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Toyoshima, Yasuko

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Study of the effective family support program for the families of clients with psychiatric disorders using home visiting nurse service

Yasuko Toyoshima[1], Nobuko Matsuda[2]

Abstract

This study is to verify the effectiveness of a family support model based upon family self-care by a circular process performed by home visiting nurses for the families of clients with psychiatric disorders using psychiatric home visiting nurse service (hereafter referred to as the F model).

Home visiting nurses evaluated the four points;1 Self-care of clients, 2 Family assessment, 3 Family support based upon family assessment, 4 Family's care giving burden before and after intervention using the F model.

As for the evaluation of the family assessment, two items of the psychiatric symptoms of the clients, how to spend their time other than for care giving were intentionally low respectively. The scores of family's care giving burden significant increases in the score of the client requires an amount of care giving and a significant decrease in the score of hope to provide better caring was recognized. Home visiting nurses of 60 percent answered that the self-care level improved, but there was a difficulty of improving the self-care capabilities.

It was revealed that the F model was effective for family assessment, but the family support was thought that the examination was necessary.

Key words:

psychiatric disorders, psychiatric home visiting nurse, nursing intervention, self-care capability, family support

Introduction

The Headquarters for Mental Health and Welfare of the Ministry of Health, Labour and Welfare indicated the "Visions in Reform of Mental Health and Medical Welfare" in Sept. 2004, and its policy shifted "hospitalized medical treatment to living in the community"[1]. Since then, social resources and systems have been improved so that the people with psychiatric disorders can live more comfortably in their community. Home visiting nurses are the closest to the clients with psychiatric disorders and they are required to play an important role in the community by cooperating with health, medical and welfare organizations so that clients with psychiatric disorders can be reintegrated into society[2]. It has been revealed by the preceding studies by Ogata, Kayama, and Watanabe et al. that psychiatric home visiting nursing service is effective in preventing recurrences and the reduction of hospital stays[3-5]. Currently, psychiatric home visiting nursing service includes the cares for promoting the control of disorders and maintaining everyday life, self-realization, social involvement etc.[6-7] for the preventing exacerbation physical symptoms and clients' social rehabilitation.

However, in order for the clients with psychiatric disorders to live in the community, it is often the

[1] Graduate School of Medicine, Kobe University

[2] Kobe University Graduate School of Health Science Faculty of Health Sciences

case that family members will need to take a large part in their care. If the psychiatric disorders are prolonged, the family members are faced with various problems because of difficulties in responding to the client's physical symptoms, so the support for these families is very important[8]. Regarding family support related to psychiatric home visiting nursing service, Setoya et al.[9] conducted a study aimed at the standardization of the care conducted by a home visiting nurse and investigated its effect in 2008. As a result, it was reported that home visiting nurses conduct the assessment of the relationship between the clients of home visiting nursing service and families, listen to what the both sides considered, and provide family support so that they became better in expressing their thoughts[9].

Meanwhile, families live their daily lives while obtaining self-care capabilities, making judgments by themselves and adapting to various actual conditions[10-11]. During that process, families evaluate and adjust their own self-care behaviors and conduct them a circular process[10]. These self-care behaviors influence the family structure, family role, family power, family relationship, family communication, family coping and family function et al[11]. The self-care capabilities include knowledge, understanding and action[11].

According to her self-care theory, Orem considers that there are six important concepts in the relationship between patients and nurses in nursing practice[12]. Four of these concepts relate to patients (1) self-care, (2) self-care agency, (3) therapeutic self-care demand, (4) self-care deficit and two of the concepts are related to nurses (5) the nursing agency, (6) the nursing system (Fig. 1). In other words, when some problems occurred in a family, the family's latent self-care capabilities can be exercised. However, when the demands on self-care increase and the self-care capabilities decreases for some reason, "self-care de ficit" occur. At that time, the need grows for "the nursing system", and nurses approach the patient with their special abilities (nursing agency). The self-care capabilities and self-care behaviors of the family will be enhanced by the support of nurses to improve their capabilities, behaviors, and consequently, the relationship between the patient with a psychiatric disorders and their family members can be established, and as a result, the patient can live in the community. Therefore, nurses are required to extract and develop the self-care capabilities of the family members so that they can properly conduct the self-care behaviors.

Therefore, in this study, a family support model was established based upon family self-care by a circular process performed by home visiting nurses for the families caring for the client with psychiatric disorders and using home visiting nursing service (hereafter referred to as the F model), and its effectiveness was verified. The F model and the assessment actions of the family self care are believed to demonstrate the way in which support to the family with psychiatric disorders is very useful and exemplifies how inexperienced home visiting nurses can practice effective care for the family of clients with psychiatric dis-

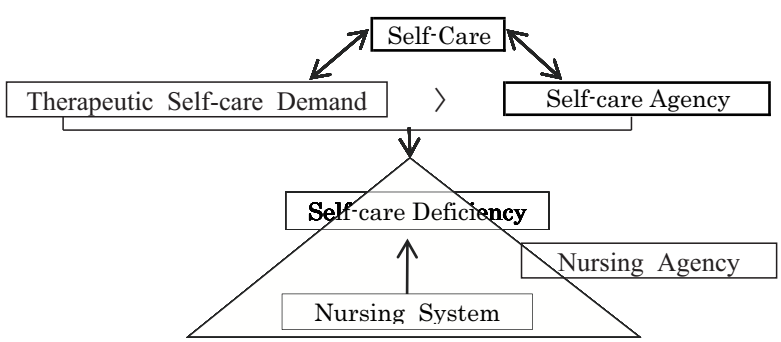

Fig. 1 Six Concepts on Self-care Theory

orders.

This study is to verify the effectiveness of the F model based upon family self-care by a circular process performed by home visiting nurses for the families of clients with psychiatric disorders using psychiatric home visiting nurse service.

Definition of term: Small groups of family with kinship bonds connected by the assigned relation of married couples and blood relatives such as parent and child, siblings etc. which is based on and approval. (Koujien) The family who do not necessarily live with family member either includes it in the present study.

Subjects and Methods

1. Study design

Study of intervention verification using a model

2. Outline of F model

The F model is based upon the Orem-Underwood Self-care theory, a psychiatric nursing model. Information was drawn out from the reviews of literature, concerning the support for families, which have at least one member that is a patient for psychiatric disorders using home visiting nursing care and the author's preceding study[13].

Orem-Underwood's self-care theory is a theory that Patricia R. Underwood modified Orem's self-care theory in order to apply it to the nursing of the patients with psychiatric disorders and it is based upon the concept that individuals should take responsibility for maintaining their lives, health and wellbeing[14]. This theory defines 「Self-care is the practice of activities that individuals initiate and perform on their own behalf in maintaining life , health, and well-being」[14-15]. In other words, self-care is indispensable for individuals to live healthy and, well-being regardless of their gender, age, culture and status of health. Self-care is performed to fulfill three need factors that humans fundamentally have, such as (1) universal, (2) developmental and, (3) health- deviation .

Regarding these three needed factors, Patricia R. Underwood considered that universal self-care factor is particularly important for caring for adults with psychiatric disorders, and that it is not particularly necessary to conduct developmental self-care factor and health-deviation self-care factor as separate factors. She lists up to five factors of universal self-care as follows: (1) The sufficient intake of air, water and food, (2) The provision of care associated with elimination processes and excrements, (3) The mainte-

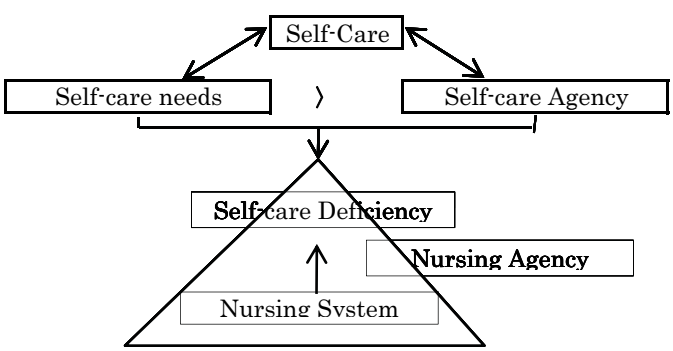

Fig. 2 Six Concepts on Orem-Underwood Self-care Theory

nance of a balance between activity and rest, (4) The maintenance of a balance between solitude and social interaction, (5) The maintenance of body temperature and personal hygiene. It is necessary to discern what self-care needs the individuals have in these fields and whether or not they have enough of a capability to fulfill them, and when a gap is recognized between their self-care needs and self-care capability, the nursing intervention becomes necessary (Fig. 2).

The F model is a family support model based upon a family self-care model, which uses a circular process. This model is used by home visiting nurses for families caring for the client with a psychiatric disorders and using home visiting nursing service (Fig. 3). It is composed of the family assessment of Table.1 and the family support model of Table. 2 .

In the F Model, psychiatric home visiting nursing care to support family care for a client who has a psychiatric disorders and is using home visiting nursing service is performed by nurses with professional competence in psychiatric home visiting nursing service. This helps to alleviate the depression within the family caused by the situation and relief the burden of having to care for the client. The purposes of this nursing care are to improve the self-care capability of family and help the relationship between family and the client using home visiting nursing care. Home visiting nurses conduct the assessment of the level of the family's actual understanding with the client and their behaviors. This assessment was drawn from the factors of the family's self-care capability, including the family's role, family power, family relationship, family's developmental stage, communication during the family member, and also from the viewpoints revealed by the author's precedent study (Table. 1). Home visiting nurses discern the family's self-care level and implement psychiatric home visiting nursing service using the family support model (Table. 2) derived from the precedent study, when necessary. The nursing care pattern performed by home visiting nurses is composed of intervention, listening, consultation, support and education as shown in Fig. 3, and nursing care is carried out through the" social (founded on the social contract)", "interpersonal (person-to-person relationship)" and "technologic (nursing care) between the family and the nurse" . Home visiting nurses can improve the self-care capabilities of families by assessing and discerning a family's

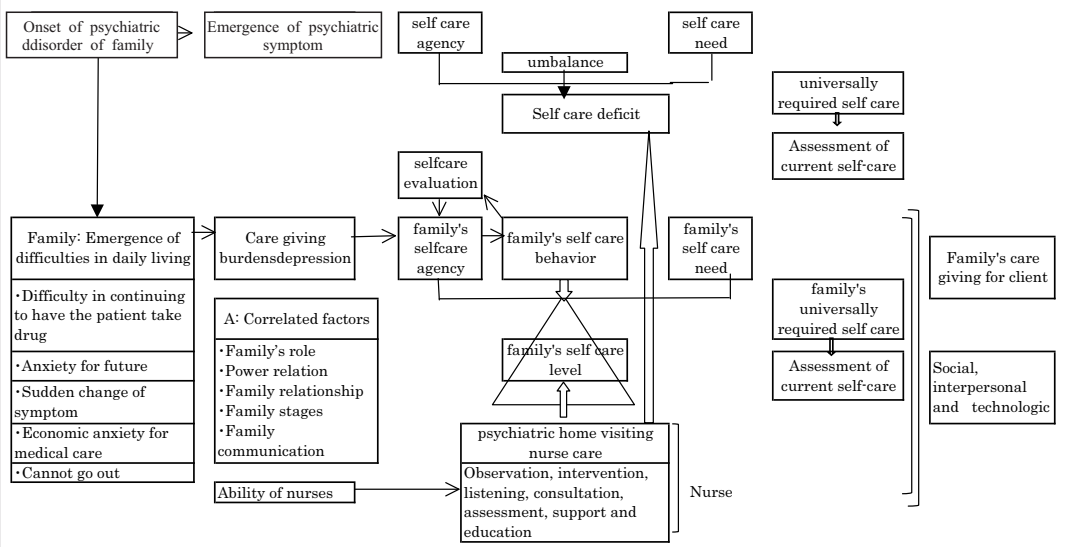

Fig. 3 F model

Table 1 Family Assessment Conducted by Home-visiting Nurses

(View point: A : Correlated factors and a precedent study)	
Level of the family's actual understanding	Family's actions
1 Does the family know how to prepare for the time when the psychiatric symptoms of the client emerges?	10 Is the family prepared for the time when the psychiatric symptoms of the client emerges?
2 Does the family know why the client takes drugs?	11 Does the family facilitate the client to take drugs?
3 Does the family know of social resources that the client can utilize?	12 Does the family have access to the social resources that the client can utilize?
4 Does the family ascribe the course of the client's psychiatric disease to themselves?	13 Does the family feel repentant that the client has a psychiatric disorders?
5 Does the family notice that the family roles have changed caused by their family member's developing psychiatric disorders?	14 Have the family roles been adjusted according to their family member who developed a psychiatric disorders?
6 Does the family know how to spend their time in a way other than caregiving?	15 Can the family secure their time for any purpose other than caregiving?
7 Does the family know the persons or places they can talk about their present feelings?	16 Can the family go to any persons or places to talk about their feelings?
8 Does the family know that excessive protection and intervention are not good for the client?	17 Can the family maintain an appropriate distance with the client?
9 Does the family know how to communicate with the client?	18 Can the family talk face to face with the client?

Table 2 Family support model performel by home-visiting Nurses

(View point: precedent study)
1-1 Explain how to cope when the psychiatric symptoms of the client emerge.
2-1 Explain the reason for the client's use of drugs and adverse effect of them.
3-1 Explain the necessity of the appropriate social resources.
4-1 Explain that parental care is not the cause of this disorder.
5-1 Explain how to share roles within the family.
6-1 Explain that it is important that the family enjoy their lives and be satisfied.
7-1 Listen to the present feelings of the family.
8-1 Explain that it is important that the family maintains an appropriate distance with the client.
9-1 Explain the necessity and method of communicating with the client.

self-care level and by providing family support when necessary.

3. Subjects

Subjects were recruited from the families (the main caregivers) of the clients utilizing the home visiting nursing service methods provided by home visiting nursing care stations in Fukuoka Prefecture and in the Kansai Region as well as the home visiting nurses who are practicing psychiatric home visiting nursing service, from whom an agreement was obtained.

4. Collecting method of data

Data were collected by the following process:

1) Assessment by home visiting nurses

Before family support was implemented by the F model, home visiting nurses performed the following assessments:

(1) Self-care performed by the client now: assessment by a five point scale (1 : wholly compensatory, 2 : partly compensatory, 3 : require confirmation, 4 : supportive-educative, 5 : independence) regarding the self-care by the client (food, excrements, individual hygiene, activity and rest, a balance between solitude and social interaction, awareness of danger, taking drugs.)

(2) Self-care capabilities of the family: assessment of Table. 1 by a four point scale (1 : can act with special support of nurse, 2 : can act with partial support of nurse, 3 : can act with consultation and advice from the nurse, 4 : can act by oneself) regarding the level of the family's actual understanding (question items from 1 to 9) and family's actions (question items from 10 to 18).

2) Nursing intervention by home visiting nurses

The family assessment of Table. 1 was implemented, the self-care level was discerned, and the nursing intervention was conducted according to the family support model (1-1 to 9-1) of Table 2. when necessary.

3) Distribution of the survey sheet and return-mail envelop to families

Home visiting nurses distributed a survey sheet completed by the Japanese version (J-ZBI) of Zarit caregiver burden scale made by Arai et al. and also a return-mail envelop to send back the filled survey sheet.

4) Assessment by home-visiting nurses

Three to six months after family support was conducted using the family support model, home visiting nurses conducted assessments as follows:

(1) Self-care performed by the client now: Assessment by a five point scale (1:wholly compensatory, 2:partly compensatory, 3:require confirmation, 4:supportive-educative, 5:independence) regarding the self-care by the client (food, excrements, individual hygiene, activity and rest, a balance between solitude and social interaction, awareness of danger, taking drugs.)

(2) Self-care capability of the family: Assessment by a four point scale (1:can act with the special support of a nurse, 2:can act with partial support of a nurse, 3:can act with consultation and advice from a nurse, 4: can act by oneself) regarding the level of the family's actual understanding (question items from 1to 9) and their action (question items from 10 to 18).

5) Distribution of the survey sheet and return-mail envelop to families

Three to six months after family support was conducted using the family support model, home visiting nurses distributed a survey sheet concerning the family's burden as caregivers and also a return-mail envelop to send back the filled survey sheet.

6) Interview survey with home visiting nurses

An semi-structural interview was conducted with the home visiting nurses who performed nursing intervention using the family support model on (1) whether or not the self-care level was improved, (2) how

the assessment of the family conducted by nurses changed before and after intervention and (3) the user friendliness of F model, etc.

5. Method of verifying the effectiveness of the F model

The following four points were verified.

1) Self-care of clients

The effectiveness of the self-care of clients was verified with the score after the intervention.

2) Effectiveness of family assessment

The effectiveness of the family assessment was verified with the score after the intervention.

3) Effectiveness of family support based on family assessment

An semi-structural interview was conducted with the home visiting nurses and the effectiveness of family support was verified from the following three viewpoints:

(1)Whether or not the family's self-care level was improved

(2)How the family assessment conducted by nurses changed before and after the intervention

(3)Usefulness of the F model

4) Family's care giving burden

The following verifications were conducted:

(1)Items of caring burdens of the family caregiver

(2)Family's caregiver's feeling of burden

(3)Actual burden of care giving

6. Analysis method

We analyzed the effectiveness of F model to be verified. The level of significance chosen for this study was 0.05. SPSS statistical analysis software(version 18.0J) was used for statistical processing.

1) Self-care of clients

Regarding the self-care of clients, the effectiveness of the F model was verified by applying its mean values to the Wilcoxon's rank sum test.

2) Effectiveness of family assessment

Regarding the family assessment (of the family's actual understanding and family's actions in other words), the effectiveness of the F model was verified by applying its mean values to the Wilcoxon's rank sum test.

3) Effectiveness of family support based upon family assessment.

An semi-structural interview was conducted with home visiting nurses from three viewpoints undermentioned. The contents were picked up word by word and a qualitative analysis of the effectiveness of family support was conducted by a grounded theory approach. The qualitative analysis was performed under the supervision of a specialist. Regarding the self-care of clients and the family assessment (of the family's actual understanding and family's actions in other words), the effectiveness of the F model was verified by applying its mean values to the Wilcoxon's rank sum test.

(1)Whether or not the family's self-care level was improved.

(2)How family assessment conducted by nurses changed before and after the intervention.

(3)Usefulness of the F model, etc.

4) Family's care giving burden

Regarding the family's care giving burden, the effectiveness of the F model was verified by applying its mean values to Wilcoxon's rank sum test.

7. Ethical Considerations

The purpose and method of this study was explained verbally and in writing to the supervisors and home visiting nurses of home visiting nursing stations, and in the case where an agreement was obtained, letters of agreement were exchanged. When the subjects were invited to participate in this study, they were promised that (1) they as participants in the study have free will, (2) they have the freedom to withdraw from the study, and (3) their privacy is protected. This study was also approved by the Medical Ethics Review Board of the Kobe University Graduate School of Medicine.

Results

1. Characteristics of the Subjects(Table 3)

Among 24 families of the clients using home visiting nursing service from whom an agreement was obtained, six families of clients who require total assistance or whose agreement was not filled in were excluded, and the main caregivers of the remaining 18 families became the subjects of this study.

As for the characteristics of subjects, the total number of subjects was 18, eight males (44.4%) and ten females (55.6%) and their ages were from 23 to 92 (52.3 years old at average and the standard deviation was 18.1 years). As for family compositions, 10 families of two (55.6%) were the majority followed by six families of three (33.3%), a family of four (5.6%) and a family of five (5.6%). As for the kinds of psychiatric disordes, there were nine clients with schizophrenia (50.0%). The main caregivers were four husbands (22.2%), four daughters (22.2%), four others (22.2), two sons (11.1%), two siblings (11.1%) and a daughter-in-law (5.6%). The frequencies of home visiting nursing care were once a week for six families (33.3%), once every two weeks for six families (3.33%), twice a week for two families (11.1%), three times a week for two families (11.1%) and once a month for two families (11.1%). The period of home visiting nursing care isn't known because some of the users are infrequently hospitalized. Therefore, the period of visiting care is not indicated. The average visiting time was one hour.

As for the of the characteristics main caregivers of the families, the total number was 18, six males (33.3%) and 12 females (66.7%), and their ages were from 40 to 79 (63.3 year old at average and standard deviation was 10.5 years). Seven (38.9%) of them had occupations, 10 (55.6%) had no occupation and one (5.6%) was unknown because its column was not filled in. An average nursing period was 141.7 months (the standard deviation was 105.4 months, and the average nursing time per day was 6.4 hours (standard deviation was 5.2 hours) and the average time while the clients must be watched was 4.2 hours (the standard deviation was 4.8 hours). Ten (55.6%) of the main caregivers had an assistant and eight (44.4%) did not. Thirteen caregivers (72.2%) had diseases under treatment and five (27.8%) were not under treatment.

As for the characteristics of home visiting nurses, the total number was 17, three males (17.6%) and 14 females (82.4%), and the age range from 40 to 49 of 10 nurses (58.8%) was the majority, followed by that from 30 to 39 of five (29.4%) and that from 50 to 59 of two (11.8%). Eight subjects had more than nine years of experience as a nurse (47.1%), eight subjects had more than nine years of experience as a psychiatric nurse (47.1%) and six subjects who had been working for more than 5 years to less than 7 years as a home visiting nurse were the majority.

2. Verification of the effectiveness of the F model

1) The effectiveness of the family assessment

(1) Assessment of the client's self-care

As shown in Table 4, all assessment scores of the self-care items for the client were high, but no

Table 3 Characteristics of the Subjects

Variable	n=18
【Clients】	N(%)
Sex	
Male	8(44.4)
Female	10(55.6)
Age(years)	23～92
Average(year)±SD	52.3±18.1
Family members	
Two	10(55.6)
Three	6(33.3)
Four	1(5.6)
Five	1(5.6)
Disease	
Schizophrenia	9(50.0)
Other	9(50.0)
Key person	
Husband	4(22.2)
Daughter	4(22.2)
Other	4(22.2)
Son	2(11.1)
Brother,Sister	2(11.1)
Bride	1(5.6)
Time of visiting nurse	
1/week	6(33.3)
1/two week	6(33.3)
2/week	2(11.1)
3/week	2(11.1)
2/month	2(11.1)
Variable	n=18
【Key person 】	N(%)
Sex	
Male	6(33.3)
Female	12(66.7)
Age(years)	40～79
Average(year)±SD	63.3±10.5
Occupation	
Have	7(38.9)
Nothing	10(55.6)
No entered	1(5.6)
Caregiving	
Average duration of caregiving/months±SD	141.7±105.4
Average hours of caregiving/day±SD	6.4±5.2
Average hours of no free time/day±SD	4.2±4.8
Support	
Yes	10(55.6)
No	8(44.4)
Under treatment	
Yes	13(72.2)
No	5(27.8)
Variable	n=17
【Home visiting nurse 】	N(%)
Sex	
Male	3(17.6)
Female	14(82.4)
Age(years)	
30～39	5(29.4)
40～49	10(58.8)
50～59	2(11.8)
Experience	
Over 9 / General Nurse	8(47.1)
Over 9 / Psychiatric Nurse	8(47.1)
5～7/ Home Visiting Nurse	6(35.3)

Table 4 Assessment of the situations of self-care by clients performed by home visiting nurses before and after nursing intervention

Self-care Items	N	Before intervention	After intervention	T Value	p Value
		Average (SD)	Average (SD)		
Food: the intake of food, diet and weight	18	3.7(1.3)	3.8(1.0)	27.0	0.582
Excretion: feces and urine	18	4.1(1.1)	4.4(1.1)	3.0	0.111
Individual hygiene: changing clothes, laundry, clothes and indoor condition	18	3.0(1.4)	3.5(1.4)	6.0	0.084
Balance between activities and rest: how to spend the day, sleeping and going out	18	3.2(1.2)	3.2(1.2)	10.5	1.000
Balance between solitary and social interaction: interaction and communication with others, etc.	18	3.1(1.3)	3.6(1.3)	20.0	0.118
Awareness of danger: ability to protect oneself	18	3.6(1.2)	3.7(1.4)	22.5	0.596
Taking drugs: situations related to taking drugs	18	3.1(1.1)	3.3(1.3)	15.0	0.357
Total		23.4(6.4)	25.1(6.2)	46.0	0.148

Assessment standards: 1 : wholly compensatory, 2: partly compensatory, 3: require confirmation,
4: supportive-educative, 5: independence
Signed Wilcoxon's rank sum test

significant difference was recognized.

(2) Assessment of family

As shown in Table 5, for the scores of family assessment, a significant decrease in the score of "1-1 Is the family prepared for the time when the psychiatric symptoms of client emerge?" after the intervention was recognized (p=0.034), and a significant decrease in the score of "6-1 Can the family secure time for any purpose other than care giving?" after the intervention was recognized as well (p=0.008).

(3) Family's care giving burden

As shown in Table 6 , for the scores of family's care giving burden, significant increases in the score of "1. Do you think that the client becomes requiring care giving more than necessarily?" was observed (p=0.033) and a significant decrease in the score of "21 Do you hope to provide better caring for the client?" was recognized (p=0.019). The score of "22 What do you think about the burden of care giving as a whole?" decreased after intervention, but no significant difference was observed.

2) Effectiveness of family support based upon the family assessment

An semi-structural interview was conducted with the 17 home visiting nurses and the following three questions were made: (1) Did the family's self-care level rise? (2) How the family assessment changed before and after the intervention?, (3) the user friendliness of the F model. The contents were picked up word by word and a qualitative analysis of the family's self-care level rise, how the family assessment changed before and after the intervention, the user friendliness of the F model was conducted by a grounded theory approach. The qualitative analysis was performed under the supervision of a specialist.

(1) Did the family's self-care level rise?

Five of 17 home visiting nurses answered, "Family's self-care level rose", three answered, "It may rise depending upon where the goal is placed", three answered "I am not sure whether or not it changed", two answered "No change", two answered "It is impossible to raise the ability" and two answered "It is not clear". Although they are not shown in the table, regarding three cases where respondents answered that their self-care level was improved due to the interview and seven cases where respondents answered that their self-care level was not improved, the assessment scores of clients 'self-care" and families assessment (level of understanding and behavior) were compared. As a result, clients' self-care assessments were improved in every item before and after intervention, but no significant difference was recognized. In the three cases where the self-care level was improved according to family assessment, although no significant difference was recognized, only one item, "The family encourages the client to take drugs (behavior)", was improved compared with before the intervention. The items which assessment scores were not changed even though significant differences were not found were "The client knows the reason why she takes drugs (level of understanding)" and "The family' knows how to communicate with the client (level of understanding)". The assessments of other items were low although significant differences were not observed. Among the cases where the respondent answered that the self-care level was not improved, the following three items were improved compared with before the intervention although a significant difference was not recognized: "Does the client know a social resource that she can use? (level of understanding)", "Does the client consider that it is her fault that they developed the psychiatric disorders (level of understanding)?", and "Does the family know how to communicate with client? (level of understanding". The assessment item after the intervene, which significantly showed a lower level of improvement compared with before the intervene was "Have family roles been adjusted due to the psychiatric disorders development of the family member? (behavior)".

The nine home visiting nurses other than those who answered "It rose" and "It may rise" listed up to 16 reasons why the self-care level did not rise, which were classified into three groups of factors as follows (Table 7): Factors in the family side; "Inability to understand the mental vacillation of the client",

Table 5 Assessments of families performed by home visiting nurses before and after nursing intervention

	Assessment items U=understanding A=action	N	Before intervention Average (SD)	After intervention Average (SD)	T Value	p Value
U	1 Does the family know how to cope during the time when the psychiatric symptoms of the client emerge?	18	3.1(0.8)	2.8(1.0)	9.0	0.157
A	1-1 Is the family ready to cope when the psychiatric symptoms of the client emerges?	18	3.2(0.9)	2.8(0.9)	0.0	0.034*
U	2 Does the family know why the client takes drugs?	18	3.4(0.8)	3.3(0.9)	2.0	0.564
A	2-1 Does the family facilitate the client's use of the drugs?	18	3.4(0.8)	3.6(0.6)	3.5	0.102
U	3 Does the family know any social resources that the client can utilize?	18	2.8(0.7)	2.9(1.0)	13.5	0.480
A	3-1 Does the family have access to the social resources that the client can use?	16	2.9(1.0)	2.9(1.0)	0.0	1.000
U	4 Does the family ascribe the course of the client's psychiatric disorders to themselves?	16	3.5(0.7)	3.6(0.7)	0.0	0.157
A	4-1 Does the family feel repentant that the client has got a psychiatric disorders?	16	3.5(0.6)	3.4(0.7)	2.5	0.317
U	5 Does the family notice that family roles have changed from their family member's having a psychiatric disorders?	17	3.4(0.8)	3.3(0.8)	6.0	0.655
A	5-1 Have the family's roles been adjusted from their family member's having psychiatric disorders?	18	3.2(0.9)	3.1(0.7)	15.0	0.317
U	6 Does the family know how to spend their time other than for caregiving?	17	3.7(0.6)	3.5(0.5)	3.0	0.180
A	6-1 Does the family have time for anything other than caregiving?	17	3.8(0.4)	3.4(0.5)	0.0	0.008*
U	7 Does the family know the persons or places they can talk about their present feelings?	18	3.5(0.6)	3.3(0.7)	20.0	0.405
A	7-1 Can the family go to the persons or places they can talk about their present feelings?	17	3.7(0.6)	3.3(0.8)	10.0	0.052
U	8 Does the family know that excessive protection and intervention are not good for the client?	18	3.1(0.7)	3.1(0.7)	14.0	1.000
A	8-1 Can the family maintain an appropriate distance with the client?	17	3.1(0.7)	3.1(0.8)	7.5	1.000
U	9 Does the family know how to communicate with the client?	18	3.3(0.8)	3.3(0.8)	5.0	1.000
A	9-1 Can the family talk face to face with the client?	18	3.4(0.7)	3.3(0.7)	10.5	0.527
	Total scores	18	28.3(6.0)	28.4(4.7)	59.0	0.639

Assessment standards: 1: can act with special support of a nurse, 2: can act with partial support of the nurse, 3: can act with consultation and advice from the nurse 4: can act by one-self.
Signed Wilcoxon's rank sum test *P<0.05

Table 6 Family's caregiving burden before and after the nursing intervention

Question items	N	Before intervention Average (SD)	After intervention Average (SD)	T Value	p Value
1 Do you think that the client requires an amount of caregiving that is more than necessary?	18	1.6(1.0)	2.1(1.1)	11.0	0.033*
2 Do you think that you cannot secure your own time because you stay together with patient for a long time?	18	1.6(1.1)	1.8(1.4)	35.5	0.477
3 Do you feel stress because you perform your job, housework and caregiving?	18	1.9(1.2)	2.0(1.1)	12.5	0.792
4 Are you embarrassed by the client's behaviors?	18	2.1(1.1)	2.3(1.2)	22.0	0.565
5 Do you feel angry when you are with the client?	18	1.9(1.1)	1.9(1.1)	30.5	0.813
6 Do you think you have difficulty in dealing with family members and friends because of the client?	18	1.5(1.2)	2.5(1.5)	52.0	0.973
7 Are you worried of the client's future?	18	2.9(1.2)	2.5(1.4)	16.0	0.229
8 Do you feel the client depends on you?	18	3.2(0.9)	2.8(1.2)	9.0	0.083
9 Do you think you cannot be relaxed while you are with the client?	17	1.7(1.0)	1.7(1.0)	19.5	0.713
10 Have you ever considered that you became sick because of the client?	18	1.1(1.1)	1.2(1.0)	25.0	0.782
11 Do you think you cannot have your free time because you have to care for the client?	18	1.6(1.3)	1.6(1.1)	27.0	0.958
12 Have you decreased the opportunities for social activities because you have to care for the client?	18	1.4(1.0)	1.1(1.0)	25.5	0.266
13 Do you think you cannot invite your friends into your home because the client is at home?	18	1.4(1.4)	1.0(0.8)	6.0	0.161
14 Does the client look like that he/she is depending only on you?	18	2.6(1.3)	2.3(1.5)	21.5	0.293
15 Do you think you cannot afford to care for the client?	18	1.7(1.3)	2.1(1.2)	18.0	0.071
16 Do you think you cannot spare any more time for caregiving?	18	1.2(1.0)	1.3(1.1)	12.5	0.796
17 Do you think you cannot live as you like because of the client's diorders	18	1.7(1.1)	1.7(1.0)	21.0	0.852
18 Do you like to leave the duty of care for the client to somebody else?	18	1.1(0.9)	1.4(1.0)	20.0	0.218
19 Do you think you don't know what to do for the client?	18	1.5(0.9)	1.6(1.1)	13.5	0.480
20 Do you think you have to care for the client more than ever before?	18	1.2(1.2)	1.0(1.0)	7.0	0.206
21 Do you hope you could do better caring for the client?	18	1.9(1.3)	1.3(1.1)	11.0	0.019*
22 What do you think about the burden of caregiving as a whole?	18	2.1(0.8)	1.9(0.8)	2.0	0.392
Total scores	18	35.2(15.2)	37.5(11.9)	58.5	0.257

Note) 22) Assessment standard: 0: no burden at all, 1: a little burden, 2: ordinary burden,
3: considerable burden 4: very large burden
Signed Wilcoxon's rank sum test. *P<0.05

Table 7 Reasons why the self-care level was not improved

	Multipl Answers n=9
1 Factors at family side (10)	Inability to understand the mental vacillation of the client (1)
	Psychiatric disorders that is not understood (1)
	Lack of recognition of the importance of enhancing the level of self-care(1)
	Lack of self-care capability (1)
	Lack of effort to solve the problems (1)
	Unchanging attitudes (1)
	Lack of thinking about how to improve their lives (1)
	Unawareness of how to solve problems of daily life (1)
	Inability to form a good relationship with the client (1)
	Severe assessment because the family is aiming at the best caregiving (1)
2 Factors at nurses side (4)	Cannot make further steps (1)
	Untouchable situation (1)
	Difficulty of intervening in somebody else's caregiving problems (1)
	Educational support that had not been provided (1)
3 Factors in client side (2)	Difficulty in receiving protracted treatment (1)
	Difficulty in responding to the emergence of psychiatric symptom (1)

Table 8 Observed changes in family assessment performed by home visiting nurses caused by utilizing F model

	Multipl Answers n=6
1 Support by nurses (10)	Overlooked assessment (1)
	Educational approach that had not been approached (1)
	Detection of what had not been assessed (1)
	Useful for understanding the client (1)
	Response to the family problem that could be understood (1)
	Client's direction in the future (1)
	Trigger to find the best approach for intervention (1)
	Confront the difficulties in daily living (1)
	Find ways to possibly reduce the burden of family care(1)
	Objective review by valuable nurse
2 Matters in family (9)	Family's consideration of the client (6)
	What cannot be done by the family is becoming clear. (1)
	Key person's role behaviors are becoming clear. (1)
	Family reassessment(1)

"Psychiatric disorders that is not understood", "Lack of recognition of the importance of enhancing the self-care level", "Lack of the ability to perform self-care", "Lackof effort to solve problems", "Unchan ging attitudes", "Lack of thinking about how to improve their lives", "Unawareness of how to solve the problems on daily living", "Inability to form a good relationship with the client" and "Severe assessment because the family is aiming at the best form of care giving": Factors on the nurses side: "Cannot make further steps", "Untouchable situation", "Difficulty of intervening with somebody else's care giving pro blems" and "Educational support that had not been provided": and Factors in the client side: "Difficulty in receiving the protracted treatment" and "Difficulty in responding to the emergence of the psychiatric symptom".

(2) How family assessment performed by home visiting nurses changed before and after intervention?

Six of 17 home visiting nurses posed 19 points of this matter, which were classified into two groups of the points as follows (Table 8): relating to the support by the nurses and relating to family matters. Support by nurses includes "Overlooked assessment", "educational approach that had not been approached", "Detection of what had not been assessed", "Useful for understanding the client", "Response to the family problem that could be understood", "Client's direction in the future", "Trigger to find the

way for intervention", "Approach to people with difficulties in daily living", "Approach to the reduction of the family's care giving burden that was found possible", and the "Objective review by a valued nurse". Family matters include, "Family's consideration to the client", "What cannot be done by the family is becoming clear", "Key persons' role behaviors are becoming clear" and "Family reassessment", etc.

(3) User friendliness of the F model

Seven of 17 home visiting nurses answered "the F model is easy to use", three answered "It is hard to use" and seven answered "Unknown". As for the reasons why it was hard to use, three of the seven answered, "It is unknown when this assessment was intended to be performed", "I intervene when the relationship between the client and family is not good or during times that I feel it is better to intervene by observing the client", "There were several assessment items that I could not evaluate before directly confirming them with the family" and "I was puzzled by the four point scale" as there were some contents that could not be answered.

Discussion

This study was performed to verify the effectiveness of the F model based upon the family'sself-care using a circular process after home visiting nurses intervened by applying the F model in the families of clients with a psychiatric disorders, using home visiting nursing service. The following sections contain discussions based upon the verification results:

1. Effectiveness of family assessment

The assessments of the clients' self-care capability in all of the items had the tendency to increase after intervention, but no significant difference was recognized. The assessments of families in the two items of "Is the family ready to cope when the psychiatric symptoms of the client emerges" and "Does the family have time for anything other than care giving" significantly decreased after intervention. The reason why the assessments concerning the clients' self-care capabilities were high in all of the items is considered to be evidence that the intervention by home visiting nurses effectively worked. On the other hand, it is also considered that the reason for the decrease found in the assessments of the families' self-care capability is because it is difficult for families of patients with psychiatric disorders who require nursing care to improve their self-care capability. As a reason for the above, Nojima[16] described that 「there is a considerable discrepancy between the relationship of the family of patients with a psychiatric disorders, which comes with the requirements of nursing care and that of a healthy family.」 This discrepancy consequently affects mental health. Nojima[16] also said that 「it is important to encourage entire families to strengthen their self-care activities[16]. Based on the result above, it is suggested that this should be done on a case by case basis since it is difficult for some families to enforce their self-care capability.

Although no significant difference was observed, the level of family's care giving burden was low. The family significantly felt the burden because the client required an unnecessary amount of care giving and they were not interested in providing a better kind of it. The problems that occur when the family are taking care of the client while feeling the burden of care giving were mitigated by receiving advice from home visiting nurses, which was considered to be an effect of intervention.

2. Effectiveness of family support based upon family assessment

Regarding the question of whether or not the family's self-care level had improved through this study, five of the 17 home visiting nurses answered, "The family's self-care level rose", three answered, "it may rise depending upon where the goal is set", three answered, "I am not sure whether or not it rose", two answered, "Nochange", two answered, "It is impossible to raise the ability" and two answered, "it is not

clear." Kayama[17] said 「that in the case of psychiatric chronic patients, the goal of psychiatric home visiting nurses is not to make the clients completely recover or to end home-visiting nursing care in a short period, but rather to maintain the present disorders condition and not worsen it[17].」 Therefore, in this study, "No change" was recognized as "The goal of home visiting nursing service was achieved as the condition did not worsen and was maintained. Ten home visiting nurses of 60 percent answered that the self-care level improved, so it was revealed that the F model was effective for raising the quality of self-care in the family. This was absolutely the result of the interviews that were performed regarding whether or not the level of self-care was improved. Regarding the client's self-care and family's assessment of the cases where visiting nurses answered, "Self-care level was improved" and those where they answered "It was not improved", the assessments by visiting nurses before and after the intervention were compared. As a result, although no significant difference was recognized in all of the items, the assessments of the clients' self-care were improved compared with before intervene. As for families' assessments, in the cases where self-care level was regarded as improved, the assessment of the item of "Family encourage client take drug" was improved compared with before the intervention although no significant difference was recognized. In the cases where respondents answered, "Self-care level lowered", the assessment of the item of "Knows a social resource that the client can use"was improved, although no significant difference was recognized. The assessment of the item of "Knows how to communicate with client" was not changed although there was no significant difference. Meanwhile, the assessment of "Have family roles been adjusted due to the psychiatric disease of the family member?" was significantly low after the intervention compared with before the intervention. The F model is for the adjustment of the relationship between the improvement of family's self-care capabilities and client. Psychiatric home visiting nurses provide support to the families by watching their self-care level. In this research, it can be considered that the families' self-care level was improved because the family encourages the client to take drugs and they have the knowledge of client's psychiatric disorders. However, it is considered that psychiatric home visiting nurse cannot be involved in the adjustment of family roles. By making a family assessment of this time, the user's consideration of the family was revealed, and it became a reference point for understanding the user with psychiatric disorders and considering a new intervention's method.

As for the usefullness of the F-model, seven of 17 home-visiting nurses said that "it is easy to use." However, it was revealed that the reason that the self-care level did not rise was because the family was not aware of methods to improve the quality of self-care and did not make an effort to solve problems in their family.

Those who found it hard to use it said that they did not know when to perform the family assessment and this created a problem. They said they observed the client and conducted interventions when they thought there was a problem in the relationship between the client and family. Besides this issue, there were claims that they could not assess some items before directly confirming them with the family and that the four point scale was confusing.

From the above findings, it was decided that family assessment is effective because it broadens the perspective of the psychiatric home visiting nurses while they are observing these families. However, as for family support, there are separate conditions where the family's apathy strongly affects it, such as "the family does not make an effort to improve their self-care capability". Therefore, various patterns for supporting the method of the F model were considered to be in need of investigation in the future.

Conclusions

In this study, a family support model was established based upon a method of family self-care, which

uses a cyclic process performed by home visiting nurses for the family caring for a client, suffering from a psychiatric disorders and using home visiting nursing service. The effectiveness of this model was verified.

1. As for family assessment, a significant decrease in the score evaluated by home-visiting nurses for the item of "1-1 Is the family prepared to cope when the psychiatric symptom of the client emerges?" was observed after intervention (p=0.034). Also a significant decrease in the score for "6-1 Does the family have time for anything other than care giving?" was observed after intervention (p=0.008).

2. As for the score of the caregiver's burden, a significant increase in the score for the item of "1 Do you think that the client requires an amount of care giving that is more than necessary?" was observed after intervention (p=0.033), and a significant decrease in the score for the item of "21 Do you want to provide better care for the client?" was observed after intervention (p=0.019). Despite the decrease in the score for "22 What do you think about the burden of care giving as a whole?", no significant difference was observed.

3. Sixty percent of home visiting nurses considered that the family's self-care level had improved. Although family assessment is useful because it broadens the home visiting nurses' perspective to observe the families, regarding family support, there were separate conditions found where the family's apathy strongly affects it, such as "the family does not make an effort to improve their self-care capability". Therefore, it was considered that this should be further investigated.

Limitations

No specific support method for the family of the client with a psychiatric disease, and using home visiting nursing service has been clarified. The results of this study cannot be generalized due to the limitation of the number of those targeted. However, it is considered that there was a significant level of success while applying the family assessment method using the F model. It remains a future task to conduct further studies on the F model so that more effective methods of support will be provided to the family of the client suffering from a psychiatric disorders and receiving home-visiting nursing care.

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References

1） Ministry of Health, Labor and Welfare, Mental Health and Welfare Reform Vision http: //www/mhlw.go.jp/topics/2004/09/ tp0902-1.html (browsed Sept. 2010)

2） Junko Niimura. Community Mental Health and Welfare System], Psychiatric Nursing Care expert, Psychiatric Home Visiting Nursing Care (Ed) Miyoshi Sakata, Tokyo Nakayama Shoten, 113-117, 2005.

3） Akira Ogata, Kouichi Mimura, Eriko Imamura. Study of Effect of Psychiatric Home Visiting Nursing Care on Preventing Recurrence of Schizophrenic Disease, Psychiatric Medicine, 39 (2): 131-137, 1997.

4）Mami Kayama, Taro Matsushita, Akiko Funakoshi, et al.Empirical Study of Effect of Psychiatric Visiting Nursing Care, Analysis using Length of Psychiatric Hospital Stay as an Index, Psychiatric Medicine, 47(6): 647-653. 2005.

5）Misuzu Watanabe, Kouichi Kono, Kimiro Nishiura, et al. Index of Health, Labor and Welfare Ministry about Factors Affecting Readmission of Psychiatric Patients Receiving Psychiatric Visiting Nursing Care, 47(2): 21-27, 2000.

6）Emiko Tanaka. Home Visiting Nursing Care, Community Support Network and Nursing Support for Psychiatric Patients, from Discharge Planning to Community Support, (Ed) Mieko Tanaka, Tokyo, Ishiyaku Publishers, Inc. 213-225, 2004.

7）Akiko Tochii. Practice of Home Visiting Nursing Care for Psychiatric Patients, The newest text book for Home Visiting Nursing Care Training, Step 2, (Ed) Hiromi Kawagoe, Maya Yamazaki, Mihoko Sato, Nihon Kango Kyokai Shuppankai, Tokyo, 62-72, 2005.

8）Michika Tanoue. Relationship to family Psychiatric Home Visiting Nursing Care/Visiting Guidance Case Book, (Ed) Mami Kayama, Tokyo, Nankoudo, p6, 2001.

9）Nozomi Setoya, Mami Kayama, Yuki Miyamoto, et al. Contents of Care Provided by Psychiatric Home Visiting Nursing Care- from the Interview Research with Psychiatric Home Visiting Nurses, Journal of Japan Academy of Nursing Science, 28(1): 41-51. 2008.

10) Sayumi Nojima. Family Self-care Theory, Psychiatric Nursing Care expert, Psychiatric Nursing Care and Family Care, (Ed) Miyoshi Sakata, Tokyo, 41-46, Nakayama Shoten, 2005.

11) Sayumi Nojima. self-care of family, Nursing Practice Bring in Nursing Care Empowerment, Tokyo, Herusu Shuppan. 73-84, 2005.

12) Toki Onodera. Dorothea E. Orem Nursing, Basic Concept of Nursing Practice, (the Fourth Issue), (Translation), Tokyo, Igaku-Shoin. 2004

13) Yasuko Toyoshima, Masaki Otsubo, Masakazu Washio. Examination of home visiting nursing care for family with client with psychiatric disorders. Bulletin of St.Mary's College.1:35-40 .2010.

14) Keiko Okaya. Nursing Model of Self-care Support for the People with Emotional Disease, Active Nursing, Practical Orem-Underwood Theory, Curing of Mind, (Ed) Yuko Minami, Tokyo, Kodansha, 37-38, 2005

15) Dorothea E. Orem. Nursing Concepts of Practice Six Edition. United States of America, Mosby, Inc, 42-67, 2001.

16) Sayumi Nojima. Family Nursing living with psychiatric disorders. Nursing care bring empowerment. Tokyo, Herususyuppan, 279-290, 2005.

17) Mami Kayama. Contents and Effects of Psychiatric Home Visiting Nursing Care, Focus on the difference from the Care in Hospital, Psychiatric Nursing Care, 34(7): 13-16, 2007