

# Notable Cultural Aspects that Affect Hemodialysis Patient's Attitudes toward Dietary Therapy

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## 要旨

本研究の目的は、血液透析患者の食事管理行動における態度に影響する文化の特徴を明らかにし、今後、医療者が行う態度変容に対する患者教育について検討することである。研究対象者は今までに食事に関する教育を受けた経験がある、検査データが良好な慢性維持血液透析患者9名である。データ収集は、参与観察および半構成的面接によるエスノグラフィで行った。また、分析は、*thematic analysis* の手法に則って実施した。結果、血液透析患者の食事管理行動における態度に影響する文化の特徴として、日本の食と家族文化に関する2つのテーマが明らかになった。2つのテーマは、【日本の旬を味わいつつ、日本文化を活かした食事をしている】と【家族が寄り添い、思いやりを持って支えあっている】であった。これらの文化は、適切な食事管理行動の態度を形成する要因のひとつとなっていた。医療者は、患者の食事管理行動に対する態度に影響する文化を理解した上で、患者教育を行うことが態度形成や行動変容に有効である。

## 1. Introduction

The number of dialysis patients in Japan undergoing chronic dialysis treatment at the end of 2011 exceeded 300,000 for the first time ever, with a ratio of population at 2430.7 per one million.<sup>1</sup> In addition to dialysis therapy three times a week, patients have to receive drug treatment and dietary treatment. Strict restriction recommended by the Japanese Society of Nephrology, including standards of total energy, protein, salt, fluid, potassium, and phosphorus, will be applied to the diet of dialysis patients to control prognosis and development of complications. These restrictions may affect the patients' dietary QOL.

Medical caregivers provide patient educations on dietary therapy so that patients will be able to manage their diets strictly in compliance with the medically required standard. In patient education it is necessary to make patients acquire the necessary information toward behaviour modification and form a desirable attitude or improve their attitude.<sup>2</sup> Attitude is composed of three components—*affect*, *cognition*, and *propensity of behaviour*.<sup>3</sup> It is said that cognitive components influence affects and that affective components influence propensity of behaviour. Although medical caregivers clinically provide knowledge to improve patients' cognition, they have not educated patients by taking into consideration the relationship between affect and cognition toward their behaviour. Dialysis patients often complain that dietary therapy gives them distress, while eating should bring enjoyment. It is,

therefore, important to educate patients considering their attitude influenced by their affect. More specifically, to provide education that encourages patients to modify their attitude toward diet is important. The mechanism of attitude, however, has not been clarified. We, therefore, conducted a study to shed light on affective and cognitive components that influence hemodialysis patients' attitude toward dietary therapy. We also conducted a study to identify a model of attitude relating to dietary therapy among hemodialysis patients.<sup>4</sup> As a result, it was suggested that in addition to cognition, affect, and propensity of behaviour that are the factors relating to attitude, culture may also be involved. Newly found as a factor other than the previously known cognition, affect, and propensity of behaviour, culture and how it serves in relation to attitude has not been well understood.

Culture encompasses the cumulative deposit of knowledge, experience, belief, values, attitudes, meanings, hierarchies, religion, notions of time, roles, spatial relations, concepts of the universe, and material objects and possessions acquired by a group of people in the course of generations through individual and group striving.<sup>5</sup> As such, we believe culture is important in formulating an attitude as well. Yet medical caregivers have insufficient understanding of their culture involved in dietary therapy, while clinically grasping patients' knowledge level (cognition), and their thoughts (affect).

Studies in the past on dialysis patients include those on decision making regarding end-of-life care as well as cultural difference on QOL.<sup>6,7</sup> When it comes to studies on culture in relation to patient education, it is obvious that facilitators of end-stage renal disease patients' adherence are family members.<sup>8</sup> There has been no report, however, studying hemodialysis patients' attitude toward dietary therapy and culture reflected in the attitude. It is expected that, when medical caregivers provide education taking each patient's culture into consideration by recognizing its effect on his/her attitude toward dietary therapy, the patient's internal motivation will be enhanced, resulting in effective support for attitude modification.

## **1. Aim**

The aim of this study is to clarify aspects of culture that affects hemodialysis patients' attitude in dietary therapy and to consider desirable patient education on attitude modification to be provided by medical caregivers in the future.

## **2. Definition**

**Attitude:** In this study, attitude is a general and ongoing feeling that a patient has toward dietary therapy, consisting of three components of affect, cognition, and behavior, which may be either positive or negative. Affect is how a patient feels about dietary therapy, either pleasant or unpleasant; cognition is a belief about information on dietary therapy, either true or false; and behavior is a preparatory state of action, either to approach or to avoid dietary therapy.

## 4. Methods

### Design

The present study is designed as a factor-searching study. Microethnography was chosen as the research method. The culture that serves as the background to people's daily actions has become so ingrained that it is imperceptible even to the person in question in most cases. Fieldwork is one method for describing a culture.<sup>9</sup> We believe that it is difficult to understand attitudes toward dietary therapy that are influenced by culture through interviews alone, which is why this method was chosen.

### Field overview and research participants

The field was hospitals and the homes, including the kitchens, of people receiving outpatient dialysis in the Kanto, Tohoku, and Kinki regions in Japan: three regions including mountains and fishing areas that are considered to represent Japanese traditional food culture. The participants were selected according to the study's criteria and introduced by the dialysis physicians and head nurse, and the researcher explained the study to each person. There were nine patients in the study, who managed their diet themselves, plus eight of their family members. The nine patients, undergoing chronic maintenance hemodialysis for over six months as outpatients, had received guidance related to diet and had good test results. The test result selection criteria were mean values of around 6.0mg/dl phosphorus, 5.5mEq/l potassium, 9.0-10.5mg/dl calcium, and 3.5g/dl serum albumin six months prior to the time of the survey, and a mean monthly weight gain of around 5% with two days between dialysis treatments. Additional requirements were that no participants have cognitive impairment or the inability to communicate, or higher brain dysfunction with regard to reading and writing; they also had to be between the ages of 21 and 79. The age of the patients, five males and four females, ranging from their 50s to 70s, with their hemodialysis history ranging from seven to 32 years. (Table 1)

Table 1  
*Research participants*

	Gender	Age	Years on dialysis	Original condition	Family
Person A	Female	60s	30	Chronic nephritis and nephropathy of pregnancy	Lives with husband (has 1 daughter)
Person B	Male	70s	16	Chronic nephritis	Lives with wife and eldest son's family including 1 daughter and 1 son
Person C	Male	50s	18	Polycystic Kidney Disease	Lives with wife and son
Person D	Male	60s	16	Chronic nephritis	Lives with wife
Person E	Female	50s	32	Chronic nephritis	Lives with mother, brother and brother's wife
Person F	Male	70s	15	Polycystic Kidney Disease	Lives with wife
Person G	Male	60s	7	Chronic glomerulonephritis	Lives with wife and daughter
Person H	Female	60s	18	Polycystic Kidney Disease	Lives with husband, son's family (3 people)
Person I	Female	60s	22	Unknown	Lives with husband

## **Data collection**

Four roles of the field worker have been identified (the complete participant, the participant-as-observer, the observer-as-participant, and the complete observer).<sup>10</sup> For this study the field worker's role was the observer as participant. The researchers spent as much time as possible with participants, such as during cooking or eating meals, while trying to keep any disturbance to the flow of their daily lives to a minimum. Interviews and participant observation were conducted with a pair of the participant and his/her family member as a rule, except for one participant who was not accompanied by a family member. The family members, including the participants' wife and sister in law living with the participant under one roof, were fully aware of the situation of the participants.

During participant observation, data was collected mainly when a participant or his/her family member is cooking and eating afterwards, while the scenes were shot by a digital camera. The observations were carried out for 45 hours in total, all the details of which were documented in field notes.

An interview was conducted before and after a participant observation. Utilizing an interview guide prepared based on the definition of the terms, questions focused on feelings about dietary therapy (affect), knowledge on diet (cognition), and what they are being particular about in dietary therapy (behavior). The interviews lasted for about one to one and a half hours per session, 77 hours in total.

## **Data analysis**

All fieldwork and individual interviews were recorded and transcribed by the first author prior to thematic analysis. The data analysis followed thematic analysis methodology.<sup>11,12</sup> All the fieldwork and data were made into a verbatim record and checked by the first author and the co-researchers checking each other. The data set consisted of the verbatim transcripts and field notes. The data set was read numerous times until familiarity with the data was established. First of all, items of interest in the data were extracted and codified following the definition of attitude. Then, latent themes and the codes were compared. The extracted codes and themes were examined in relation to affect, cognition, and propensity of behavior. Those themes that are not applicable to affect, cognition, or propensity of behavior were also examined to see what concept they fall into. Then, to make the relationships between the themes and codes visible, a thematic map was created and the themes revisited in the process of studying the overall stories. The themes extracted in the end were named and definitions were created. The initial analysis was conducted by the first author, then the relationships between the codes and themes and the map were discussed with the other researchers. The agreement of the other researchers was obtained on the naming and definitions of the themes extracted in the end.

### **Trustworthiness**

Trustworthiness was addressed using Lincoln & Guba's<sup>13</sup> criteria of credibility, transferability, dependability and confirmability. To ensure credibility and transferability, both researchers independently coded the text for relevant themes during meetings. Following agreement on the key themes, the researchers reviewed ideas, assumption and ensuring consistency. Dependability and confirmability were achieved by maintaining an audit trail throughout the work.

### **Ethical considerations**

This study underwent screening by and received the authorization of the Gunma University Research Ethics Review Committee (Authorization No. 9-7). Following authorization, the researchers explained the study in writing and verbally to each research facility's director, director of nursing, and head nurse, and received their consent.

## **5. Findings**

Analysis of concepts other than the three factors of affect, cognition, and propensity of behavior resulted in extraction of core themes corresponding to culture. It was revealed that there are two themes relating to food and family, which are attributable to culture: **Enjoying seasonal ingredients and dishes that follow Japanese culture** and **Family draws near, shows care and gives support.**

### **Theme 1: Enjoying seasonal ingredients and dishes that follow Japanese culture**

'Seasonal' foods are those taken in a season when they are most abundant and taste the best. The analysis found that participants often eat such seasonal foods prepared with special care. Many of the participants did not maintain one-dish meals such as pasta only, but followed Japanese tradition to have a soup and three side dishes to accompany rice, although the amount of soup is small due to restriction for dialysis patients.

The vegetable drawer of Person A's refrigerator is stocked full with vegetables. She chooses some vegetables from the vegetable drawer to prepare a meal. "A neighbor brings me eggplant and scallions, which is a big help. In the summer vegetables are the best," she says as she chooses vegetables and begins to prepare them.

Japan's geographic conditions including mountainous areas, good fisheries, and clean water, as well as a variety of agricultural items and marine products such as fish and sea vegetables, have formulated Japanese food culture of enjoying seasonal foods.<sup>14</sup> Study participants who were cooking such fresh food products were enjoying cooking and eating those items that can only be enjoyed in a particular season of the four seasons. This must make them be aware of the season. We

suspect that feeling a season is linked to feeling their lives.

## **Theme 2: Family draws near, shows care and gives support**

While situations were often observed in which the family supported the participant, there were also situations in which the participant supported the family and the existence of the participant conducting dietary therapy supported the family.

"Umm...I studied a bit. Ah, about light seasoning and such things. At, umm, those meetings to promote improvements in food life." (Person F's family member)

"I've gotten used to light seasoning. My husband has, as well. That's why he has never gotten sick. What do you call it? Well, ah, no diabetes. So, a doctor, when he goes to a different doctor the doctor says to him. You know, that his wife takes care of him well, and you know, he should feel happy." (Person A)

That participants learned a light seasoning diet and family members have eaten the same dietary-managed meals cooked by the participant has contributed to maintaining the good health of the family members. A family is a group sharing a certain culture. A patient is embraced in a culture, namely a family, so they are not separate. It is important to grasp how the internal functions work in a family, in other words, how a patient and his/her family members function and support each other in a family.

## **6. Discussion**

### **Culture that influences attitude, and patient education**

In the participants who had good test results, their 'culture' of **Enjoying seasonal ingredients and dishes that follow Japanese culture** was found to have influenced their attitude. Participants ate meals primarily based on seasonal Japanese foods. Japanese cuisine is considered healthy in general, but for seasoning it calls for the use of soy sauce, which is high in salt, and employs fresh vegetables, which are high in potassium. Because Japanese food is high in salt<sup>15</sup> it is by no means the basis for a healthy diet for hemodialysis patients who are restricted on salt and potassium. The participants of this study, however, had good test results. They did not take in a large amount of fluids. We believe this is due to the fact that the participants did not have excessive intakes of potassium and salt by being careful in their diet.

Participant observation revealed a meal style based on a soup and three side dishes utilizing fresh seasonal foods. By taking a number of food items, they felt satisfaction without eating large amounts. Their desirable condition may be influenced by the 'soup and three side dishes' approach to cuisine that has been part of Japanese food culture since olden times, an approach that is nutritionally well-balanced.<sup>16</sup> An intervention study conducted in Greece reported that the use of

olive oil, essential for preparing local Greek cuisine, significantly improved cognitive functions.<sup>17</sup> This result can be understood to mean that being able to eat meals based on the food culture of a person's country may contribute to an improved attitude. We believe that in patient education, medical caregivers can introduce the idea of increasing the number of food items as much as possible and eating smaller amounts while using fresh seasonal foods, thereby getting a sense of satisfaction—a pleasant emotion that will improve cognition, leading to forming an attitude toward good dietary therapy.

Finding of the second theme, **Family draws near, shows care and gives support**, revealed that family members mutually support thinking about each other. 'Family' in this study represents a small group based on kinship ties, including those between husband and wife, parents and children, brothers and sisters. It was noteworthy that the participants in this study lived together with or near their family and were closely connected. Family is an aggregate of individuals connected through strong emotional bond, a sense of belonging, and affect willing to get involved in each other's life.<sup>18</sup> The results of this study suggest that the family members' emotional bond is partially nurtured by engagement through eating together. Furthermore, psychological functions such as compassion mutually affect with family, where a culture of daily, practical practices are formed. Psychological functions are created by family behaving in such a culture.<sup>19</sup> The results of the present study suggest that participants and their family members have a psychological function of compassion. It was considered that family environment also contributes to the formation of this psychological function. Each patient's family environment varies. Medical caregivers first have to assess the patient's family environment to provide support in a manner where family members can maintain their emotional connection, i.e. to improve their self-care function.

### **Implication for Practice**

From the perspective of the findings of attitude expressed in behavior and based in cognition and emotion, it is important for nurses to first look at the cognition, emotion and culture that are hidden behind a patient's behavior, instead of looking exclusively at the dietary therapy being taken or the patient's test results. If the nurse looks at cognition and emotion, and culture, and is able to draw them from the patient to make an assessment, it then becomes possible to provide support directed toward attitude change and behavior change that is more specific and individually tailored. This study turned out to be a discovery of culture that affects Japanese people's dietary therapy. Japanese people celebrate various seasonal events, including New Year's and Bon, which are uniquely Japanese traditional culture. Meals that accompany such special occasions provide pleasure, but may lead to excessive intake. Medical caregivers must support patients so that they would not develop complications or aggravation of their problems due to excessive intake, while enjoying such special meals.

Based on this study, we may be able to discover other cultures that affect attitude toward dietary therapy. In the future, we will study attitude toward dietary therapy in different countries to verify relevant cultures, while clarifying aspects of Japanese culture.

#### **Limitation of the study and future issues**

In this study, in order to understand attitude in the dietary therapy of hemodialysis patients in Japan as much as possible, data was collected in three regions of the country. But because of the diversity of regional characteristics that affect diet even within Japan, there are limits to the applicability of the results. Also, because environmental factors have such a strong influence on the food habits of participants from their birth to the present day, it will also be important to investigate correlations that include the participants' life history.

#### **7. Conclusion**

This study identified the two themes: **Enjoying seasonal ingredients and dishes that follow Japanese culture** and **Family draws near, shows care and gives support**, which is a part of culture that affects dialysis patients' attitude towards dietary therapy. The culture was found to be a factor for forming an appropriate attitude toward dietary therapy. Medical caregivers should understand such culture that affects attitude toward dietary therapy. Providing patient education based on understanding of the culture will be effective for patients' attitude forming and change in behavior.

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