〔原著〕

Family Dynamics and Mental Status of Japanese Families Who Live in a Northern Prefecture of Japan

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Abstract : The purpose of this study was to identify characteristics of family dynamics and mental status of Japanese families who live in a northern prefecture of Yamagata, Japan.

Data were collected using Family Dynamics Measure II (FDM II) and a questionnaire including questions about socio-demographic characteristics and mental status. Data were collected by convenience sampling from residents of community groups and care personnel. Participation was voluntary.

Findings: The majority of participants were female. Average age of participants was 43.88, ranging from 23 to 79 years of age. They were spouses (78.6%), living with their children (65.4%), and their parent(s) (36.5%). There was an average of 4.62 persons in a family. More than one half had a family member over age 70. Twenty to thirty percents of families had health problems and changes or problems in their family. Among six dimensions of FDM II, strong positive relationships were found between Mutuality-Clear communication, Stability-Clear communication, Mutuality-Stability, Clear communication- Role reciprocity, and Stability-Role reciprocity. Mental status indicated positive but weak relationships with each six dimensions of FDM II.

Findings of these family characteristics and mental status may help community and home health care nurses to provide appropriate care to families in Yamagata, Japan.

Keywords : family dynamics, Family Dynamics Measure II (FDM II), Japanese family, northern prefecture, mental status

Introduction:

1. Changes in families in Japan

Japanese families have been shrinking in size. In comparing the 20 years span between 1986 and 2007, the average number of family members decreased from 3.22 to 2.63[1]. Nationally the average was 2.68 and in Tokyo it was 2.13 in 2005[2]. At the same time, three generation family shrank almost in half compared to 20 years ago (15.3 to 8.4 respectively)[1]. The population census (2005) showed a more drastic picture between year 2000 and 2005, when the one or two person family increased, whereas more than three persons in a family decreased[2]. In addition to family size, there are changes in family structure indicated by an increased elderly who live alone. Changes in size were 2.38 times greater during the 15-year period between 1990 and 2005[2]. The same trend is reported for elderly couples with an increase of 2.28 times during the same period[2].

From 1986 to 2006, childless families increased in size whereas those families with more than 2 children decreased[3], indicating the trend in smaller families.

2. Characteristics of families who live in Yamagata Prefecture, northern part of Japan

Yamagata is located in northern part of Japan and consists one of 6 prefectures identified as TOHOKU area. This area is known for maintaining the traditions of Japan: customs, culture, etc which applies to families also. In general, Yamagata is especially known as a

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traditional prefecture.

Families in Yamagata have also changed in size. From 1930, there has been a down ward trend from 6 persons in 1930 to only 3 in 2008[4], a shift to one-half the size. However, this was not as small as number as family size nationally. The average family size of Yamagata was 3.09 in 2005 which is about the same level as the national average in 1989[1]. Yamagata families have about one additional person compared to Tokyo families[2].

Yamagata residents rank first nationally in several related health features in Japan [2, 5] :

Highest features are;

Number of persons in family	3.09 person
Three generation family	24.9%
Percentage of family member age over 65	51.7%
Working couples	42.9%
Working women (25-39 age group)	74.6%
Consultation rate of physical checkup	65.5%

Lowest features are;

Elderly living alone	8.1%
Nuclear family	46.8%

Purpose:

1 . To identify characteristics of family dynamics of families who live in Yamagata Prefecture.

2 . To clarify relationships between family dynamics, socio-demographic variables and mental status among families in Yamagata Prefecture.

Method:

1 . Sample

There were 194 participants (male =19, female =166, unknown =9). The samples were obtained from groups of care personnel and residents at community meetings. The selection method was convenience sampling, and participation was voluntary. To be included in the sample participants were required to be a member in a family with 2 or more adults who were 18 years or over.

2 . Instruments:

Two kinds of instruments were used to obtain data.

① The Family Dynamics Measure II (FDM II)

FDM II consists of 6 bi-polar dimensions with 66 items. The original FDM II was written in English and was translated into Japanese, the version used in this study. Cronbach's alpha obtained at past studies ranged from .47 to .87. For this study of Yamagata participants Cronbach's alpha ranged .77 to .85.

② A questionnaire including questions of socio-demographic characteristics and mental status.

A questionnaire was to ask back ground information such as age, education, occupation, position in family, number of persons in family, illness and problems in family, etc., inclusive of 7 items of mental status questions.

Findings:

Characteristics of participants

Most of participants were female. They were spouses (78.6%), living with their children (65.4%), and living with their parent(s) (36.5%). About 30% of the families had illness(es) and problems or changes in

Table 1-1: Characteristics of participants (N=194)

Gender (Female)	89.7% (n=166)
Married	78.6% (n=143)
With children	65.4% (n=117)
Age of participants	mean=43.88
(Age range of participants	23 to 79years old)
	SD=12.67
Illness in family	25.1% (n=45)
Problems/changes in family	32.6% (n=56)
Other*	51.4% (n=90)

*(Grand-parent, Son/daughter-in-law, Uncle/aunt, etc.)

family. (Table 1-1)

Average age of participants was 43.88, ranging from 23 to 79 years of age. The number of persons in a family was 4.62. More than 50% had family members over age 70, and among these families 20% had 2 family members over age 70. (Table 1-2, Table2)

Score mean (SD), item mean, and reliability of six dimensions and mental status:

The item mean indicates the average of item scored which consists of each dimensions. Mutuality scored highest followed by Stability and Individuation. In contrary, mental status scored lowest followed by Flexibility and Role.

Six dimensions and mental status showed satisfactory reliability, ranging from .77 to .85. (Table 3)

Correlation between selected socio-demographic variables and 6 dimensions

When there was age over 70 person(s) in family, Mutuality, Flexibility, and Communication were negatively affected. Communication was negatively related with Number of persons in family, Child, Other, and Age over 70. However, magnitude of these relationships seemed to be small. (Table 4)

Table 1-2 : Characteristics of Participants (N=194)

Number of persons in family	mean= 4.62
	(Ranging from 2 to 9)
	SD=1.63
Child (with parent)	36.5% (n=65)
Other*	51.4% (n=90)
*(Grand-parent, Son/daughter-in-law, Uncle/aunt, etc.)	
Education of participants	mean=14.90
(in years)	SD=2.98
Education of other family members	mean=14.19
(in years)	SD=2.94

Mode (12 and 16 years)

Table 2 : Age groups of family members (N=194)

Age groups	
over70	52.1% (n=101)
＊two members over 70	24.3% (n=42)
50-69	57.2% (n=111)
30-49	59.2% (n=115)
18-29	36.6% (n=71)
12-17	21.7% (n=42)
5-11	14.9% (n=29)
under5	14.4% (n=28)

Relationship among number of persons in family and selected socio-demographic variables

Number of persons in family was positively related with Age 12-17, Age 5-11, Age under5, Age over 70, Child, and Other. Among these variables, Age over 70 and Other showed moderate magnitude of positive relationships. Only one variable, Age of participants showed negative however small magnitude of relationship. (Table 5)

Relationship among mental status and selected socio-demographic variables

Mental status showed relationships only with two variables. Illness and problems in family related with mental status negatively however with small magnitude of relationships.(Table 6)

Correlation among 6 dimensions and mental status

Among six dimensions of FDM II, strong magnitude

Table 3 : Score mean (SD), item mean, and reliability of six dimensions and mental status

Dimensions	Number of items	Range of scores	Score mean	Item mean	Reliability
Individuation-Enmeshment	13	13 - 78	56.12(5.92)	4.32	.85
Mutuality-Isolation	11	11 - 66	48.46(7.25)	4.41	.78
Flexibility-Rigidity	10	10 - 60	37.69(5.85)	3.77	.81
Stability-Disorganization	9	9 - 54	39.36(5.44)	4.37	.79
Clear communication-Unclear communication	11	11 - 66	46.08(7.78)	4.19	.77
Role reciprocity-Role conflict	12	12 - 72	46.33(8.43)	3.86	.80
Mental status	7	7 - 42	25.87(6.26)	3.70	.85

Table 4 : Correlation between selected sociodemographic variables and 6 dimensions

	Number of persons In Family1)	Spouse2)	Parent2)	Child2)	Other2)	Age50-692)	Age over 702)
Individuation-Enmeshment		-.214**			.209**	.163*	
Mutuality-Isolation							-.188*
Flexibility-Rigidity							-.207**
Stability-Disorganization							
Clear communication-Unclear communication	-.246**			-.208**	-.229**		-.223**
Role reciprocity-Role conflict			-.208**				

1) Pearson r correlation
2) Spearman's Rho correlation
* p<.05 **p<.01

Table 5 : Relationship among number of persons in family and selected sociodemograhic variables

	Age of Participants [1]	Age 12–17 [2]	Age 5–11 [2]	Age Under 5 [2]	Age over 70 [2]	Child [2]	Other [2]
Number of Persons in Family	− .150*	.250**	.253*	.347**	.479**	.210**	.529**

[1] Pearson r correlation
[2] Spearman's Rho correlation

* p＜.05 ** p＜.01

Table 6 : Relationship among mental status and selected socio-demographic variables

	Illness in family	Problem /change
Mental status	−.188*	−.219**

Spearman's Rho correlation　　* p＜.05 ** p＜.01

Table 7 : Correlation among 6 dimensions and mental status

	Individuation– Enmeshment	Mutuality– Isolation	Flexibility– Rigidity	Stability– Disorganization	Clear communication– Unclear communication	Role reciprocity– Role conflict
Individuation– Enmeshment						
Mutuality– Isolation	.235**					
Flexibility– Rigidity	.270**	.490**				
Stability– Disorganization	.270**	.725**	.436**			
Clear communication– Unclear communication	.147*	.766**	.614**	.740**		
Role reciprocity– Role conflict	.188*	.569**	.511**	.607**	.652**	
Mental	.175*	.278**	.144*	.294**	.228**	.198**

Pearson r correlation　　* p＜.05 ** p＜.01

of relationships were found between Mutuality-Clear communication, Stability-Clear communication, Mutuality-Stability, Clear communication- Role reciprocity, Stability-Role reciprocity. Mental status showed small magnitude of relationships with each six dimensions of FDM II. (Table 7)

Discussion

Participants in this study were mostly middle aged working women living with children in the family. Playing multiple roles both in the family and in society[6] was especially high if they lived with their parents. This point could be explained by characteristics of Yamagata participants with their higher number of family members, the extended family living in the house-hold, and especially high percentage of elderly over age 70. Thus the typical Yamagata family could be described as a middle sized and extended family. According to Yamagata Government Report, the over 65 age group occupied 51.7% of population[4], this study finding showed about the same ratio with over 70 years of age. One can speculate that the age cutoff was 65, the percentage would be higher. At the same time,

it could be compared with a Japan study showing 19.2%[7], and Yamagata showed percentage almost 2.5 times higher. Another feature notable in this study was that about one fifth of the families had two family members 70 or older. Unfortunately, other studies are not found for a comparison. In the current study, the average family size was larger than report from Yamagata, the nation and previous studies in Japan [1, 4, 7-10]. The larger families in this study consisted of small children, teenagers, elders, three generation living together with in-laws and are assumed as typical of Japanese traditional family.

Reliability coefficients of 6 FDM II dimensions and mental status were at a satisfactory level. It is surprising that mental status score were lower than past studies of Japanese studies in the U.S.A., Japan, and Thailand [7-10]. In this Yamagata study mental status did not relate and influence any socio-demographic variables but illness and problems or changes in a family. Negative relationships with these two variables and mental status were easily expected and also shown in past Japanese studies [7-10]. Yamagata participants in this study did not show any relationship with other socio-

demographic variables which is quite comparing other Japanese studies[7-10]. It could conclude that this mental score alone did not seem any warning sign of family distress among these participants. Mental status and all of 6 FDM II dimensions indicated weak but positive relationships in this study, positive relationship between family dynamics and mental status is important to mitigate their mental status.

Scores of 6 dimensions of FDM II were as expected along with Barnhill's concept model[11]. Mutuality scored highest followed by Stability and Individuation however somewhat lower than past two studies [8, 10].

Conclusion:

1. Average family size was larger than Yamagata average families and 2 times more than Tokyo families.

2. One half of the families had family member over age 70; one quarter had two family members over age 70.

3. Large family size of family consisted of persons who are ages under 17, over 70 and in-laws.

4. The average score of mental status was shown the lowest among the past studies. Mental status had negatively related only with two factors: illness and problems or changes in a family. That is, the more positive the mental status, the lower the incidence of illness, problems or other changes affecting the family.

5. Study participants represented the typical traditional Japanese family who live daily lives peacefully experiencing closeness, absorbing differences in fine shades of communication supported by their ability to manage multiple roles in the family.

Implication:

Findings of these family characteristics and mental status in Japanese families can help community and home health care nurses provide appropriate care to families in the Yamagata region. Particular attention should be given to help maintain mental status especially during illness or problems and changes in family life.

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要　　旨

　　本研究の目的は東北地域に住む日本人家族の家族力学および精神状況の特徴を把握することであった。データ収集には 2 種類の質問紙（家族力学尺度Ⅱ・家族現況調査）を使用した。調査協力は任意であり，194 名（男性＝ 19，女性＝ 166，不明＝ 9）の協力を得た。協力者の多くは女性であり，平均年齢は 43.88 歳であった。8 割近くが結婚しており，ほぼ 4 割が親と同居していた。家族の平均人数は 4.62 人で，半数以上の家族に 70 歳以上の家族員が存在した。2 － 3 割に健康問題や家族内問題があった。家族力学 6 側面と精神状況の関係では，相互依存―明瞭なコミュニケーション，安定性―明瞭なコミュニケーション，相互依存―安定性，明瞭なコミュニケーション―役割相互依存，安定性―役割相互依存に高い関係性が見られた。精神状況は 6 側面それぞれと低い関係性を示した。当該地域特有の家族の理解は，地域・在宅に関わる看護師が適切な家族援助を提供するにあたり重要な視点となる。

キーワード：家族力学，家族力学尺度Ⅱ，日本人家族，精神状況，東北地域