

Relationship between Eating Habits and Health Status of Japanese Nurses in Shift Work

Yoshika Suzaki¹, Naoko Takayama² and Hiromi Ariyoshi³

Abstract

Ishikawa (1997) shows the tendency that cooking time by full-time working housewives are getting shorter though it is not clear that outer eating habits are related to women's social advancement. Meanwhile, the proportion of women among the number of full-time employees is higher (72.9%) in medical and welfare industries. This paper examines the relation between eating habits and health status of nursing staff many of whom are women working in shift.

Keywords: Eating at home, HMR, Dining out, Health status

1 Introduction

Human beings maintain their life by eating, gratify their hunger in an instinctive mechanism, and feel happy with delicious food as well as a meal as social behavior. To take every meal without fail is necessary for health maintenance, to eat appropriate food is essential for health promotion, and to enjoy delicious and rich food is significant for spiritual uplift.

Ishige (2005) points out that the head of a family took a seat of honor when eating, which was the farthest from the kitchen, the housewife took the lowest seat nearest to the kitchen to serve rice, and other family members sat down between them in order of sex and age in 1940s. The housewife had to finish her meal quickly while being careful of other members' food. However, fewer housewives came to take a seat near the kitchen to serve food while the nuclearization of the family was progressing and the number of one-person households was increasing in 1960s and after; then, the seat order system disappeared in a family. This may suggest that the significance of confirming a family structure in a meal time has

¹The Japanese Red Cross Kyushu International College of Nursing.

²Yokkaichi Nursing and Medical Care University.

³Saga Medial School Faculty of Medicine, Saga University.

weakened.

Japanese food culture had been handed down from generation to generation at home in each local area. Namely, so-called “country food” or “mom’s home cooking” was housebound. They had been slighted when outer-eating habit was developing in social and economic change. At present, however, they are re-evaluated as helpful for health maintenance or promotion of local people.

Change of food culture such as dining out or HMR has become a topic of journalism as “outer-eating habit.” Yamagoshi (1998) shows rapid increasing of HMR since around 1985. In addition, according to National Nutrition Survey in 2002, the proportion of outer-eating habit rose from approximately 25% in 1960 through 28.4% in 1975 up to 44.1% in 2002.

According to the survey about the number of working women in 2005 by Ministry of Health, Labor and Welfare, the proportion of female full-time employees among all laborers was 30.0% in 1960 and 32.0% in 1975; however, it rose to 40.8% in 2002 and 41.3% in 2005. Not only the number of female full-time employees keeps growing, but they are advancing socially at an accelerated pace as nuclear families are increasing in number.

It may be natural that women’s social advancement decreases the time for housekeeping, especially the time for meal preparation, which is usually a woman’s task.

Fujii (2001) reveals that about 90 % of women at age 10 to 70s have opportunities of using home meal replacement (HMR) and that full-time working housewives frequently use HMR.

The National Nutrition Survey in 2002 shows the tendency of lower frequency of women’s meal preparation, that is, 11.2% of women at age 30s “rarely” cook meals, and 10.9% of them cook meals “two to five times a week.” Ishikawa (1997) reports that cooking time by full-time working housewives is getting shorter though it is not clear that women’s social advancement is directly related to outer eating habits. It is known that cooking time is reduced because they cannot make time for cooking or they think it troublesome to cook meals, but their relation with outer eating habits is not clear. However, thanks to expansion of social productivity, people can easily obtain various kinds of ingredients or prepared food without cooking for themselves.

Meanwhile, outer eating habit can also be attractive for housewives whether or not they have a job. It not only lightens their labor burden but also gives an opportunity to eat food which they cannot prepare for themselves due to the limitation of cookery environment such as a kitchen, ingredients, cookware or cooking time saved for childcare. In addition, outer eating habit is motivated when they would like to eat local food in other regions, release job-related stress or diversify their meals.

Housewives working in shift strongly tend to have the above motivations. Although there are a lot of around-the-clock stores, they sometimes cannot prepare meal late at night or feel a time lag with their family in their daily lives. It is expectable that their desire for dining out is fueled in these situations.

Since the Eugenic Protection Law was abolished and the Equal Employment Opportunity Law for Men and Women was enforced, the opportunity for women to work in shift is increasing in number. The Ministry of Health, Labour and Welfare advocated “Emergent measurement against women’s cancer” as a health frontier strategy in 2006. The primary cause of death of women in their 30s to 60s was malignant neoplasm, and the number of women who died from cancer was approximately doubled in 2002, compared with in 1975. When classifying women’s cancers by regions, ovarian, breast and large bowel cancers were noticeable; the number of women who died from these cancers tripled in 2002, compared with in 1975. Considering these data, causes of lifestyle-related diseases such as

smoking, an irregular way of life or obesity owing to lack of exercise are serious problems for women at middle and old age. Immediate countermeasures have to be taken against these problems.

To boost entire social energy, it will be important to clarify the eating habit of housewives who are usually responsible for preparing meals for their family.

The proportion of women among the number of full-time employees is higher (72.9%) in medical and welfare industries. This research focuses on nurses whose working hours are apt to be irregular compared with other women's professions and examines the relation between eating habits and health status of nurses working in shift.

2 Research Method

The survey period was from January to December in 2009. The objects of the survey were 400 nurses at age 30s to 60s who were working at municipal hospitals in the F prefecture. The method was questionnaire survey. We examined whether use of HMR, health habits, BMI and subjective health status were related to each other, using a chi-square test.

2.1 Operational Definition of Terminology

Eating at home: To prepare meals and eat them at home.

Using HMR: To buy cooked food and eat it at home.

Dining out: To eat meals out.

Outer eating habit: The proportion of expense for dining out or buying cooked food in the entire food expenses (according to the Family Income and Expenditure Survey by the Ministry of Internal Affairs and Communications).

2.2 Ethical Concerns

We explained to the respondents in writing that they did not sustain a disadvantage if they did not return the questionnaire sheet, and requested them to answer it by their free will and in their own opinion. We regarded the return of the questionnaire sheet as the consent of the respondents.

3 Results

a. Return rate on questionnaire

The return rate was 79.5%, namely 318 respondents.

b. About groups of eating at home, using HMR, dining out, and eating in mixed ways

Eating at home: We asked the frequency of eating breakfast, lunch and dinner at home respectively with four-choice questions. Namely, eating at home (1) almost every day, (2) three to five times in a week, (3) once or twice in a week, or (4) never.

Using HMR or dining out: We asked the frequency of lunch and dinner on weekdays and holidays respectively with four-choice questions. Namely, using HMR or dining out (1) very frequently, (2) sometimes, (3) seldom, or (4) never.

The group of eating at home: We suppose a member in this group prepares meals at home almost every day, scarcely using HMR or dine out.

The group of using HMR: We suppose a member in this group very frequently buys cooked meals, scarcely preparing meals at home or dining out.

The group of dining out: We suppose a member in this group very frequently dines out, scarcely preparing meals at home or using HMR.

The group of eating in mixed way: We suppose a member in this group usually prepares meals at home but sometimes uses HMR.

Among nurses in shift work, the group of eating at home includes 26 people (8.2%), using HMR 60 (18.9%), dining out 22 (6.9%) and eating in mixed way 210 (66.0%).

c. Comparison among four groups (eating at home, using HMR, dining out, and eating in mixed ways) in health habits, BMI and subjective health status.

Significant differences were found among four groups in health habits, BMI and subjective health status.

Table 1: Health status of each group

		Middle or better	Not good	P	24 or lower	25 or higher	P
Group eating at home	n	12	14		22	4	
	%	46.2	53.8		84.6	15.4	
Group using HMR	n	24	36		52	8	
	%	40.0	60.0		86.7	13.3	
Group dining out	n	2	20		16	6	
	%	9.1	90.9		72.7	27.3	
Group eating in mixed way	n	94	116		178	32	
	%	44.8	55.2	0.013**	84.8	15.2	0.473

Table 2: BMI of each group

			24 or lower	25 or higher	P
Group eating at home	n		22	4	
	%		84.6	15.4	
Group using HMR	n		52	8	
	%		86.7	13.3	
Group dining out	n		16	6	
	%		72.7	27.3	
Group eating in mixed way	n		178	32	
	%		84.8	15.2	0.473

Table 3: Subjective health status of each group

		Good, or not bad	Not good	P
Group eating at home	n	20.0	6	
	%	76.9	23.1	
Group using HMR	n	52.0	8	
	%	86.7	13.3	
Group dining out	n	10.0	12	
	%	45.5	54.5	
Group eating in mixed way	n	170.0	40	
	%	81.0	19.0	0.0001***

d. Comparison among four groups in exercise habits

No significant difference was found among four groups in exercise habits such as walking.

Table 4: Exercise habits of each group

		1 hour or longer	30 minutes to 1 hour	15 to 30 minutes	Shorter than 15 minutes	P
Group eating at home	n	6	6	10	4	
	%	23.1	23	38.5	15.4	
Group using HMR	n	20	14	16	10	
	%	33.3	23.1	26.7	16.7	
Group dining out	n	8	8	4	2	
	%	36.4	36.4	18.2	9.1	
Group eating in mixed way	n	44	78	38	50	
	%	21.0	37.1	18.1	23.8	0.55

4 Discussion

We found significant differences among four groups in health habits, BMI and subjective health status respectively.

The group of dining out showed strong tendency of bad health habits, BMI 25 or higher, and bad health status while the group of using HMR had high proportion of good health habits and good health status. The group of eating at home did not have as good subjective health status as that of using HMR though they had the same tendency in other items. On the other hand, the subjective health status of the group of eating in a mixed way was better than the group of eating at home.

This result suggests that health status may be strongly influenced by whether eating at home or dining out rather than by whether eating at home or using HMR. However, we need further investigation about whether bad health status is the result or cause of frequent dining

out.

Ichie, et. al. (2009) reports that the most nurses sleep for six hours and more nurses feel accumulation of chronic fatigue such as stiff shoulders or languor of their body or loses their willpower compared with other medical or general female laborers. According to Saito, et. al. (2011), the home environment of full-time nurses is closely related to their working pattern, and they have heavy burden of housekeeping.

Since it is difficult for them to obtain cooking time every day because of their working hours, chronic fatigue, etc., it is supposed that nurses are handling both their career and household chores by strategically combining eating at home, using HMR and dining out. We also believe that they often tend to take mild exercise such as walking. By all accounts, we suppose that using HMR propels maintenance and promotion of health and improves their eating QOL.

5 Conclusion

Although harmful effects by using HMR is sometimes referred, we conclude that HMR is also useful for the purpose of maintaining and promoting the health of nurses who strongly feel chronic fatigue because using HMR saves cooking time.

6 References

- [1] Naomichi Ishige 2005 : shiyokutaku bummeiron, Chuo-Koron Shinsa, Inc.
- [2] Mitsuki Yamakoshi 1998: nakashokusangyoungenjoutokongo, Food Science, 40(9), 77-80.
- [3] White Papers 2012- Government of Japan: Survey on Employment Trends, Ministry of Health, Labour and Welfare.
- [4] Akiko Fujii, Yoshie Niizawa, Kaoru Sakamoto, Machiko Mineki, Yoko Ishii, Takako Kawai and Akiko Kanatani, 2001, Effects of the Market Change in Food Products on Consumer Behavior -Distribution and Consumption of Nakashoku-, Journal of Cookery Science of Japan, 34(2), 165-180
- [5] Akemi Ishikawa, 1997, The Progress of the Industrialization of Preparing Meals and the Participation of Housewives in the Labor Market, Hiroshima University of Economics Journal of Economics, 20(1) , 75-89.
- [6] Journal of health and welfare statistics 2014: Ministry of Health, Labour and Welfare.
- [7] Kazuko Ichiei, Seiko Mizutani, Hiroaki Nishikawa, Tomohiko Saito, Michiko KONISHI and Yasue ITOU, 25 march 2009, A study of cumulative fatigue among nurses at a general hospital (the Second report) -Analysis of factors-, The Japanese Red Cross medical journal 59(2), 459-467
- [8] Yoshinobu Saito, Yuko Oguma, and Yoshitaka Kobori, 2013, Association between daily physical activity/Health indicators and neighborhood environment among middle-aged and elderly in fujisawa city, The twenty-sixty research-aid report, 1-14.
- [9] Perez Siwik Violet, Senf Janet H: Food Cravings Ethnicity and Other Factors Related to Eating Out, J Am Coll Nutr, 25(5), 382-388, 2006.
- [10] Vander Wal Jillon S, Waller Sandia M et al: Effect of a post-dinner snack and partial meal replacement program on weight loss, Int J Food Sci Nutr, 57(1/2), 97-106, 2006.

[11] WHO constitution , WHO,1948

[12] World Health Organization : Target for health for all,1986.

[13] Hisakane Morimoto,1991:Lifestyle and Health, Igaku-Shoin.