

Research paper

Openness to Gender and Work-Term Diversity among Physicians in Japan: a Study of Alumni from a Japanese Medical School

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What is known?

1. The low number of female physicians in Japan is a significant diversity management issue. Policies such as 'positive action' are needed to improve gender equality and eliminate gender barriers that form obstacles to female physicians who continue working as well as rearing children.
2. In Japanese academic medicine, a work-term appointment is given to each physician at the beginning of their employment. However it is not usually extended, even for pregnancy, child rearing or care-giving for the elderly, although this is at the discretion of each health organization.
3. In Japanese clinical settings, the working environment does not support physicians' need for a family life and leads to loss of expertise.

What this paper adds

1. Female physicians with children who were working 41–60 h/week and satisfied with their work life balance showed greater openness to implementing 'positive action'.
2. Physicians with no specialist licence, specializing in internal medicine and unsatisfied with their current position showed greater openness to extending work-term appointments for child rearing.
3. Improving awareness of gender-equality and extension of work-term appointments to accommodate family life will enhance female physicians' career development and improve work environments, gender equality and equal opportunity in the workplace.

ABSTRACT

The low number of female physicians in Japan is a significant diversity management issue. Policies such as 'positive action' are needed to improve gender equality and eliminate gender barriers that form obstacles to female physicians who continue working as well as rearing children. This study investigated factors related to openness in implementing 'positive action' in healthcare organizations and in extending work-term appointments for child rearing among female physicians in Japan.

A cross-sectional, self-administered questionnaire with 34 questions was distributed to 2,159 medical school alumni in 2011. Primary outcome measures were '*openness in implementing 'positive action' in academic hospitals*' and in '*extending work-term appointments for child rearing*'. Statistically significant relationships were identified using chi-square tests.

A total of 453 responses were received: 51.7% females and 23.7% males approved to implement 'positive action'. Gender,

having children, average weekly work hours, and satisfaction with work-life balance (WLB) were factors related to openness in implementing 'positive action'. Not having a specialist licence, specialty, dissatisfaction with their current position and satisfaction with their WLB were related to openness in extending work-term appointments for child rearing. Logistic regression analysis indicated that among female physicians with children, working 41–60 h/week and satisfied with their WLB, showed greater openness to implementing 'positive action'. Physicians with no specialist licence, those specialized in internal medicine and those unsatisfied with their current position showed greater openness to extending work-term appointments for child rearing.

Female physicians urgently require reduced working hours and a WLB-friendly working environment. Flexible working hours with part-time options and work sharing could help to achieve a gender-equal workplace for female physicians with children. Improving awareness of gender-equality and extension of work-term appointments to accommodate family life will enhance female physicians' career development and improve work environments, gender equality and equal opportunity in the workplace.

Keywords: Gender equality, work-life balance, 'Positive action'

Introduction

Diversity management is a process intended to create and maintain a positive work environment in which the similarities and differences of individuals are valued (Patrick and Kumar, 2012). Effective diversity management is recognized in contemporary human resource management as a key to improving organizational performance, client service delivery and employee satisfaction (Victoria State Government, Australia, 2012). Many Japanese enterprises and local governments have started holding seminars on business skills and leadership such as the decision making process and how to become a motivational leader; they are implementing approaches to diversity management, such as introducing female promotion policies 'to set targets for the employment, and promotion to, managerial positions of women', and flexible working systems, such as short work hours and work sharing. However, despite these advances, very few health organizations/hospitals in Japan have implemented any diversity management approaches; to date none has been listed among the enterprises included in the Japanese 'Diversity Management Selection 100' (Japanese Ministry of Economy, Trade and Industry, 2015).

The low number of female physicians is a significant issue in clinical settings, including academic hospitals. In Japan, approximately 30% of students enrolled in medical schools are female but this percentage decreases by the time they finish training; female physicians account for only 19.7% (n=303,268) of the medical workforce and this percentage decreases with age. Female physicians in their 30s make up approximately 30% of the medical workforce; those in their 40s, account for 20.4% and by their 50s and 60s only 13.0% and 9.7% respectively (Japanese Ministry of Health, Labour and Welfare, 2012). This situation has led to an underrepresentation of female physicians in senior positions and academic settings as well as an unbalanced gender distribution in clinical settings (Hancke *et al.* 2014). In many developed countries women still account for only a small percentage of those in prominent leadership positions in academia (Wietsma, 2014). An explanation given for the gender inequity in promotion is that women work fewer hours because of family obligations (Wietsma, 2014).

The institutional and cultural structures of organizations/academic medicine affect gender inequity. Female physicians have reported that one of the causes of stress at work was the male-dominated society (Japan Medical Association Committee on Gender Equality, 2009). The women needed a 'gender-equal

support system at workplace' to continue their career (Japan Medical Association Committee on Gender Equality, 2010). 'Positive action' is a term referring to the elimination of all forms of discrimination against women. It is defined as 'positive provision of the opportunities stipulated in the preceding item to either women or men within the necessary limits in order to redress gender disparities in terms of such opportunities.' (Cabinet Office, Government of Japan, 2011).

Balancing family life and clinical practice is still challenging for Japanese female physicians. In a survey by the Japanese Medical Association Committee on Gender Equality (2009) 70% (n=2,931) of female and male respondents reported that they had to forgo promising careers because of difficulties in raising children, balancing family life and a career. The proportion of Japanese physicians of both genders taking leave following childbirth is relatively low at 27.6% (n=2,978) (Japan Medical Association Committee on Gender Equality, 2010), and only 2.6% (n=4,286) of male physicians request paternity leave (Japan Medical Association Committee on Gender Equality, 2014). These findings indicate that, in clinical settings, the working environment does not support the physicians' need for a family life and leads to loss of expertise.

In the Japanese clinical work system and in academic medicine, a work-term appointment is given to each physician at the beginning of their employment. This term is not usually extended, even for pregnancy, child rearing or care-giving for the elderly, although this is at the discretion of each health organization. Consequently, many Japanese female physicians have to either abandon their career development or give up on having children. If more organizations approved extensions of work-term appointments for family life it would help women to continue their careers as physicians and maintain work-life balance (WLB). Male physicians with children should be able to do the same.

Research design

Diversity management is a process intended to create and maintain a positive work environment, where similarities and differences between individuals are valued. Thus we assumed that maintaining job and WLB satisfaction may lead to creating awareness of workplace diversity. In clinical practice, where long working hours are common, improving WLB is a challenge. Previous studies have indicated that WLB has an impact on various workplace and personal outcomes in many

professional fields. People who are highly satisfied with their WLB are more likely to be committed to their organization, satisfied with their job and willing to continue working in their current position (Sato, 2009). However, few studies have considered the relationship between position/WLB satisfaction and openness to gender and work-term diversity among medical professionals.

Aims of the study

This study aimed to investigate factors related to openness in implementing 'positive action' in healthcare organizations and in extending work-term appointments for child rearing among physicians. To the best of our knowledge, these particular factors have not yet been directly investigated in Japan. Identifying the factors that have an impact on openness to these policies could promote improvements in work systems and workplace diversity, in turn enhancing physician career development and ultimately the success of healthcare organizations (Scholaris and Marks, 2006).

Objectives of the study

1. To map the openness of physicians to 'positive action' in healthcare organizations.
2. To map the openness of physicians to extending work-term appointments for child rearing in healthcare organizations.
3. To ascertain satisfaction with WLB.
4. To ascertain satisfaction with current position.

Methods

Participants

A sample of 2,159 individuals was assembled from the membership database of the alumni of the Medical School of Tokyo Medical and Dental University (TMDU), Japan's only national university with a graduate school of medical and dental sciences, established in 1946. The potential study participants were alumni who had graduated from the university during the previous 30 years and whose postal addresses were included on the TMDU medical school alumni organization's list. The period of 30 years was selected to provide data on a wide age range from physicians who had recently graduated to those approaching the end of their careers. Participants had to be working as physicians, full-time, part-time, as residents or in private-practice; graduate students and unemployed physicians (N = 83) were excluded from the study.

The secretariat of the medical school alumni organization agreed to provide postal addresses for this study. Each individual was sent a letter stating the purpose of the study, along with a questionnaire to complete and a return envelope. Those who did not return the questionnaire within four weeks were sent a reminder by post to encourage a response. Participation was voluntary, and no incentive was given to the participants.

Questionnaire

The questionnaire consisted of 34 questions. These addressed 'openness to implementing positive action,' 'openness to

extending work-term appointments for child rearing,' and 'satisfaction with WLB' (Table 1).

Ethics

The ethical review board of Tokyo Medical and Dental University approved the study, reference number 742.

Statistical analysis

Data were entered into an Excel database by a survey centre. Chi-square tests were performed to establish which demographic and other variables showed a relationship with openness in implementing 'positive action' and in extending work-term appointments for child rearing. The level of statistical significance was set at 5%. Based on the results of these chi-square tests, the statistically significant variables were used as possible explanatory variables in logistic regression analysis, with 'openness to positive action' or 'extending work-term appointments' being the dependent variables. Variables for regression were selected from the possible explanatory variables by the forward selection method. Results are presented as odds ratios (OR) with 95% confidence intervals (95% CI). Statistical Package for the Social Sciences Statistics Base and Regression 22.0 (IBM Japan, Ltd., Tokyo, Japan) was used for the statistical analysis.

We measured the level of WLB satisfaction by combining scores for each of the three components: 'balancing work and family life', 'balancing work and private life as an individual' and 'balancing work and community life'. As well as work as a physician, each individual has multiple roles, such as a homemaker, spouse, parent, citizen and someone who pursues hobbies (Careers New Zealand, 2012). WLB involves how well individuals perform in each of their roles and how well these are balanced (Haar, 2014). The physicians' rating for these components enabled us to comprehensively assess their level of WLB satisfaction.

Results

A total of 536 (24.8%) questionnaires were received by the end of February 2011. Response from males = 350 (65.3%), from females = 186 (34.7%).

Table 2 presents the relationships between the demographic characteristics and openness in implementing 'positive action'. Of the 453 participants, 51.7% of the female physicians and 27.3% of the male physicians were in agreement with implementing 'positive action'. Chi-square tests performed for action each demographic characteristic with openness in implementing 'positive action' showed no statistical significance for marital status, years after graduation, type of hospital, position, average number of night shifts per month, annual income, holding a specialist licence or type of specialty. The variables that did show statistical significance were

- Gender: women showed greater openness in implementing 'positive action' than men ($p < 0.0001$).
- Having children: Those with no children showed greater openness than those with children ($p < 0.01$).
- Working hours: Those working shorter hours showed greater openness than those working longer hours ($p < 0.01$).

Table 1: Questionnaire items.

Objectives	Level of agreement with statements	Options for responses
Openness to implementing 'positive action'	I agree that healthcare organizations should implement 'positive action.'	1. Fully agree 2. Somewhat agree 3. Somewhat disagree 4. Fully disagree
Openness to extending work-term appointments for child rearing	I agree that healthcare organizations should extend work-term appointments for child rearing.	1. Fully agree 2. Somewhat agree 3. Somewhat disagree 4. Fully disagree
Satisfaction with WLB	I am satisfied with the balance between my work and family life.	1. Fully satisfied 2. Somewhat satisfied 3. Somewhat unsatisfied 4. Fully unsatisfied
	I am satisfied with the balance between my work and individual life.	
Satisfaction with current position	I am satisfied with the balance between my work and community life.	1. Fully satisfied 2. Somewhat satisfied 3. Somewhat unsatisfied 4. Fully unsatisfied
	I am satisfied with my current position.	
Demographic information	Gender Marital status Children Age of the youngest child Years since graduation Current position Full-time or part-time employment Average weekly work hours Average number of night shifts per month Annual income Specialty Type of hospital	

- WLB satisfaction: This was close to significant. Physicians satisfied with their WLB showed greater openness to 'positive action' than those who were unsatisfied ($p < 0.059$).

Table 3 presents the results for openness in extending work-term appointments for child rearing. Chi-square tests showed no statistical significance for gender, marital status, having children, years after graduation, type of hospital, position, average weekly working hours, average number of monthly night shifts and annual income. Variables that did show significance were

- Holding a specialist licence: Those without a specialist licence showed greater openness in extending work-term appointments for child rearing than those with a specialist licence ($p < 0.014$).
- Specialty: Surgeons showed greater openness than those in other specialties ($p < 0.007$).
- Satisfaction with WLB: Physicians satisfied with their WLB showed greater openness than those who were dissatisfied ($p < 0.020$).
- Satisfaction with their position: Physicians dissatisfied

with their current position showed greater openness than those who were satisfied ($p < 0.0001$).

Gender, having children, working hours and WLB satisfaction were statistically significant or near significant variables for 'openness in implementing 'positive action' and were, therefore, used in the logistic regression analysis (Table 4). No statistical significance was observed for male and female physicians with no children. However, among female physicians with children, those working 41–60 h (OR: 3.007, $p < 0.032$) showed greater openness in implementing 'positive action' than those working 0–40 h. Among male physicians with children, those working for 41–60 h (OR: 2.387, $p < 0.025$) and 61–79 h (OR: 2.837, $p < 0.058$) showed greater openness than those working for 0–40 h. Among female physicians with children who were satisfied with their WLB (OR: 3.490, $p < 0.015$) showed greater openness than those who were dissatisfied.

Child rearing, having a specialist licence, specialty and satisfaction with their current position were predictor variables for 'openness in extending work-term appointments' (Table 5). Those without a specialist licence (OR: 0.338, $p < 0.046$) showed greater openness than those with a licence. Physicians in the internal medicine category ($p = 0.027$) showed greater openness

Table 2: Demographic characteristics and openness in implementing positive action

Characteristic (N = 453)		N	%	<i>p</i> value (* < 0.05,**< 0.01)
Sex	Female	77 of 149	51.7	**0.000
	Male	83 of 304	27.3	
Marital Status	Single	33 of 80	41.3	0.165
	Married	118 of 355	33.2	
Having Children	Divorced or widowed	9 of 18	50.0	
	Yes	100 of 317	31.5	**0.010
Years After Graduation	No	60 of 136	44.1	
	Within 5	20 of 46	43.5	0.810
	6–10	26 of 78	33.3	
	11–15	34 of 90	37.8	
	16–20	28 of 83	33.7	
Types of hospital	21–25	30 of 86	34.9	
	26–30	22 of 70	31.4	
	Academic hospital	51 of 148	34.5	0.312
	Non Academic hospital	73 of 220	33.2	
Position	Private practice	36 of 85	42.4	
	Resident	10 of 19	52.6	0.153
	Private clinician(self-employed)	28 of 74	37.8	
	Part time	28 of 67	41.8	
Average Weekly Work Hours(N = 452)	Full time	94 of 293	32.1	
	0–40	55 of 116	47.4	**0.010
	41–60	66 of 227	29.1	
	61–79	21 of 61	34.4	
	80 or more	17 of 48	35.4	
	Data Missing			1
Average Number of Monthly Night Shift(s) (N = 434)	0	72 of 185	38.9	0.425
	1–2	27 of 89	30.3	
	3–4	34 of 108	31.5	
	5 or more	17 of 52	32.7	
	Data Missing			19
Annual Income (in Million yens) (N = 446)	Below 3	4 of 10	40	0.312
	3–4.9	11 of 22	50.0	
	5–9.9	44 of 112	39.3	
	10–14.9	48 of 136	35.3	
	15–19.9	26 of 92	28.3	
	20 or more	22 of 74	29.7	
Licensed Specialist (N = 452)	Data Missing			7
	Yes	120 of 349	34.4	0.407
	No	40 of 103	38.8	
	Data Missing			1
Specialty (N = 452)	Internal medicine category	67 of 182	36.8	0.831
	Surgery category	26 of 81	32.1	
	Minor category	53 of 145	36.6	
	Other category	14 of 44	31.8	
	Data Missing			1

Satisfied with work life balance (N = 452)	Satisfied	68 of 167	40.7	*0.059
	Unsatisfied	91 of 285	31.9	
	Data Missing		1	
Satisfied with position N = 452	Unsatisfied	128 of 371	34.5	0.520
	Satisfied	31 of 81	38.3	
	Data Missing		1	

Table 3: Demographic characteristics, openness in implementing extension on work term appointments for childrearing

Characteristic (N = 455)		N	%	<i>p</i> value
Sex	Female	134 of 151	88.7	0.729
	Male	273 of 304	89.8	
Marital Status	Single	70 of 80	87.5	0.586
	Married	321 of 356	90.2	
	Divorced or widowed	16 of 19	84.2	
Having Children	Yes	285 of 317	89.9	0.632
	No	122 of 138	88.4	
Years After Graduation	Within 5	45 of 46	97.8	0.129
	6–10	71 of 79	89.9	
	11–15	76 of 92	82.6	
	16–20	73 of 82	89.0	
	21–25	78 of 85	91.8	
Types of hospital	26–30	64 of 71	90.1	0.974
	Academic hospital	132 of 148	89.2	
	Non Academic hospital	202 of 225	89.8	
	Private practice	73 of 82	89.0	
Position	Resident	19 of 20	95.0	0.839
	Private clinician(self-employed)	64 of 71	90.1	
	Part time	59 of 67	88.1	
	Full time	265 of 297	89.2	
Average Weekly Work Hours	0–40	104 of 114	91.2	0.560
	41–60	204 of 231	88.3	
	61–79	53 of 61	86.9	
	80 or more	45 of 48	93.8	
	Data Missing	1		
Average Number of Monthly Night Shift(s)	0	162 of 184	88.0	0.869
	1–2	82 of 91	90.1	
	3–4	97 of 107	90.7	
	5 or more	50 of 55	90.9	
	Data Missing	18		
Annual Income (in Million yens)	Below 3	10 of 10	100.0	0.174
	3–4.9	22 of 22	100.0	
	5–9.9	100 of 113	88.5	
	10–14.9	124 of 139	89.2	
	15–19.9	86 of 93	92.5	
	20 or more	60 of 72	83.3	
	Data Missing	6		

Licensed Specialist	Yes		309 of 353	87.5	*0.014
	No		97 of 101	96.0	
	Data Missing	1			
Specialty	Internal medicine category		171 of 186	91.9	**0.007
	Surgery category		77 of 80	96.3	
	Minor category		120 of 145	82.8	
	Other category		38 of 43	88.4	
	Data Missing	1			
WLB satisfaction	satisfied		264 of 287	92.0	*0.020
	unsatisfied		142 of 167	85.0	
	Data Missing	1			
Position satisfaction	satisfied		62 of 80	77.5	**0.000
	unsatisfied		344 of 374	92.0	
	Data Missing	1			

Table 4: Logistic regression analysis, openness in implementing positive action (N=452).

	Female, without children N = 66)			Female, with children (N = 82)			Male, without children (N = 69)			Male, with children (N = 235)		
	OR	<i>p</i> value	95%CI	OR	<i>p</i> value	95%CI	OR	<i>p</i> value	95%CI	OR	<i>p</i> value	95%CI
Average weekly work hours												
0–40		0.201			0.152			0.742			0.118	
41–60	2.884	0.184	0.604 13.767	3.007	*0.032	1.103 8.201	0.608	0.469	0.158 2.335	2.387	*0.025	1.118 5.099
61–79	0.993	0.994	0.156 6.316	3.370	0.356	0.255 44.545	0.535	0.491	0.091 3.163	2.837	*0.058	0.963 8.355
80 or more	0.630	0.680	0.070 5.658	0.751	0.826	0.059 9.637	1.170	0.865	0.193 7.101	2.470	0.130	0.767 7.949
Satisfied with WLB												
Unsatisfied												
Satisfied	0.553	0.349	0.160 1.910	3.490	*0.015	1.276 9.548	1.299	0.622	0.459 3.675	1.765	0.095	0.905 3.442

Table 5: Logistic regression analysis, openness in implementing extension on work term appointments for childrearing(N=452)

	OR	<i>p</i> value	95%CI
Licensed specialist			
Yes			
No	0.338	*0.046	0.116 0.982
Specialty			
Internal medicine category		*0.027	
Surgery category	0.344	0.105	0.095 1.248
Minor category	1.956	0.061	0.970 3.944
Other category	1.189	0.758	0.396 3.574
Satisfied with position			
Yes			
No	0.308	**0.001	0.158 0.600

than physicians in the other specialty categories. Those who were dissatisfied with their position (OR: 0.308, $p < 0.001$) also showed greater openness than those who were satisfied.

Discussion

Greater openness in implementing ‘positive action’ in

healthcare organizations was shown by physicians with children who worked average weekly hours for both male and female physicians and satisfied with their WLB for female physicians. In Japan, the Labour Standard Act sets the standard weekly working at 40 hours (Japanese Ministry of Health, Labour and Welfare, 2008). However, in clinical practice, where working long hours is common, the average weekly working hour for Japanese physicians has been reported as 46.6 hours (The Japan Institute for Labour Policy and Training, 2012), which is longer than that for physicians in other Organization for Economic Cooperation and Development (OECD) countries (Simoens and Hurst, 2006). Not only does this have a negative impact on WLB and the physical and mental health of physicians but it also reduces the quality of clinical performance (Science Council of Japan, 2011). Therefore, physicians who work longer hours are likely to be compelled to feel that the active participation of female physicians is necessary in order to deal with the workload. However, women need a more gender-balanced work environment to continue their professional careers. Strategic action is needed at organizational level in terms of implementing ‘positive action’. Women physicians often have multiple and challenging responsibilities. Only a small percentage of them remain in clinical practice once they have children so it is likely that they would among the central players welcoming ‘positive action’ to help them balance work and family life. ‘Positive action’ would give them a greater voice in the decision-making processes at their workplaces.

Organisational systems that reduce working hours and result in greater satisfaction obviously help in achieving good WLB but are not the only factor to consider. Men as well as women need a healthy WLB. Measures for creating more WLB-friendly environments, where physicians can choose flexible working hours, such as part-time but permanent positions, placing more than one physician in charge of a unit and work sharing, are needed for both men and women. Work environments where it is not easy to take these approaches could be classified as 'unfriendly'.

Having a specialist licence was one of the predictors of openness in extending work-term appointments for child rearing. In Japan, gaining a specialist licence requires at least 7 years of clinical experience in the selected specialty. Many physicians who wish to gain a specialist licence prefer to stay in the same hospital as their place of training in order to achieve a sufficient number of cases. It is likely that those with no specialist licence would want career continuity for their future career path and to earn their specialist licence. If their work-term appointment period is discontinued because of child rearing, this also results in a discontinuation of their career as a physician as well as of any chance of gaining a specialist licence.

Our results indicated that physicians specializing in internal medicine showed greater openness in extending work-term appointments for child rearing than physicians in other specialties. This may be because gaining an internal medicine specialist licence requires more comprehensive multiple experiences and greater knowledge than in other specialties.

Physicians dissatisfied with their position showed greater openness in extending work-term appointments for child rearing. Longer work-term appointments, not curtailed by family commitments such as child rearing, could improve satisfaction. Under the new team-based approach to delivering health care, various types of professionals work together to meet patients' needs to achieve better health outcomes. Within the team approach, each member plays a critical role in providing better health care to patients and therefore, each individual's level of satisfaction becomes even more important. Satisfaction in these aspects can lead not only to stronger career motivation but also to greater gender balance and equal employment opportunity in clinical settings.

Limitations

All the participants were alumni of a single academic hospital; therefore, the study does not represent national data and could include some bias. To obtain greater validity, future studies should include graduates of other schools. The questionnaire was distributed only in paper form to the home address of each alumnus, which may have contributed to the relatively low response rate (approximately 25%). As responses from non-respondents (nearly 75% of all participants) were not received, we had to accept that this was the best sample we could achieve in this study. To improve the response rate, future research should employ online questionnaires. Finally, the construct of average weekly working hours represents only the total number of hours worked and was not classified into the type of work. Further consideration is needed regarding what type of work should be included in research on physicians' work demands and WLB.

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Conflicts of interest

None

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