *psychiatric nurse, observation technique, observation intent, analysis content*

INTRODUCTION

In psychiatric nursing, skilled observation of psychiatric symptoms is a core element of practical psychiatric nursing competence (1). Because patients' mind cannot be observed directly, nurses observe patients' eye movements, facial expressions, speed of movement, meaning of movement, content and speed of speech, degree of coherence, and self-care status. Through these observations, nurses indirectly evaluate patients' mind. These observation skills are clinical knowledge accumulated by individual nurses' experiences, but because this clinical knowledge is difficult to observe, much of it remains unclear. In addition, observation in psychiatric nursing is known as "participant observation", so observation of patients' facial expressions, movements, and statements is often conducted while interacting with patients. When psychiatric symptoms are severe, even appropriate interactions may affect patients badly and make their symptoms worse. Therefore, nurses tend to intentionally hide their observations from patients because of the possibility that their intervention may affect patients negatively.

Although this intentionally hidden psychiatric nursing care can be effective in clinical practice (2), there is a possibility that it not only makes their experiences unclear but also damages the value of psychiatric nurses' practice (2). Therefore, it is necessary to clarify the process of how nurses observe patients' situation, become aware of patients' condition, and make judgments. In other areas, nurses' observation techniques were analyzed both quantitatively and qualitatively (3, 4), but in psychiatric nursing area, only qualitative analysis was performed (5). Therefore, in our previous study, we used eye-tracking analysis system and clarified fixation time and number of fixations during nurses' observations of a schizophrenia patient (6). However, simply measuring eye movements do not reveal the contents of nurses' intentions and analyses. In the present study, we analyzed contents of interviews done immediately after the investigation with eye-tracking system. The purpose of this study was to clarify psychiatric nurses' intentions when observing a schizophrenia patient and contents analyzed by them.

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METHODS

Participants

Participants were twenty-one experienced Japanese psychiatric nurses working in a psychiatric hospital in A prefecture. Benner's model of skill acquisition (1) was used to classify nurses' skills : mid-level nurses were defined as those with 4 to 9 years of experience, and skilled nurses were defined as those with 10 or more years of experience. All gave written consent to participate in this study. This study was conducted from August 2019 to October 2020.

Survey Methods

Immediately after the completion of the eye-tracking analysis examination, we presented the participants with their fixation points. We then gave an approximately 15-minute, semi-structured interview to them about their intentions during observations and their analysis of the observed information, according to the interview guide. The video clip used in the interview was a scene in which a psychiatrist examines a simulated schizophrenia outpatient (DVD : *Basics of Psychiatric Care, Volume1*, Nakajima Visual Materials Publishing). The patient's eyes, face, hands, and body movements were unnatural, and his hair and clothes were not in order. Auditory hallucination, delusion, restlessness, and lack of self-care were among the observable symptoms.

Interview summary

Participants were asked if there were areas that they consciously observed, what parts they observed, why they observed

them, how they assessed from their observations, and what they were careful about in their observations.

Data analysis

Content analysis (7) was used to analyze the data. The data obtained from the interview survey were transcribed verbatim, and the parts about intentions during observation and the analysis of the observed information were extracted, coded, and categorized, with attention to context. The reliability and validity of the analysis results were discussed and confirmed among the researchers. The data were coded, and the contents were analyzed. Categories are indicated by brackets, subcategories by curly braces, participants' responses by quotation marks, and parentheses indicate who responded.

Ethical considerations

Because this study was designed to integrate quantitative and qualitative research, consent for participation in the interview was obtained at the time of obtaining consent for the eye-tracking analysis survey. The participants were informed of the research contents, ethical considerations, and recording of the interviews. Thereafter, participants were asked to decide if they wanted to participate based on their free will. Interviews were conducted after obtaining signatures on consent forms. This study was conducted after obtaining approval from Ethics Committee of Tokushima University Hospital (approval number : 3233).

RESULTS

Twenty-one nurses (age 51.43 ± 7.44 years) participated in the study. Two were mid-level and nineteen skilled. Ten worked only in psychiatry department and eleven had experience of working in physical departments. The average number of years of experience in physical departments was 2.86 ± 3.97. Seventeen had graduated from vocational school, two from university, and two from master's course (Table 1).

1. Nurses' intentions in observing patient

The intentions in observing patient consisted of nine categories and twenty-six subcategories. The categories were [Observation of psychiatric symptoms], [Observation of normality or abnormality], [Possibility of self-harm or harming others], [Side effects of antipsychotics], [Degree of communication disorder], [Degree of self-care], [Observation of nutritional status], [Effects of external stimuli on patient], and [Less importance of observing doctor]. The construction of the categories and subcategories is described in Table 2.

Observation of psychiatric symptoms

Four subcategories were extracted from this category : {Observation of psychiatric symptoms from body movements}, {Observation of affective disturbance from color of clothing patient chose}, {Responsiveness when being called to}, and {Observation of areas suggesting mental condition}. In {Observation of psychiatric symptoms from body movements}, (D) said, "The patient's eyes were looking up, so I wondered if he was in the grip of delusions." (H) said, "The patient looked frightened by either auditory hallucination or delusion." In {Observation of affective disturbance from color of clothing patient chose}, (G) said, "Dark mood influenced the choice of dark-colored clothing." In {Responsiveness when being called to}, (B) said, "I saw if the patient was responding to the doctor's questions." (N) said, "I saw if the patient responded to the doctor's call or if he did not listen to." In

Table 1. Characteristics of subjects

Participants	Age	Sex	Years of experience in psychiatric department	Years of experience in physical department
A	40s	Man	7	3
B	50s	Woman	27	8
C	50s	Man	30	0
D	40s	Man	25	0
E	40s	Woman	30	1
F	50s	Man	27	0
G	50s	Man	35	0
H	40s	Man	23	0
I	50s	Woman	25	4
J	50s	Woman	22	5
K	50s	Woman	24	8
L	50s	Woman	13	10
M	60s	Woman	28	2
N	50s	Woman	33	5
O	40s	Woman	10	14
P	60s	Man	30	0
Q	50s	Woman	30	1
R	40s	Woman	8	0
S	60s	Man	17	0
T	30s	Man	18	0
U	40s	Man	20	0

{Observation of areas suggesting mental condition}, (J) said, "In particular, the patient's eyes and facial expression reflected his mental condition."

Observation of normality or abnormality

Four subcategories were extracted. They were {Unusual body movements}, {Appropriate response to external stimuli}, {Observation of whether patient's behavior is pathological or purely habitual}, and {Observation of whether hand movements are caused by pain}. In {Unusual body movements}, (C) said, "Normally people do not move their hands when talking, but the patient moved his hands constantly." In addition, (C) said, "Normally people don't change their facial expressions that often when they talk, but the patient was looking in different directions." In {Appropriate response to external stimuli}, (B) said, "What kind of movements did the patient make when the doctor talked to him." (N) said, "Did the patient respond to what the doctor said?" In {Observation of whether patient's behavior is pathological or purely habitual}, (F) said, "I don't do that movement. I wondered if this person's movement was habitual." (R) said, "I wanted to see whether the patient did that movement all the time." In {Observation of whether hand movements are caused by pain}, (F) said, "I wondered if his hand movement might be caused by pain."

Possibility of self-harm or harming others

Two subcategories of {Possibility of violence} and {Whether there are any marks of self-harm} were extracted from this category. In {Possibility of violence}, (A) said, "I was concerned about potential violence because of too many hand movements." (G) said, "I wondered if there would be any aggression toward the doctor." In {Whether there are any marks of self-harm}, what (B) said was "There would be acts of the patient harming himself unconsciously."

Side effects of antipsychotics

This category had four subcategories of {Observation of oculogyric crisis}, {Observation of salivation}, {Observation of akathisia}, and {Observation of involuntary movements}. In {Observation of oculogyric crisis}, (H) said, "I observed if the eyeball was rolling upward." In {Observation of salivation}, (Q) said, "I observed if there was drooling around the mouth." In {Observation of akathisia}, what (N) said was "I observed if the patient was restless because I knew the side effect." In {Observation of involuntary movements}, (G) said, "I thought that his irregular hand movements might be side effect of the medication." (N) said, "I wondered if the hand movements might be involuntary."

Degree of communication disorder

In this category, two subcategories were extracted. They were {Observation of whether patient is listening to the person during conversation} and {Observation of whether eye contact is maintained during conversation}. In {Observation of whether patient is listening to the person during conversation}, (A) said, "Did the patient listen to the doctor's questions properly?" (B) said "It was unclear whether the patient was listening to the doctor." In {Observation of whether eye contact is maintained during conversation}, (A) said, "He did not make eye contact with the doctor during conversation." (U) said, "People who are not good at expressing themselves tend to look away when talking with someone."

Degree of self-care

Four subcategories of {Observation of skin dryness}, {Degree of self-care in personal grooming}, {Degree of self-care in changing clothes}, and {Degree of self-care in bathing} were extracted from this category. In {Observation of skin dryness}, (A) said, "Facial skin of the patient was dry, so I thought that he did not drink much water." In {Degree of self-care in personal grooming}, (E) said, "I wondered if the patient shaved his beard." (G) said, "The patient's hair is very messy." In {Degree of self-care in changing clothes}, (E) said, "Were his clothes clean?" (Q) said, "Was his appearance hygienic?" In {Degree of self-care in bathing}, what (S) said was "I thought that he did not take a bath for a long time because his hair was dirty."

Observation of nutritional status

Two subcategories of this category were {Facial skin condition} and {Checking body shape}. In {Facial skin condition}, (E) said, "The patient looked pale and had dry skin." In {Checking body shape}, (Q) said, "The patient was thin."

Effects of external stimuli on patient

Three subcategories were extracted. They were {Influence of doctor's attitude on patient}, {Patient's response during conversation}, and {Observation of degree of patient's tension}. In {Influence of doctor's attitude on patient}, (R) said, "Sometimes, doctor's words can be harsh for patient." In {Patient's response during conversation}, (J) said, "I knew that patients' eyes would become sharp when misunderstanding doctors' questions, so I observed whether that would happen." (O) said, "I checked the patient's expression and tone of voice when the doctor asked some questions." In {Observation of degree of patient's tension}, what (A) said was, "I thought that he would look relaxed when talking with the doctor, but he looked nervous."

Less importance of observing doctor

One subcategory extracted for this category was {Doctor's observations not considered important}. (F) said, "I know what doctors say and do because I have been working with them." In addition, (F) said, "I need to observe the patient, not the doctor, in order to know his condition."

2. Nurses' analysis contents in observing patient

Ten categories and twenty-five subcategories were picked out from the results of interview analysis. The categories were [Analysis of psychiatric symptoms], [No risk of self-harm or harming others], [Effects of antipsychotics], [Presence of communication disorder], [Lack of trust in doctor], [Problems in daily life], [Consideration of future nursing intervention], [Assessment of normality or abnormality], [Unhealthy physical state], and [Unnecessary analysis]. The categories and subcategories are described in Table 3.

Analysis of psychiatric symptoms

Five subcategories were extracted in this category. They were {Analysis of psychiatric symptoms from body movements}, {Analysis of psychiatric symptoms from self-care assessment}, {Analysis of psychiatric symptoms from interactions with others}, {Assessment of stage of illness}, and {Possibility of excitement at home}. In {Analysis of psychiatric symptoms from body movements}, (M) said, "I thought that the patient was talking to himself because he was mumbling when the doctor was not talking to him." (U) said, "I thought that his head-shaking was one of his psychiatric symptoms because it might suggest auditory or visual hallucination." In {Analysis of psychiatric symptoms from self-care assessment}, (L) said, "I thought he did not have mental capacity to care about his appearance. He was in a mental state he could not care about his appearance." In {Analysis of psychiatric symptoms from interactions with others}, what (K) said was "The patient responded to the doctor's words, so I realized that he was not in the world of auditory hallucination but

in the real world where he could communicate with real people." (M) said, "When the doctor was not talking, the patient's eyes were moving in various directions, so I felt that his mental state was unstable." In {Assessment of stage of illness}, (P) said, "I thought that the patient was in an acute stage." (Q) said, "He was around the border between illness and healthy state." In {Possibility of excitement at home}, what (E) said was "Sometimes he showed sharp eyes, so I thought that he would shout at home."

No risk of self-harm or harming others

Two subcategories of this category were {No violence or excitement} and {No self-harm}. In {No violence or excitement}, (L) said, "He showed no emotional excitement, and I saw no violence." In {No self-harm}, (B) said, "I did not think that he would hurt himself." (U) said, "I didn't see any signs of self-harm."

Effects of antipsychotics

Two subcategories were extracted. They were {Involuntary movements due to side effects of antipsychotics} and {Possibility of excessive amounts of antipsychotics}. In {Involuntary movements due to side effects of antipsychotics}, (T) said, "I thought that his restless hand movement was side effect of the medication." In {Possibility of excessive amounts of antipsychotics}, (T) said, "I thought that he was taking too much medication because he was drooling."

Presence of communication disorder

In this category, there were two subcategories of {Difficulty in having conversations with others} and {Insufficient communication skills}. In {Difficulty in having conversations with others}, (B) said, "I thought that he had difficulty in interacting with others." (G) said, "The patient did not like talking with people because he could not have good relationships with people." In {Insufficient communication skills}, what (B) said was "The patient lacked an ability of communication skills because he never made eye contact with the doctor."

Lack of trust in doctor

In this category, three subcategories were extracted. The three subcategories were {Failure to build a trust relationship with doctor}, {Failure to tell the thoughts to doctor}, and {Being nervous during medical examination}. In {Failure to build a trust relationship with doctor}, (I) said, "As he did not talk with the doctor that much, I guessed that they had not built a trustworthy relationship yet." In {Failure to tell the thoughts to doctor}, what (N) said was "He did not make eye contact with the doctor, so I thought that he did not tell the truth to the doctor." In {Being nervous during medical examination}, (A) said, "He looked nervous during the clinical examination." (I) said, "He did not look relaxed because he was talking without expression."

Problems in daily life

Five subcategories were extracted from this category. They were {Estimation of insufficient fluid intake}, {Estimation of employment status from self-care level}, {Estimation of social withdrawal from disheveled appearance}, {Presence of supportive people in daily life}, and {Unwillingness to visit a doctor}. In {Estimation of insufficient fluid intake}, (A) said, "His facial skin was dry, so I thought that he did not drink much water." In {Estimation of employment status from self-care level}, (G) said, "If he has job, he would clean himself up, so he is probably not working." In {Estimation of social withdrawal from disheveled appearance}, (G) said, "It seemed that he was doing nothing at home, so I guessed that he was socially withdrawal." In {Presence of supportive people in daily life}, what (Q) said was "He was filthy, so I wondered if he had someone supporting him." In {Unwillingness to visit a doctor}, what (A) said was "It looked like he did not want to see the doctor and get help. It looked as if he was taken to a clinic by his family."

Consideration of future nursing intervention

Three subcategories of this category were {Necessity of gathering information about patient's daily life}, {Consideration of how to do nursing intervention}, and {Necessity of comparing current observations with future observations}. In {Necessity of gathering information about patient's daily life}, (E) said, "As a nurse, I wanted to know the patient's living conditions including whether he was wearing clean clothing." In {Consideration of how to do nursing intervention}, (U) said, "I thought that I should intervene gradually because sudden intervention would make the patient feel stressed." In {Necessity of comparing current observations with future observations}, what (F) said was "I think that the patient can behave properly when his mental condition is good. However, he would behave in a disorganized way when being affected by auditory hallucination. So, I need to remember what I observed this time for the future assessment."

Assessment of normality or abnormality

There was only one subcategory in this category. It was {No abnormality in observed behaviors}. (Q) said, "His repetitive movement of raising hand was something like a habit."

Unhealthy physical state

One subcategory of {Unhealthy physical condition due to thinness} was extracted in this category. (R) said, "His body looked fragile and unhealthy."

Unnecessary analysis

One subcategory was extracted in this category. It was {No necessity of analyzing doctor's words and actions}. (T) said, "I think that nurses focus on observing the patient because doctor's observation does not seem important."

DISCUSSION

The results of this study revealed the following nine steps in nurses' observational process : observing and analyzing psychiatric symptoms as well as the effects of external stimuli, observing behaviors and assessing normality or abnormality, observing and determining the risk for self-harm or harming others, observing the side effects of antipsychotics to determine their effects on patient, analyzing problems in daily living based on observations of the degree of self-care, assessing communication disorder and degree of trust in doctor, observing patient's nutritional status to assess physical state, considering future nursing interventions based on the observed information, and not analyzing observed things that are unimportant.

Observing and analyzing psychiatric symptoms as well as the effects of external stimuli

The nurses analyzed the current psychiatric symptoms of the patient by paying particular attention to his body movements such as changes in facial expression, direction of eyes and hand movements, the color of his clothing, and whether he was able to respond to the doctor's call because they believed that those things might reflect his psychiatric symptoms. They also analyzed the patient's current stage of illness and examined the possibility that he would become excited at home after the outpatient visit. Furthermore, they observed the influence of external stimuli from doctor on patient. In psychiatric nursing, psychiatric symptoms should be observed while interacting with

patients, with attention paid to both the symptoms expressed by patients and the symptoms patients are experiencing (8). Psychiatric symptoms are influenced by the time, place, and situation in which patients are located (8), and during medical examination, doctors' words, actions, and attitudes may influence patients' condition. Symptoms that people can notice from facial expression, posture, clothing, behavior, body movement, spontaneous speech and so on are considered overt symptoms and they are obvious to everyone before patients take medical examination. On the other hand, symptoms that patients are experiencing can be known to people only after asking about them, and typical examples of such symptoms are auditory hallucination, delusion and so on. The nurses observed both and analyzed psychiatric symptoms while considering the influence of external stimuli on the patient. Course of schizophrenia is composed of presymptomatic, prodromal, acute, convalescent, and stable phases (9). Since auditory hallucination and delusion were observed in the patient, the nurses judged him to be in acute phase. Furthermore, since acutely mentally disturbed patient visited outpatient clinic, the nurses even analyzed the possibility of getting excited after returning home. Like skilled nurses in physical medicine ward (3), psychiatric nurses also tried to predict possible risk based on their observation of psychiatric symptoms.

Observing behaviors and assessing normality or abnormality

The nurses tried to know whether unusual body movements and reactions to external stimuli were normal or abnormal, and whether unusual body movements were pathological or just habitual. Based on their observation, they regarded the patient's unusual body movements as habitual. Human mind is closely related to brain function, physical condition, ego-consciousness, thoughts, emotions and motivation, and healthy mental state is a state in which these are functioning normally (10). Therefore, it was shown that the nurses assessed whether the patient's mental function was normal by observing his body movements and responses to external stimuli. In addition, as it was known that in clinical assessments that nurses make in critical care nursing area, assessment of normality or abnormality is a feature of acute care nursing (11), we consider that observation techniques to assess normality or abnormality is part of acute nursing care in psychiatric nursing.

Observing and determining the risk for self-harm or harming others

The nurses observed if the patient had the potential to become violent, and if there was evidence of self-harm on his arms. Based on their observations, they concluded that he was not likely to harm himself or others. It is reported that skilled psychiatric nurses make clinical assessments of suicide attempts and suicidal ideation (12) as well as violence (13). It is also reported that psychiatric nurses make assessments of possible suicide based on their own experiences and other suicide cases (14), and they make assessments of violence based on their observations of patients' mental states, comparisons between their observations and patients' past states, and their professional experiences (13). Therefore, it is suggested that nurses assess the risk of self-harm or harming others by comparing information they get through their observations and previous cases they experienced.

Observing the side effects of antipsychotics to determine their effects on patient

The nurses observed akathisia, oculogyric crisis, sialorrhea, and involuntary movements, which were side effects of antipsychotics. Based on their observations, they considered that his restless hand movement was side effect and that the multiple side effects were caused by excessive amounts of antipsychotics. Currently, atypical antipsychotics are widely prescribed in the treatment of schizophrenia, and although they have relatively fewer side effects than typical psychotropics, side effects still occur in many patients. Although they are prescribed mainly to improve psychiatric symptoms, they are often used for sedation. Especially when patients' mental condition is very bad, they tend to be used for sedation, and once the dose is increased, it takes time for the dose to be reduced (15). Therefore, we considered that the nurses observed the patient's body movements to assess whether or not side effects are present, what kind of side effects are manifested, and whether the dose of antipsychotics is appropriate for the patient's current psychiatric symptoms.

Analyzing problems in daily living based on observations of the degree of self-care

The nurses observed the degree of skin dryness and the degree of self-care regarding personal maintenance, gowning and bathing from the information of the appearance of beard, hair and clothing, and they analyzed several problems such as insufficient fluid intake, employment status, social withdrawal, lack of support and negative attitude toward outpatient visit. It is known that schizophrenia significantly impairs patients' social functioning and self-care, causing severe cognitive, perceptual, motor, and emotional deficits which inevitably lead to withdrawal behavior (16). In addition, positive and negative symptoms in schizophrenia patients are related to self-care disorder (17). Therefore, promotion of patients' self-care by nurses has been shown to be able to help reduce early re-hospitalization (18). We considered that the nurses observed the extent to which psychiatric symptoms caused by schizophrenia affected self-care and analyzed what problems the self-care disorder was causing in daily life and if there was anyone to help with the problems.

Assessing communication disorder and degree of trust in doctor

During the conversation between the patient and the doctor, the nurses observed the patient's reaction in terms of whether or not he was listening to and looking at the doctor. From their observations, some of them considered that the patient had communication disorder and some suggested lack of trust in the doctor. It is reported that difficulty in communication is common in schizophrenia patients and affects interpersonal relationships (19). Furthermore, impairments in the clarity of speech, spontaneity, assertiveness, responsiveness, and voluntary interaction have been shown to be related to severity of negative symptoms (20). Therefore, it is suggested that the nurses tried to know the extent to which psychiatric symptoms affected his difficulty in communication and interpersonal relationship.

Observing patient's nutritional status to assess physical state

By observing the patient's dried facial skin and emaciated body, the nurses concluded that he was in an unhealthy physical state. Dehydration and undernutrition can be caused by psychiatric symptoms (21). Physical symptoms observed in psychiatry area include psychiatric disorders with physical symptoms such alcohol dependence with liver dysfunction and drug-induced physical symptoms (21). The psychiatric nursing guidelines issued by the Japanese Psychiatric Nurses Association point out the importance of nursing patients with physical complications (22). Thus, observation of physical symptoms is important in psychiatric nursing, so we considered that the nurses observed his physical symptoms as well as his psychiatric symptoms, assessing his current physical condition.

Considering future nursing interventions based on the observed information

When, based on the various information observed, the nurses thought that the patient needed to be hospitalized, they tried to

think about the necessity of collecting further information about his daily life and how to intervene in his problems. In addition, they recognized the necessity of remembering the contents they observed because they thought that it would be necessary to compare his current state with his recovered state after treatment in order to assess the effectiveness of nursing care. Because psychiatric symptoms and side effects of antipsychotics vary greatly from person to person (23), nurses need to remember symptoms and side effects that are unique to each patient. This observation technique is unique to psychiatric nurses and has not been found in previous studies (3, 11, 24) of observation techniques of nurses working in physical medicine wards.

Not analyzing observed things that are unimportant

Since the video used in the study was about outpatient consultation scene, the nurses unconsciously observed not only the patient but also the doctor. However, they understood that they did not need to observe words and actions of the doctor because they already knew what doctors would usually say and behave from their experience of working with them. Therefore, they intentionally tried not to analyze the information obtained from the observation of the doctor because they knew the importance of focusing on the patient. By intentionally excluding unnecessary information and analysis, we considered that they tried to spend more time observing the patient and analyzing the obtained information.

LIMITATION

The results of this qualitative study are based on data obtained from a limited number of subjects. Therefore, there may be a limitation to generalize the results.

CONCLUSION

We clarified psychiatric nurses' intentions and what they analyzed from their observations in observing schizophrenia patient. As for nurses' intentions, nine categories were extracted, and as for nurses' analysis contents, ten categories were extracted. The results indicate that analytical processes from the nurses' observations are observing and analyzing psychiatric symptoms as well as the effects of external stimuli, observing behaviors and assessing normality or abnormality, observing and determining the risk for self-harm or harming others, observing the side effects of antipsychotics to determine their effects on patient, analyzing problems in daily living based on observations of the degree of self-care, and so on.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest directly relevant to the content of this article.

Table 2. Nurses' intentions in observing patient

Categories	Subcategories
Observation of psychiatric symptoms	Observation of psychiatric symptoms from body movements
	Observation of affective disturbance from color of clothing patient chose
	Responsiveness when being called to
	Observation of areas suggesting mental condition
Observation of normality or abnormality	Unusual body movements
	Appropriate response to external stimuli
	Observation of whether patient's behavior is pathological or purely habitual
	Observation of whether hand movements are caused by pain
Possibility of self-harm or harming others	Possibility of violence
	Whether there are any marks of self-harm
Side effects of antipsychotics	Observation of oculogyric crisis
	Observation of salivation
	Observation of akathisia
	Observation of involuntary movements
Degree of communication disorder	Observation of whether patient is listening to the person during conversation
	Observation of whether eye contact is maintained during conversation
Degree of self-care	Observation of skin dryness
	Degree of self-care in personal grooming
	Degree of self-care in changing clothes
	Degree of self-care in bathing
Observation of nutritional status	Facial skin condition
	Checking body shape
Effects of external stimuli on patient	Influence of doctor's attitude on patient
	Patient's response during conversation
	Observation of degree of patient's tension
Less importance of observing doctor	Doctor's observations not considered important

Table 3. Nurses' analysis contents in observing patient

Categories	Subcategories
Analysis of psychiatric symptoms	Analysis of psychiatric symptoms from body movements
	Analysis of psychiatric symptoms from self-care assessment
	Analysis of psychiatric symptoms from interactions with others
	Assessment of stage of illness
	Possibility of excitement at home
No risk of self-harm or harming others	No violence or excitement
	No self-harm
Effects of antipsychotics	Involuntary movements due to side effects of antipsychotics
	Possibility of excessive amounts of antipsychotics
Presence of communication disorder	Difficulty in having conversations with others
	Insufficient communication skills
Lack of trust in doctor	Failure to build a trust relationship with doctor
	Failure to tell the thoughts to doctor
	Being nervous during medical examination
Problems in daily life	Estimation of insufficient fluid intake
	Estimation of employment status from self-care level
	Estimation of social withdrawal from disheveled appearance
	Presence of supportive people in daily life
	Unwillingness to visit a doctor
Consideration of future nursing intervention	Necessity of gathering information about patient's daily life
	Consideration of how to do nursing intervention
	Necessity of comparing current observations with future observations
Assessment of normality or abnormality	No abnormality in observed behaviors
Unhealthy physical state	Unhealthy physical condition due to thinness
Unnecessary analysis	No necessity of analyzing doctor's words and actions

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