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Hisai, Shiho

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Research on the Practice of Work-family Conflict Care by Occupational Health Nurses

Shiho Hisai¹, Nobuko Matsuda², Syoichi Hasegawa³

¹ Graduate School of Medicine, Kobe University

² Kobe University Graduate School of Health Sciences

³ Faculty human life science, Mimasaka University

Research on the practice of WFC Care by OHN

Abstract

In order to develop educational programs for work - family conflict care (hereafter WFC Care) administered by occupational health nurses, this research aims to examine the factors relating to care, in addition to shedding light on the realities of care. To achieve this, occupational health nurses were asked to complete self-recording and descriptive-type questionnaire surveys covering the following categories: personal traits, knowledge of WFC, stance, attitude, and professional abilities as a health nurse. While analysis of data obtained from 175 individuals showed a low level of awareness of WFC Care, a number of realities became clear, such as the fact that they had experience of its practice, or that they had not had much experience of its practice on members of their own family or on individuals outside their place of employment. Furthermore, having separated the respondents into two groups – those who had experience of WFC Care and those without– analysis showed that those with experience had a richer knowledge of WFC, and that they are actively intervening in respect to WFC Care.

Key Word:

Work-family conflict, Occupational health nurse, Mental health, Experience, Knowledge

Introduction

In recent years, a social backdrop of declining birth rates has led to an increase in the use of female labour force from the perspective of securing workers, which in turn has led to the enforcement of the policy of work-life balance (hereafter WLB) as a measure for supporting both work and child-rearing among women.

According to the results of the 2007 National Survey for Workers' Health¹⁾, administered every five years by the Ministry of Health, Labour and Welfare, 58.0% of workers answered that they experience “work-related stress” in regards to their own job or working life. Specific examples include “problems with human relations at work” (38.4%), “problems with the quality of work” (34.8%), and “problems with the volume of work” (30.6%). 72.3% of people responded that they are “very tired” or “tired” in respect to mental and physical fatigue as a result of everyday work; when we break this figure down into sex groups, this represents 70.1% of men and 75.7% of women, thus showing a higher figure for women. However, according to a 2010 Ministry of Health, Labour and Welfare white paper²⁾, while women spend an average of 7 hours a day on housework and childcare, men spend 60 minutes. Thus, the reality is that the disparity between the sexes remains as large as ever, leading us to speculate that problems outside the workplace, such as those in one's domestic and private life, have a particularly large impact on female workers.

Meanwhile, since 1998, there have been over 30,000 suicides annually³⁾, among which 30% are workers. Factors behind these suicides among workers include such things as unstable employment, fatigue and depression. In response to this situation, the Basic Act on Suicide Prevention was passed in 2006; furthermore,

in 2007, other preventative measures were discussed in order to address this issue of suicide, such as the decision made by the cabinet to hold the Round-table Conference for Suicide Prevention Measures.

One such preventative measure outlined by the Ministry of Health, Labour and Welfare are policies for promoting mental health at workplaces. These include policies that emphasize the importance of employers paying attention to such things as the following when promoting mental health: characteristics of mental health problems, consideration over protecting workers' personal information, relationship with human resource management, and problems outside the workplace such as those in workers' domestic and private lives. The concept of the occupational stress model of NIOSH (National Institute of Occupational Safety and Health) is used for this indicator. This model is that "individual factors", "factors outside of work" and "buffering factors" work on "stress factors at work", resulting in an "acute stress response", the worsening of which generates mental health deficiencies. "Problems outside the workplace such as those in workers' domestic private lives" is important view point.

Until now, there has been very little research in the field of industrial health that focuses on problems in workers' domestic and private lives. Against this background, as many industrial health initiatives have been implemented using medical models, research has largely been centred on the prevention of occupational illnesses and lifestyle-related illnesses⁴⁾.

However, there has been very little research in the field of industrial health relating to "work-family coexistence" (hereafter WFC). Research on WFC has been carried out in Europe and the U.S. since the 1980s in such fields as sociology, psychology and management studies⁵⁾. This research consists of various approaches, such as those based on role theory⁶⁾⁷⁾, those based on role variables⁸⁾⁹⁾, those focusing on demography¹⁰⁾, and those connected to labour hours¹¹⁾, individual trends¹²⁾, job satisfaction¹³⁾, and the introduction of corporate systems¹⁴⁾.

Research of WFC in Japan is done by referring to the definition of WFC by Greenhanus & Beutell¹⁵⁾. At the beginning in Japan, WFC research was positively done in the industrial organization psychology domain. Kanai and Wakabayashi¹⁶⁾¹⁷⁾ considered the relation between the mechanism of generating of WFC, and mental health based on a career stress model. Until now, the following researches are done: The survey of parents with a preschooler¹⁸⁾, nurse's actual condition¹⁹⁾, the relation between WFC and mental health²⁰⁾²¹⁾, WFC and employment system²²⁾, etc. Recently, Kato and Kanai and others created the measure of coping behavior based on a role theory²³⁾, Watai and others developed the Japanese version WFC scale²⁴⁾ based on the WFC measure of Carlson²⁵⁾. On the other hand, the report which suggests relation with the problem of a decrease in the birthrate is also carried out²⁶⁾.

However, in all case is not focusing on care providers, therefore, this research focuses on occupational health nurses (here after, OHN) which is providers of WFC Care. I think that the improvement in OHN's WFC Care capability leads also to improvement in mental health care capability. Then, this research analyzes the present condition of their WFC Care, and aims at clarifying a factor required for WFC Care.

The definition of WFC uses a Greenhanus & Beutell model.

Research Targets and Method

1. Definition of Terminology

1) WFC

WFC refers to the conflict that emerges between an individual's work and family lives. The concept of WFC employed in this research is based on the WFC model of Greenhaus & Beutell¹⁵⁾. This WFC model is a framework consisting of the two directions of "conflict with family factors from work factors" and "conflict with work factors from family factors", along with the three fundamental dimensions of time sequence, strain and attitude. In addition, we can explain the relationship between WFC and mental health using the NIOSH stress model. WFC decides to position in one of the "factors other than work" of the occupational stress model of NIOSH.

2) WFC Care

The WFC Care stated in this research refers to care that includes both of these two directions of conflict.

3) WFC Care Experience Group and Non-experience Group

Questionnaires contained the question, “Have you ever received a consultation in regard to WFC?”, which respondents had to answer after having completed their definition of WFC. Those who answered “Yes” were placed into the Experience Group, and those that answered “No” were placed into the Non-experience Group.

2. Framework of Research

1) Examination of the component of WFC Care

Given that WFC Care has yet to be established in Japan, the authors felt it would be appropriate to carry out analysis employing inductive qualitative research so as to create components of WFC Care. Therefore we conducted semi-structured interviews among 7 persons' OHN which is experienced for 3 years or more. In carrying out these interviews, we sent a written request and explanatory material to the potential respondents and their supervisors in advance. These set out the aims of our research, the kinds of questions included in the questionnaire, interview times, ethical considerations, methods of data handling. They also explained that the results would be published at conferences and in papers and that participation was voluntary. The targets of research consisted of those people who agreed to participate based on agreement to the above. Surveys were carried out in February 2010 after having obtained approval from Kobe University Graduate School of Health Sciences Ethical Committee.

Questionnaires were carried out in line with interview guidelines on experience of WFC Care practice created based on preceding studies on WFC Care and mental health. The period of data collection was March to August 2010. The interview item was considered as "recognition about WFC", "practice experience and the concrete contents" of the WFC care, "the subject for performing WFC Care", and "the necessary support for WFC Care practice."

2) Creation of the component of WFC Care

The result of having conducted factor search type research analysis of the obtained data, as a factor which constitutes a WFC care, the categories of “individual traits”, “knowledge of WFC”, “stance”, “attitude”, and “professional capacity as a health nurse” was extracted.

The categories extracted from analytical data and literature were arranged, and the relationship of WFC Care and factors were created as concept map as a framework of this research.

Furthermore, subcategories in each category were checked against keywords extracted from data and keywords extracted from literature on this subject.

The category of “individual traits” refers to matters pertaining to an individual’s attributes and includes “age”, “sex”, “number of years of experience as an occupational health nurse”, “affiliation”, “type of employment”, “employment position”, “educational background”, “qualifications”, “experience of childcare”, and “experience of providing care”.

The category of “knowledge of WFC” includes “knowledge of WLB”, “knowledge of occupational health”, “knowledge of nursing” and “mental health”.

The category of “stance” means the kinds of feeling with which respondents face their targets and includes “partnership” and “ability to support targets”.

The category of “attitude” refers to manifested phenomena such as behaviour and practice and includes “learned behaviour”, “experience” and “standards of behaviour”.

The category of “professional capacity as a health nurse” includes “communication”, “decision-making”, “collecting information”, “assessments”, “planning”, “relationships”, “coordination”, “organization”, “leadership”, “education”, “self-management”, “unifying ability”, “creating policies and measures”, and “managing health crises”.

The above forms the framework for this research and was used to create a conceptual diagram showing the relationship between WFC Care and factors (Fig. 1).

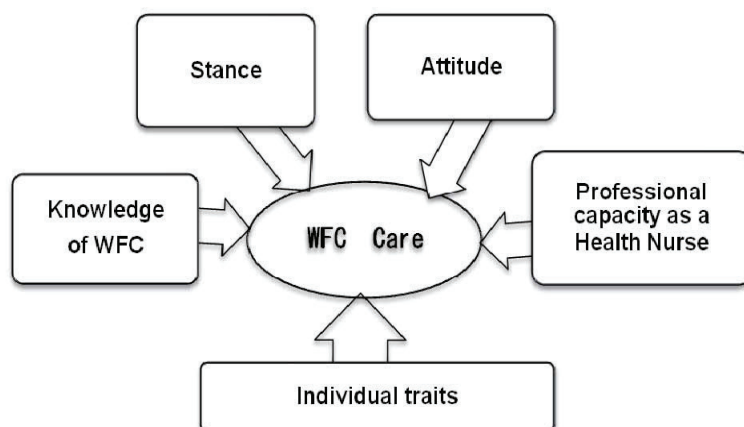


Fig.1 The relationship between WFC Care and factors

3. Research Methodology

1) Targets

These surveys targeted actively working 425 occupational health nurses who belong to the Japan Association of Industrial Health, the biggest industrial health organization in Japan.

2) Survey Procedures and Duration

Surveys consisted of self-recording anonymous questionnaires sent via post. Respondents were sent a written request for participation in the survey, an explanation, questionnaire, a return envelope addressed to the researchers with an affixed stamp, and a written request for participation in the survey addressed to the respondent's supervisor. The period for returning questionnaires was from July 1, 2011 to August 10, 2011. A postcard was sent to respondents on July 26 encouraging them to return their questionnaire, with the aim of improving the rate of return.

3) Survey Content

The survey consisted of questions created based on the conceptual diagram of WFC Care, containing: (1) 10 items relating to personal traits; (2) 22 items on knowledge of WFC; (3) 8 items on stance; (4) 10 items on attitude; and (5) 31 items on professional capacity as a health nurse.

The categories of "knowledge of WFC", "stance", "attitude", and "professional capacity as a health nurse" required respondents to answer on the circumstances surrounding their practice of WFC Care. They were scored on their answers as follows: "Have practiced sufficiently" (5 points); "Have practiced to a certain extent" (4 points); "Have practiced a little" (3 points); "Have practiced insufficiently" (2 points); "Have not practiced" (1 point).

4) Method of Analysis

Statistics software SPSS19.0 was employed to statistically analyze the results, with the significance level set at 5% or below. First, simple tabulation was employed for all questions. Next, respondents were separated into WFC Care Experience Group and Non-experience Group, and each category from their questionnaires – i.e. the main related factors of personal traits, knowledge of WFC, stance, attitude, and professional capacity as a health nurse – was then subjected to analysis. T-tests, χ^2 - square tests and Fisher's direct method were employed in the analysis of personal traits. Mann-Whitney's U test was employed for the analysis of differences between Experience Group and Non-experience Group in respect to knowledge of WFC, stance, attitude, and professional capacity as a health nurse.

4. Ethical Considerations

When send out questionnaires, respondents were also sent a written request and explanation. The written request outlined such things as the aims of the research, the strict privacy policies to which this research

adheres, method of selecting respondents, details on how questionnaires and data would be handled, and the fact that the results would be published at conferences and in papers. Furthermore, it also stated that the survey was anonymous and administered on a voluntary basis, and that replying to the request would be deemed as consent to participation. Understanding was also sought through an enclosed written request addressed to the respondent's supervisor. This research was carried out after having obtained approval from Kobe University Graduate School of Health Sciences Ethical Committee in March 2011, as well as having applied for permission to use the register of the Japan Association of Industrial Health.

Results

192 (45.2%) individuals returned their questionnaires. Analysis was carried out on those questionnaires in which individuals had answered all items and were thus deemed to be valid for the purposes of this research (valid response rate 41.2%).

1. Overview of Respondents

Table 1 gives an overview of the respondents. All of the respondents were female. Their average age was 42.8 ± 8.5 years. The year of experience as occupational health nurses was 14.3 ± 9.2 years. In respect to the number of full-time employees at the respondents' organization of affiliation, 78.3% belonged to large corporations of 1,001 people or more. In respect to their affiliations, 64.6% – in this case the majority – belonged to general corporations, with the rest belonging to medical organizations and other such facilities. In respect to the type of employment, 80.6% were regular employees, with the rest working on a part-time basis. In respect to employment position, 68.6% – in this case the majority – were regular service employees. In respect to educational background, 46.9% – in this case the majority – had graduated from a vocational school for health nurses. Further, the majority of those in their 20s and 30s went to a nursing-type university (66.7% and 34.0%, respectively), with the majority of those in their 40s or above having gone to a vocational school for health nurses (40s: 71.7%; 50s: 90.3%; 60s: 100%). Thus, the majority of occupational health nurses with 10 years or more of experience went to a vocational school for health nurses, with the majority of those with 9 years or under having gone to a nursing-type university. 61.7% of respondents had experience of childcare, while 25.1% experience of providing nursing care. In respect to their qualifications, most were health managers, followed by occupational nurses (Japan Society for Occupational Health accredited), psychology counselors, and industrial counselors. While only 23 respondents (13.1%) had heard of the word WFC, after having read the explanation of WFC, 134 (76.6%) replied in answer to the question "Have you ever received a consultation in regard to WFC?" that they had indeed had experience of this kind.

2. Situation surrounding Knowledge of WFC, Stance, Attitude, and Professional Capacity as a Health Nurse

Table 2 shows the average scores and standard deviations as a result of having scored their answers according to the aforementioned point scheme.

1) Knowledge of WFC

The highest-scoring item was "in-house mental health systems" (4.18), followed by "medical knowledge of ailments and symptoms relating to stress" (4.03). In contrast to items relating to stress, medical and knowledge, for which respondents scored 3.0 or above and were practicing in their work, in many cases they scored below 3.0 in respect to knowledge and information relating to WLB, as well as things relating to the families and family lives of workers, thus demonstrating low scores for these items.

2) Stance

The scores for the 8 items pertaining to stance were 4.0 or above, showing that they are being practiced on an extremely frequent basis by the respondents. The highest-scoring item was "care over protecting privacy" (4.63), with almost all respondents answering "Have practiced sufficiently."

Table1. Summary of the targets

		N=175		
Survey Content	n	(%)	M,SD	
Age (years)	20-29	9 (5.1)	Mean:42.8 SD:8.5	
	30-39	53 (30.3)		
	40-49	78 (44.6)		
	50-	35 (20.0)		
Number of years of experience as an OHN (years)	-5	20 (11.4)	Mean:14.3 SD:9.2	
	5-9	43 (24.6)		
	10-19	63 (36.0)		
	20-	49 (28.0)		
Number of full-time employee	-500	25 (14.3)	Median; 4,500	
	501-1,000	13 (7.4)		
	1,001-3,000	35 (20.0)		
	3,001-	102 (58.3)		
Organization of affiliation	General company	120 (68.6)		
	Health insurance union	47 (26.9)		
	Others	8 (4.5)		
Type of employment	Regular employee	141 (80.6)		
	non regular employee	34 (19.4)		
Employment position	General	120 (68.6)		
	Manager	47 (26.9)		
	Other	8 (4.6)		
Educational background	Vocational school for health nurses.	82 (46.9)		
	Junior college	27 (15.4)		
	Nursing-type university	35 (20.0)		
	Other-type university	17 (9.7)		
	Graduate school master's course	11 (6.3)		
	Others	3 (1.7)		
Experience of childcare	with	108 (61.7)		
	without	44 (38.3)		
Experience of providing care	with	44 (25.1)		
	without	131 (74.9)		
Qualifications	Health managers	149 (85.1)		
	Occupational nurses	101 (57.7)		
	Psychology counselors	79 (45.1)		
	Industrial counselors.	63 (36.0)		
	Industrial health consultant	4 (2.3)		
Knowledge of WFC	with	23 (13.1)		
	without	152 (86.9)		
Experience of WFC Care	with	134 (76.6)		
	without	41 (23.4)		

3) Attitude

The highest-scoring item was “observing ethical codes of conduct” (4.23), followed by “dealing with things according to the circumstances” (4.08). The scores for all items were 3.0 or above, showing that they are being practiced by the respondents.

4) Professional Capacity as a Health Nurse

The highest-scoring item was “dealing with people respectfully” (4.07), followed by “attending to people in a receptive manner” (3.99), “correctly managing obligations of security and protecting personal information” (3.95), and “striving to build relations with staff and management on a daily basis” (3.92). In regard to relationships, while it was “build relationships with industrial physicians as needed” (3.56), differences were seen in “build relationships with external parties as needed” (2.65) and “build relationships with families as needed” (2.49).

Those with low scores were “create policies out of internal systems for WFC measures” (1.93), “plan WFC measures for the workplace” (1.84) and “create educational systems for WFC Care” (1.75).

Table2. Situation surrounding Knowledge of WFC, Stance, Attitude, and Professional Capacity as a Health Nurse

	N=175	
	Mean ± SD	
Knowledge of WFC		
Consciousness of the workplace for the work-life balance	4.18	± 1.02
The present conditions of the education system in the company(such as management education, the new face education)	4.03	± 0.83
EAP system (mental health consultation organization of the outside a company building)	3.99	± 0.89
In-house mental health systems	3.97	± 0.99
Knowledge about menopausal symptom and coping	3.87	± 1.03
Specialized Agencies about child care or the care	3.70	± 0.94
Medical knowledge of ailments and symptoms relating to stress	3.69	± 0.94
Technical knowledge about the counseling	3.60	± 1.09
Symptom of uterine cancer, the breast cancer, examination, knowledge about the treatment	3.57	± 1.01
Uneasiness and trouble in the work of the employee, the actual situation of the stress	3.56	± 1.10
The consciousness that which domestic domain assumes the criterion of a manner and the action of the self if an employee works	3.56	± 1.10
A law and system about the operation measures of expectant mothers	3.37	± 1.13
System about office regulations and the work-life balance in the company	2.92	± 1.05
Family life such as the marriage of the employee, the delivery	2.87	± 1.02
System of the outside a company building about family life work-life balance	2.87	± 1.02
Working hours of the employee	2.79	± 1.18
The fatigue situation of the employee	2.69	± 1.08
Health condition of the family of the employee	2.54	± 1.04
Role at the home of the employee	2.53	± 1.04
Mutual relations of an employee and the family	2.46	± 1.07
Ability for health problem coping of an employee and the family	2.45	± 1.04
Having social role and network or not of the employee	2.37	± 1.06
Stance		
It is equal with the object and is concerned with a stance of the partnership	4.63	± 0.70
Take a target feeling receptively	4.29	± 0.79
Aware of being the existence that self-determination is possible	4.19	± 0.75
Aware of taking being a dweller, a social role at the same time as the object is a worker	4.15	± 0.80
The individual nature of the one per person	4.14	± 0.86
Engage with workers and employers with a neutral and fair attitude	4.05	± 0.81
Care over protecting privacy	4.05	± 0.74
Have practiced sufficiently	4.01	± 0.91
Attitude		
Analyze a result of one's action and experience and make use of the experience	4.23	± 0.84
Design and plan new things	4.08	± 0.88
Dealing with things according to the circumstances	3.91	± 0.95
With will to learn by oneself, I participate in a workshop voluntarily	3.80	± 0.92
Observing ethical codes of conduct	3.78	± 0.98
Demand advice positively	3.69	± 1.03
Have practiced to a certain extent	3.68	± 0.97
Have the opinion as the OHN	3.66	± 0.98
Accept advice and I revise a thought and adjust it	3.66	± 0.99
Send information positively and inform a person	3.42	± 1.05
Professional Capacity as a Health Nurse		
Observing ethical codes of conduct	4.07	± 0.92
Attending to people in a receptive manner	3.99	± 0.94
Correctly managing obligations of security and protecting personal information	3.95	± 1.13
Build relationships with families as needed	3.92	± 1.07
Grasp the working hours of the employee	3.71	± 1.04
Notice the change of the workplace and the employee	3.60	± 1.00
Cooperate with an industrial physician as needed	3.56	± 1.33
Collect information on in-house systems suited to target persons	3.42	± 1.08
Pull the health care of the workplace	3.42	± 1.13
Look around the whole workplace (employee, the workplace, company, society)	3.41	± 1.17
Accept consultations regarding WFC	3.29	± 1.04
Perform education to raise ability for self-care	3.27	± 1.19
Coordinate the work with the work place as needed Dealing with people respectfully	3.18	± 1.28
Understand the content of WFC specifically	2.98	± 1.10
Keep contents of WFC under control concretely	2.97	± 1.21
Collect information on external systems suited to target persons	2.95	± 1.05
Grasp the home situation of the employee	2.93	± 1.06
Creating nursing plans suited to target persons based on assessments	2.88	± 1.24
Build relationships with industrial physicians as needed	2.65	± 1.33
Think about an evaluation index of the care concretely	2.64	± 1.19
Cooperate with the boss and a necessary post for WFC care	2.62	± 1.27
Analyze a factor to bring WFC to a target person	2.57	± 1.11
Cooperate with a family as needed	2.49	± 1.24
Perform cooperation between the staff concerned with WFC care	2.46	± 1.30
Analyze the workplace and relations about WFC of the target person	2.44	± 1.13
Integrate mental health care with WFC care	2.42	± 1.27
Build relationships between staff related to WFC Care	2.06	± 1.22
Create policies out of internal systems for WFC measures	1.93	± 1.08
Plan WFC measures for the workplace	1.84	± 1.04
Create educational systems for WFC Care	1.75	± 1.00

3. Comparison between WFC Care Experience Group and Non-experience Group

In order to compare WFC Care Experience Group and Non-experience Group, analysis was conducted by individual traits (Table 3) and status of practice (Table 4). Table 3 shows the main items from among individual traits. Table 4 shows only those items that demonstrated a significant difference between both groups.

1) Individual Traits

Comparisons between WFC Care Experience Group and Non-experience Group showed a significant difference of $p < 0.05$ in affiliation. In respect to average age, the Experience Group was higher and also had more years of experience as occupational health nurses, but did not show a significant difference. Likewise, no significant difference was seen in type of employment, employment position, educational background, experience of childcare, experience of providing care, or awareness of WFC. However, a significant difference of $P < 0.05$ was seen in respect to whether or not respondents had obtained qualifications.

Table3. Comparison between WFC Care Experience Group and Non-experience Group (individual traits)

		Experience group(n=134)		Non-experience group(n=41)		P	
		Mean $\pm$ SD		Mean $\pm$ SD			
Age (years)		43.1 $\pm$ 8.7		41.9 $\pm$ 7.6		0.435	a
Number of years of experience as an OHN (years)		15.0 $\pm$ 9.3		11.8 $\pm$ 8.7		0.055	a
Organization of affiliation		n	(%)	n	(%)	0.019*	b
	General company	94	(70.1)	19	(46.3)		
	Health insurance union	22	(16.4)	11	(26.8)		
	Others	18	(13.4)	11	(26.8)		
Type of employment	Regular employee	108	(80.6)	33	(80.5)	0.574	b
	non regular employee	26	(19.4)	8	(19.5)		
Employment position	General	89	(66.4)	31	(75.6)	0.497	c
	Manager	38	(28.4)	9	(22.0)		
	Others	7	(5.2)	1	(2.4)		
Experience of childcare	With	82	(61.2)	26	(63.4)	0.470	b
	Without	52	(38.8)	15	(36.6)		
Experience of providing care	With	36	(26.9)	8	(19.5)	0.230	b
	Without	98	(73.1)	33	(80.5)		
Occupational nurses	With	83	(61.9)	18	(43.9)	0.032 *	b
	Without	51	(38.1)	23	(56.1)		
Knowledge of WFC	With	20	(14.9)	3	(7.3)	0.159	c
	Without	114	(85.1)	38	(92.7)		

a) t-test b) χ^2 -test c) Fisher's direct method * $P < 0.05$

2) Knowledge of WFC

Comparing the results of knowledge of WFC between WFC Care Experience Group and Non-experience Group, we see that the Experience Group has a higher ratio of practice in all items, and that the item practiced most among the 22 items was for both groups "in-house mental health system" (Experience Group: 4.33 Non-experience Group: 3.71)

Having analyzed the differences between the two groups, we see a significant difference of $p < 0.05$ for all items except "EAP system" and "employees' family lives such as marriages and births." In particular, we see a high significant difference of $p < 0.001$ for the following 5 items: "knowledge of medical WFC concerning ailments and symptoms relating to stress", "in-house systems relating to work regulations and work-life balance", "knowledge of WFC relating to menopause symptoms and dealing with these", "awareness of

whether employees have taken either work or family as a basis for judging their own attitude or behavior”, and “external systems relating to work regulations and work-life balance.”

3) Stance

Comparing the results of stance between WFC Care Experience Group and Non-experience Group, we see that the Experience Group has a ratio of practice of 4.0 or above in all items, higher than the Non-experience Group. The item practiced most was for both groups “care over protecting privacy” (Experience Group: 4.66; Non-experience Group: 4.54). Having analyzed the differences between the two groups, we see significant differences in the 2 items “as it is the individual concerned who makes decisions, support their decisions rather than guide them” ($P=0.021$) and “engage with workers and employers with a neutral and fair attitude” ($P=0.039$).

4) Attitude

In respect to the results for attitude, we see that for both groups the item “observing ethical codes of conduct” was highest (Experience Group: 4.22; Non-experience Group: 4.27), followed by “dealing with things according to the circumstances” (Experience Group: 4.07; Non-experience Group: 4.12). In regard to the distribution of answers, in all 10 items the ratio of respondents who answered “Have practiced to a certain extent” was highest. Having analyzed the differences between the two groups, we see significant differences in the two items “make use of the workplace environment” ($P=0.028$) and “design and plan new things” ($P=0.023$).

5) Professional Capacity as a Health Nurse

In respect to the results of professional capacity as a health nurse, in all items practice for the Experience Group was higher than the Non-experience Group. The most practiced item for both groups was “dealing with people respectfully” (Experience Group: 4.15; Non-experience Group: 3.88).

Having analyzed the differences between the two groups, we see significant differences in the following 9 items from among the 31 items: “attending to people in a receptive manner” ($P=0.006$), “striving to build relations with staff and management on a daily basis” ($P=0.033$), “collect information on in-house systems suited to target persons” ($P=0.004$), “accept consultations regarding WFC” ($P<0.001$), “understand the content of WFC specifically” ($P=0.00$), “collect information on external systems suited to target persons” ($P=0.006$), “creating nursing plans suited to target persons based on assessments” ($P=0.009$), “perceive WFC as something that one seldom resorts to one’s own accord.” ($P<0.001$), and build relationships between staff related to WFC Care ($P=0.009$). For both groups, the following items were all below 2.0: “create policies out of internal systems for WFC measures” (Experience Group: 1.96; Non-experience Group: 1.85), “plan WFC measures for the workplace” (Experience Group: 1.91; Non-experience Group: 1.61) and “create educational systems for WFC Care” (Experience Group: 1.79; Non-experience Group: 1.63).

Table4. Comparison between WFC Care Experience Group and Non-experience Group
(Knowledge of WFC, Stance, Attitude, and Professional Capacity as a health nurse)

							N=175
	Experience group (n=134)		Non-experience group (n=41)		<i>P</i>		
	Mean ±	SD	Mean ±	SD			
Knowledge of WFC							
In-house mental health systems	4.33	± 0.89	3.71	± 1.25	0.003	*	
Medical knowledge of ailments and symptoms relating to stress	4.17	± 0.75	3.56	± 0.92	0.000	**	
Symptom of uterine cancer, the breast cancer, examination, knowledge about the treatment	4.07	± 0.85	3.73	± 0.98	0.021	*	
Working hours of the employee	4.06	± 0.92	3.66	± 1.17	0.031	*	
A law and system about the operation measures of expectant mothers	4.02	± 0.93	3.39	± 1.2	0.002	*	
Medical knowledge of ailments and symptoms relating to stress	3.82	± 0.87	3.32	± 1.06	0.004	*	
The fatigue situation of the employee	3.79	± 0.87	3.37	± 1.11	0.016	*	
System about office regulations and the work-life balance in the company	3.75	± 1.05	3.12	± 1.08	0.001	**	
Knowledge about menopausal symptom and coping	3.73	± 1.00	3.00	± 1.22	0.000	**	
Uneasiness and trouble in the work of the employee, the actual situation of the stress	3.71	± 0.93	3.12	± 1.12	0.001	*	
Consciousness of the workplace for the work-life balance	3.04	± 1.01	2.51	± 1.1	0.006	*	
Specialized Agencies about child care or the care	2.99	± 0.98	2.49	± 1.05	0.009	*	
The consciousness that which domestic domain assumes the criterion of a manner and the action of the self if an employee works	2.97	± 1.15	2.22	± 1.08	0.000	**	
System of the outside a company building about family life work-life balance	2.86	± 1.06	2.15	± 0.96	0.000	**	
Role at the home of the employee	2.64	± 1.02	2.20	± 1.03	0.018		
Health condition of the family of the employee	2.64	± 1.01	2.17	± 1.07	0.015	*	
Ability for health problem coping of an employee and the family	2.56	± 1.07	2.15	± 1.01	0.031	*	
Mutual relations of an employee and the family	2.54	± 1.04	2.12	± 0.98	0.024	*	
Having social role and network or not of the employee	2.48	± 1.05	2.02	± 1.04	0.016	*	
Stance							
Aware of being the existence that self-determination is possible	4.23	± 0.89	3.90	± 0.76	0.021	*	
Engage with workers and employers with a neutral and fair attitude	4.22	± 1.11	3.90	± 0.75	0.039	*	
Attitude							
With will to learn by oneself, I participate in a workshop voluntarily	3.77	± 1.09	3.39	± 0.91	0.028		
Design and plan new things	3.52	± 1.18	3.10	± 0.99	0.023	*	
Professional Capacity as a Health Nurse							
Attending to people in a receptive manner	4.10	± 1.20	3.63	± 0.82	0.006	*	
Correctly managing obligations of security and protecting personal information	4.01	± 1.26	3.61	± 0.99	0.033	*	
Collect information on in-house systems suited to target persons	3.55	± 1.10	3.00	± 1.04	0.004	*	
Accept consultations regarding WFC	3.44	± 1.24	2.78	± 0.93	0.000	**	
Understand the content of WFC specifically	3.13	± 1.12	2.51	± 1.05	0.001	*	
Collect information on external systems suited to target persons	3.07	± 0.98	2.56	± 1.04	0.006	*	
Creating nursing plans suited to target persons based on assessments	3.01	± 1.23	2.44	± 1.22	0.009	*	
Perceive WFC as something that one seldom resorts to one's own accord	2.98	± 1.04	2.34	± 0.98	0.000	**	
Creating nursing plans suited to target persons based on assessments	2.60	± 1.26	2.00	± 1.29	0.009	*	
Mann-Whitney U-test	* <i>P</i> <0.05		** <i>P</i> <0.001				

Mann-Whitney U-test

* $P < 0.05$ ** $P < 0.001$

Discussion

1. The Current Status of WFC Care through Occupational Health Nurses

While the work of occupational health nurses differs depending on such factors as the size of the business or the nature of their affiliation, they all conduct occupational health activities with individuals, organizations and groups as people who are familiar to employees. As occupational health nurses the number of nursing professionals within the workplace is few, they are responsible for providing such things as health examinations, health guidance, health consultations, and health education based on their knowledge of medicine and nursing. With recent importance being attached to mental health measures, they need the ability to provide not only physical and mental support but also support for the health of organizations as a whole.

From the results of this research, it became clear that awareness of WFC among occupational health nurses was low at 13.1%, showing that awareness has yet to penetrate into this profession. Meanwhile, a high percentage of occupational health nurses (76.6%) answered that they had experience of practicing WFC Care, with significant differences seen depending on the absence or presence of awareness or experience of providing consultations. Given this, we see that occupational health nurses are not practicing WFC Care consciously but that there is a need for it in the places where they practice their health services and that they provide it upon request.

In addition, the following became clear from the respondents' answers to the items contained in the categories of knowledge of WFC, stance, attitude, and professional abilities as a health nurse.

Among the items within the knowledge of WFC category, the results showed an extremely high degree of awareness among respondents of internal systems and ailments relating to stress. This shows that there is a great need for mental health care at workplaces and that occupational health nurses are expected to provide this, as well as the fact that occupational health nurses themselves have actively sought to obtain knowledge of mental health and are putting this into practice in their work.

However, on the other hand occupational health nurses are not actively learning or gathering knowledge and information about WLB, and are not actively intervening in matters relating to the families and family lives of employees. This suggests that the practice of care from the perspective of life models that are a characteristic of health nurses is not currently being realized to any sufficient degree.

The respondents' scores for items within the category of stance were in all cases 4.0 or above, showing an extremely high rate of practice for these items. Given this, it is clear that they have an extremely high degree of ethical awareness as care practitioners. This reflects the fact that those working in the field of occupational health are required to handle personal information and organizational information in an extremely delicate manner.

In regard to attitude, the highest-scoring item was "observing ethical codes of conduct." This suggests that the respondents are acting in a way that unites an ethical awareness as stance and practice. In addition, "dealing with things according to the circumstances" also scored high (4.08), presumably because their work calls for them to deal with things in a flexible manner.

The score for items in the category of professional abilities as a health nurse varied widely. The item "dealing with people respectfully" (4.07), which achieved the highest score, shows unity between ethical awareness and ethical practice and can thus be considered a fundamental ability as an occupational health nurse. In regard to relationships, while the respondents are actively seeking to build relationships with employees, managers and industrial physicians, this was not so much the case in respect to relationships with external parties and family members. This suggests that the range of their activities is centered within their own organization.

In addition, the results demonstrated inactivity in respect to such things as creating policies out of internal systems as specific activities for WFC measures, planning WFC measures for the workplace and creating educational systems for WFC Care.

2. The Characteristics of Occupational Health Nurses that Practice WFC Care as seen through a Comparison between the Experience Group and Non-experience Group

A comparison between the WFC Care Experience Group and Non-experience Group demonstrated the

following characteristics for the Experience Group.

In respect to personal traits, many respondents affiliated with corporations had had experience of WFC. This is because when a person is affiliated with a corporation, they have many opportunities to become involved in WFC Care due to their frequent close dealings with the human resources department.

In respect to knowledge of WFC, it became clear that the Experience Group has a richer and more diverse range of knowledge than the Non-experience Group. The fact that both groups demonstrated high values for “knowledge of mental health” demonstrates that the practice of mental health care is an extremely important aspect of their work; however, the results highlighted the fact that those with experience of WFC Care are also taking an active stance when it comes to practicing mental health care.

In addition, significant differences were seen in 20 of the 22 items; thus, the results demonstrate that, compared with the Non-experience Group, the Experience Group is actively learning knowledge of WFC (WLB, occupational health, nursing and mental health).

In respect to stance, the results showed a high degree of practice among both groups, with this practice based on ethical codes of conduct as nurses regardless of the type of care. Significant differences were seen in two items: “as it is the individual concerned who makes decisions, support their decisions rather than guide them” and “engage with workers and employers with a neutral and fair attitude.” This shows awareness among occupational health nurses of the importance not only of ethical fairness but also of striking a balance between the positions of organization member and professional nurse when providing WFC Care.

In respect to attitude, no major differences were seen between the two groups. “Make use of the workplace environment”, the item in which a significant difference was seen, is not only individual care that targets the individual in question when practicing WFC Care; rather, it could be considered as intervention in environments such as that person’s or society. In addition, “design and plan new things” demonstrated differences in attitude regarding creativity. We can conceive that both of these items involve behavioral patterns that are practiced in an active and independent manner. In addition, as part of individual traits categories, we saw that a proactive stance to learning is needed in order to obtain qualifications to become an “occupational nurse”, which corresponds with these behavioral patterns.

In respect to professional abilities as a health nurse, the Experience Group had a higher rate of practice in all items. Among the items that exhibited significant differences, “dealing with people respectfully”, “understand the content of WFC specifically” and “perceive WFC as something that one seldom resorts to one’s own accord” demonstrate that this group has a higher level of communication and counselling skills. “Creating nursing plans suited to target persons based on assessments” demonstrates a high level of nursing skills and planning ability. “Striving to build relations with staff and management on a daily basis”, “accept consultations regarding WFC” and “build relationships between staff related to WFC Care” demonstrate a high level ability to form relationships along with a high level of coordination and leadership skills. “Collect information on in-house systems suited to target persons” and “collect information on external systems suited to target persons” demonstrate a high analytical ability, ability to gather information, and coordinate that allow respondents in this group to focus on issues. On the other hand, the rate of practice for “create a consultation service for WFC”, “create policies out of internal systems for WFC measures”, “plan WFC measures for the workplace” and “create educational systems for WFC Care” was in all cases low. This suggests that this group faces hurdles in respect to decision-making, planning, organization, leadership, unifying power, creating policies and measures, and managing health crises. Thus, we can conceive that these items (decision-making, organization, leadership, unifying power, creating policies and measures etc.) are abilities of a level requiring a great deal of skill on the part of general health nurses.

Analysis of the above gives the following characteristics for the WFC Care Experience Group: 1) Members of this group have been able to build relationships with their human resources department; 2) They have a rich knowledge of WFC; 3) They adopt a stance in which they strive to strike a balance between their positions as organization member and professional nurse; 4) They have the right attitude for actively exerting their ability to take action and creativity; 5) They are highly-skilled health nurses with communication and counseling skills, nursing skills, planning skills, an ability to form relationships and coordinate things, leadership skills, assessment skills, and an ability to gather information.

3. Issues with Occupational Health Nurses Practicing WFC Care

The field of occupational health entails a diverse range of professions, including industrial physicians, dentists, nurses, and dietitians. What are the characteristics of occupational health nurses among these professions? The work of occupational health nurses encompasses a comprehensive set of standpoints including the individual, groups, organizations and society. The role of occupational health nurses is not only to provide services that help prevent illnesses but also to promote health and to provide support for activities that aim to improve QOL. In addition, they work to support the health of employees in their capacity as people who are most familiar to employees among the various occupational health professions. Given these characteristics, it would be right to consider occupational health nurses as the professionals most suited to providing WFC care.

WFC Care is not something that improves solely by focusing on factors relating to individuals; rather, it is something that arises through connections between such things as workplace factors and factors relating to individuals. Work and individuals/families interact with each other and cannot be separated²³⁾. However, in places where occupational health is practiced, priority is given to work relating to phenomena occurring within the workplace (considerations of safety or risk management), with care relating to individuals and their families low down on the priority scale. Furthermore, there is a tendency for employees themselves to feel that they should not bring their personal and family matters to the workplace, making it harder to make WFC a reality.

Thus, in order to practice WFC Care, it is important for occupational health nurses themselves to develop the kind of awareness in which they seek to learn about and actively detect WFC. This research also indicated a “rich knowledge” and “active ability to take action” as being the characteristics of practitioners. It is necessary to proactively adopt a broad range of knowledge on systems and laws, social resources and so forth. In addition, in respect to nursing skills, there is a need to improve skills in such areas as counseling and performing individual/organizational assessments. Mastering planning skills, the ability to form relationships and coordinate things and leadership skills will allow occupational health nurses to improve not only their skills relating to nursing but also their management skills.

In order to further develop WFC Care in the future, it will be necessary to provide education on WFC as part of occupational nursing education programs, and to create venues that provide opportunities for occupational health nurses to learn knowledge of WFC Care, and that provide management education to help them improve their specialist knowledge.

4. Limitations of this Research and Future Prospects

As the targets of this research were all occupational health nurses who belong to the Japan Association of Industrial Health, the data was not obtained through random sampling. The return rate was as low as 45.6%. These facts suggest that there are limits to how far this research will become generalized. It is perhaps a paucity of awareness or interest in WFC and WFC Care that is behind this low return rate.

Future issues for the practice of WFC Care among occupational health nurses include first and foremost making them aware of the existence of WFC. Furthermore, WFC Care is not yet established; thus, it will be necessary to construct frameworks for WFC Care, develop educational programs, and construct models that can be employed in practice.

Conclusion

In this research, we created a conceptual diagram with the aim of shedding light on the realities and structure of WFC Care practiced by occupational health nurses. Based on this, we used the categories of personal traits, knowledge of WFC, stance, attitude, and professional abilities as a health nurse as factors that influence WFC Care to examine their connections with the status of WFC Care. This kind of research is the first of its kind and thus provides us with important data.

While as 13.1% awareness among occupational health nurses of WFC was low, 76.6 had experiencing of practicing WFC Care, with this research highlighting the need for this care as part of the activities of occupational health nurses.

Although no major differences were seen in stance and attitude between the WFC Experience Group and the Non-experience group, there were differences in their knowledge of WFC and the professional abilities of health nurses. In respect to stance and attitude, significant differences were seen in respect to fairness, respect for individuals' decisions, use of workplace environments, creativity, the collection and use of information, and the ability to make assessments.

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