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Original Research

The difficulty of professional continuation among women doctors in Japan: A qualitative study of alumnae of 13 medical schools in Japan

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Abstract (290)

Objectives: To investigate the difficulties Japanese female doctors face in continuing professional practice.

Design: A qualitative study by using the Kawakita Jiro method.

Setting: A survey of 13 private Japanese medical school alumni associations conducted in 2011.

Participants: 359 female doctors

Primary outcome measures: Barriers of balancing work and gender role.

Results: The female doctors reported that professional practice was a struggle with long working hours due to a current shortage of doctors in Japan. There was also a severe shortage of child-care facilities in the workplace. Some women appeared to have low confidence in balancing physician's job and personal life, resulting in low levels of professional pursuit.There appeared to be two types of stereotypical gender roles including one expected from society like "child rearing is a women's job", and the other perceived by their own that some women had a very strong desire to raise their own children. Male and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked while raising children because the coworkers feared that

they would have to perform additional work as a result of the women taking long periods of leave.

Conclusions: Important factors identified in promoting the continuation of professional practice among female doctors in Japan was the need to improve working conditions including long working hours and nursery shortage, and to introduce educational interventions to clarify professional responsibilities and redefine the gender division of labour for both male and female doctors. In addition, we identified a need to modernize the current employment practices by introducing temporary posts to cover maternity leave and introduce flexible working during specialist training thus supporting and encouraging more women to continue their medical careers.

Strengths and limitations of this study

- A qualitative study based on 359 female doctors revealed that barriers of balancing work and gender role were mainly poor working conditions including long working hours due to physician shortage and nursery shortage, and stereotypical gender role.
- There appeared to be two types of stereotypical gender roles including one expected from society like “child rearing is a women’s job”, and the other perceived by their own that some had a very strong desire to raise their own children.
- Male and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked while raising children because the coworkers feared that they would have to perform additional work as a result of the women taking long periods of leave.
- The limitation of this study includes textual analyses using the KJ method, which may not have thematically saturated data.

Introduction

According to the Global Gender Gap Report, Japan was ranked 105th out of 135 countries on gender equality[1], and on female participation in the labour force and political participations (i.e., percentage of women in parliament, ministerial positions) and have the lowest percentage of females in the workforce among the Organisation for Economic Co-operation and Development (OECD) countries.[2] The number of female doctors in Japan today are comparable with where the US was over twenty years ago, with only18.9% (55,897) of all physicians[3] being female. Given the critical shortage of doctors in Japan, it is worth considering why there are so few female doctors practicing and what can be done to increase this number.

Previous research has shown that women physicians in Japan work fewer hours, retire earlier, and are more likely to be professionally inactive compared to their male counterparts.[4] A survey of 711 Japanese women physicians revealed that 55% had resigned from full-time positions at least once, and only 30% of these women returned to full-time employment. [5] It is known that women in Japan often stop working in their 30s after having children and then return to the workforce after they have finished raising their children. This work pattern, which has been described as an “M-shaped curve” representing rates of

participation in the labor force by age, is characterized by peaks in the early 20s and late 40s combined with a trough in the early 30s.[6]

This pattern has interestingly not been observed in any other country except Japan and Korea. Indeed, such low participation among the younger female generation may not be fully explained by child-rearing. First, gender-role stereotype is embedded into the Japanese cultural systems, beliefs, and behaviors; meaning that men and women tend to follow their specific gender roles and that women believe they should stay at home to take care of family responsibilities while men should go out to work. According to a public opinion survey in 2013, conducted by the Japanese government,[7] 50 % of respondents in their 20's agreed with the stereotyping gender role while 46.6% disagreed and the rest answered that they did not know. Second, in our previous study based on 1,684 women physicians, we demonstrated that more women than men significantly experienced gender discrimination related to professional advancement,[8] and doctors with the strongest perception of gender-based career obstacles were more likely to work part-time rather than full-time.[9]

Hence we attempted to explore the factors that make it difficult for female doctors to balance professional development with gender role responsibilities using a qualitative

approach.

Methods

Subjects

This cross-sectional study was based on a survey of alumnae who had previously trained at one of 13 private medical schools. The study was conducted between June 2009 and May 2011. Japan has 80 medical schools, 29 of which are private. The present study was jointly sponsored by the Council of Private Medical School Alumni Associations, the Ministry of Education, Science, Sports, and Culture, Grand in Scientific Research and the Pfizer Health Research Foundation and targeted at female doctors.

The aim was to identify the challenges of having a good work-life balance. All of the 18 schools in the eastern region of Japan were targeted, and 13 agreed to participate in the study. In total there were 9,544 female alumnae registered in the 13 alumni associations. We sent an invitation letter to these women via email. The exact response rate is difficult to determine as many of the emails were no longer used, however, 2,029 alumnae responded with written informed consent to take part in the study. Of those that agreed to take part, 1,684 answered a self-administered questionnaire (response rate to the informed consent:

83%).

We included a single open-ended question soliciting participants' thoughts about the challenges of balancing professional work development with gender role responsibilities. The question had no word or page count limit. The questionnaire also included basic demographics, marital status, numbers of children, work status (i.e., full-time/part-time/unemployed), worksite (university hospital/hospital/clinics/others) and questions about any experience of gender inequality in career opportunities and questions about any perception of gender-based obstacles.

The study protocol was approved by the Institutional Review Board of Teikyo University School of Medicine (No. 08-107).

Theoretical perspective

Our study draws on a constructivist perspective, recognizing that this study listens to the social constructions and meaning making of the study participants and as researchers we bring our own interpretation reflecting that some of us are trainee and other senior clinicians, male and female and living within the same culture as the study participants and others are non-clinicians, with a gender mix, living outside Japan in a western culture.[10] We

recognize that we are involved in the process of making new social constructions that result from the perspective of both the researcher and research object to form new constructions.[11]

Kawakita Jiro (KJ) Method

The responses to the open-ended question were analyzed qualitatively using the Kawakita Jiro (KJ) method,[12] which was developed by Jiro Kawakita (a Japanese anthropologist). It is also called an affinity diagram that helps to synthesize large amounts of data by finding relationships between ideas and is suited to a constructivist perspective.

Six researchers including two coauthors (KN and YK) and two male medical students with different ages, marital status, and employment status analyzed the data. Firstly, we all initially reviewed respondents' comments as a working group and divided the comments into 1,322 fragments, each of which had only a single meaning (e.g., miscarriage following long working hours, depression following over work); these were recorded individually on cards. Second, we spread the cards out on a table and grouped them according to the similarity of the comments they presented or the context in which they appeared in the initial transcript (e.g., poor working condition). Third, we discussed the shared meaning of each of the sorted groups and wrote the main theme description for each group on a blank

card and placed this at the top of the group. Following this, we grouped the themes until we had reached the broadest, but still a meaningful, category. Forth, we drew lines connecting the themes using an interactive process of discussion and consensus. If anyone disagreed, we negotiated around a provisional domain of categories. This process continued until all the data was classified under one of the categories. Every process was performed together by the six researchers.

Results

Participant characteristics

Of the 1,684 participants who returned questionnaires, this analysis focused on the 359 (21%) who provided answers to the open-ended question about continuing to work and deal with the challenges of developing their careers; 78% of this group were married, 91% were working as clinical physicians at the time of the study, 60% worked full-time and 35% worked part-time, and 264 (74%) had children. The median age (inter-quartile range) was 45 years and the age range was from 38 years to 53 years.

Overview of qualitative analysis

The KJ method yielded 5 domains

1) Poor working condition with poor child support (184 cards)

2) Low levels of professional pursuit (96 cards)

3) Lack of understanding in the workplace and harassment (132 cards)

4) Stereotypical gender roles (255 cards)

5) Switch from full-time to part-time labor and consequent career stagnation (157 cards)

Below we describe the factors that these female doctors identified as barriers to their professional development while also having stereotypical gender role responsibilities and discuss how these factors are related to reduced involvement in work and subsequent career stagnation.

1) Poor working condition with poor child support

1-1) long working hours and subsequent occupational health hazard

Medical workforce shortages result in both men and women having to work long hours and having to agree to frequent night shifts. In this study (excluding those who were unemployed), the median weekly working hour was 70 hours with interquartile ranges from 50-80 hours among the 152 women in their 20's, which far exceeds the 40 hours per week,

which is the maximum working hours regulated by Japanese Labor Standards Act (Article 32). Respondents pointed out that such long working hours resulted in occupational health hazards.

"*As the result of my hard work, including night shifts even during pregnancy, I experienced a near miscarriage and had no choice but to resign*." (part-time, 46 y/o, married)

"*When I experienced a near miscarriage with my second child, I had to work long hours. People at my workplace did not adjust my shift schedule.*" (anonymous)

"*I have been suffering from depression for 5 years due to overwork*." (part-time, 42 y/o, married)

1-2) Lack of child-care facilities at work

Many of our respondents claimed that the number of child-care facilities, including those that care for a sick child, were inadequate in the workplace. Two respondents suggested that

increased availability of child-care facilities may increase the participation of women in the workforce.

"If my workplace had provided me with a child-care facility, including one that would care for a sick child, I could have afforded to work full-time when my children were little." (full-time, 69 y/o, divorced)

"Whenever my children have a fever, I am always called by the childcare facility to pick up my kid. I wish that my workplace had a child-care facility for sick children." (full-time, 50 y/o, married)

2) Low levels of professional pursuit

Two single women and an older female doctor who had a pioneering spirit, as they continued to work while raising children suggested that some women tend to be too passive in their career development and leave the workplace too easily.

"*Women doctors from younger generations do not work very hard and do not pursue careers. I have had a very hard time balancing my work and child rearing. I never used my children as an excuse for my work but worked as much*

as or even harder than my male peers did." (full-time, 56 y/o, divorced)

"*Women physicians with children sometimes claim that their workloads should be reduced because they have family responsibilities. I do not think it is fair. Once you became a doctor, you should fulfill your responsibility to serve patients."* (full-time, 45 y/o, single)

"*I do not know why some women physicians become pregnant very easily soon after they belong to a clinical department at hospitals where they are expected to work very hard*." (full-time, 36 y/o, single)

Here are examples of women who seemed to have low motivation for a professional career and sadly some who have attitudes in stark contrast to the ones above. Some women appeared to have low confidence in balancing physician's job and personal life, resulting in low levels of professional pursuit.

"*It is very difficult to seek promotion while fulfilling family responsibilities. My*

friends and I think it is a good idea to catch a man physician who will be a good candidate for a professorship and to enjoy life overseas while he studies abroad." (full-time, 49 y/o, married)

"*Because my husband will open a private clinic in the future, I will help to run a clinic. To be honest, my career is not important*." (part-time, 43 y/o, married)

3) Lack of understanding in the workplace and harassment

The respondents identified two aspects of a lack of workplace support: 3-1) a lack of understandings from both male and female colleagues, and 3-2) harassment.

3-1) Lack of understanding from men and women physicians

A lack of understanding at the workplace from men and some women was associated with fears about the extra work incurred when women took long periods of leave due to life events.

"It is unfair that only women physicians who have children are allowed to take such a

long absence from work." (part-time, 50 y/o, married)

"*Male doctors at my workplace do not want to help female colleagues who insist that they cannot afford to work because of family responsibilities*." (full-time, 35 y/o, single)

"*Because there are few OBs &GYNs specialists at my university hospital, the workload of each medic is tremendously heavy. So, I just can't say, 'I want to take any long leave because of women's life events*.' (part-time, 41 y/o, married)

3-2) Harassment

The harassment reported here included unwanted and annoying actions from one party or a group, including threats and demands and appeared to be caused by offenders' fears that they would have to perform additional work as a result of women taking long periods of leave.

"*I was laid off by my boss when I told him that I claimed the right to take parental leave. My boss said, 'Your taking maternal leave will add an additional work burden to others. I prefer to give your salaried position to*

others.'" (work schedule unknown, 39 y/o, married)

"*I resigned from full-time work because of harassment from male doctors. Even though people at my workplace knew that I had children, I was forced to work and take night shifts as much as my male peers did*." (full-time, 56 y/o, divorced)

4) Stereotypical gender roles

It was clear that some women accepted that the caring role was theirs and theirs alone and had little or no expectation of sharing it with their partners or others.

4-1) Gender-related role expectations from others

"*Women have to take care of not only children but also the elderly*." (full-time, 43 y/o, divorced)

"Child rearing is women's social responsibility." (full-time, 48 y/o, single)

"*The reason I am unemployed is not a matter of my career but involves the need to provide support for my husband until he becomes a professor. It is not because of biological sex but because of gender roles; it is very hard for female doctors to work as much as their male peers do*." (unemployed, 45 y/o, married)

4-2) Desire to rear their own children themselves

This study showed that gender role expectation from others strongly prevailed, even among females doctors, but also some women had a strong desire to play the gender role (i.e., to raise her own children by themselves) put their children before their careers.

"*If had I tried, I could have balanced work and parenting. But I had a strong desire to raise my children by myself as much as possible; I chose part-time practice.*" (part-time, 50 y/o, married)

"*For my patients, they had many other doctors to choose from. but for my*

children, I am their only mother." (full-time, 64 y/o, married)

4-3) Gender-based discrimination

Several respondents experienced gender-based discrimination that appeared to influence their subsequent decisions about work. Some respondents reported very negative comments from male colleagues who clearly indicated that women doctors were not wanted.

"*When I became a member of a clinical department at a university hospital, I was told, 'We do not need women. We won't teach women how to operate on patients.' I was very hurt and felt very sad. After it all, I gave up the struggle and chose another career path. I have no regrets, but sometimes I think that if I had been born 20 years later, I would have been a different type of physician*." (full-time, 51 y/o, divorced)

"*When I was working at a university hospital, I saw that when a young woman physician expressed her opinion at a clinical conference, a senior male doctor said to her, 'Women and children must shut up*.'" (President of a company, 48

y/o, single)

5) Switch from full-time to part-time labor and consequent career stagnation

Our respondents provided examples from their career that indicated that after a certain point there was no further professional advancement.

"*I did not know why so many talented women physicians resigned from university hospitals when they became pregnant until I was in the same place. Because there are a very limited numbers of salaried positions at university hospitals, doctors who can afford to work on a long-term basis are better candidates than are women who have children*." (part-time, 39 y/o, married)

"*Women doctors do not take parental leave because of the limited number of co-workers. They have no choice but to quit a job or become part-timers*." (full-time, 46 y/o, single)

Once women doctors shift from full-time to part-time work, career development becomes very difficult because full-time practice is one of the requirements for specialist status.

"*Because of my part-time practice, I could not apply to be a specialist, which would require me to work full-time*." (part-time, 40 y/o, married)

After marriage, female doctors' work schedule and their place of residence both depend substantially on their husbands. Under such a circumstance, women had no choice but to switch from full-time to part-time labor which lead to fewer professional opportunities resulting in career stagnation.

"*My four children and I moved to Hiroshima and then to Kobe (which are 700 and 500 km west from Tokyo, respectively) from Tokyo to follow my husband's transfer*." (full-time, 50 y/o, married)

"*I went to the US with my husband because he studied abroad. I had a baby in*

the US and took care of the baby there (meaning that she was absent from professional work during the time period)." (full-time, 47 y/o, married)

"*'Going out' was very difficult for me, so I could not attend seminars or annual meetings to meet the specialist requirements. Now, I am not entitled to hold a specialist position. I hope the medical societies of the clinical departments in Japan change their specialist requirements [so that it does not have to be] based on full-time practice.*" (full-time, 49 y/o, married, four children)

Discussion

The findings from this study demonstrated that two factors: poor working condition with poor child support, and stereotypical views on gender roles contributed to a reduction of female doctors in the Japanese workplace and propelled women to switch from full-time to part-time labor. It was also found that poor working conditions influenced low aspirations of future career attainment and long working hours resulted in pregnant women being at risk of miscarriage or becoming psychologically depressed. We will discuss our results in the context of the extant literature.

Poor working condition represented by long working hours in this study is embedded in a chronic, nationwide medical workforce shortage that Japan has faced over the past three decades. [2] In our sample, the weekly working hours among women in their 20's was 70 hours. This is similar to the findings from a survey of 1,036 doctors conducted by the Japanese Medical Labour Association [13]: physicians worked 10 hrs per day on average and approximately one-third worked more than 80 hours per week, and one-fourth worked a night shift and then worked continuously the following day.[13] The present study highlighted that some women experienced near miscarriages or depression due to a heavy workload. Although an increasing body of evidence indicates that long working hours or frequent nights on call increase the risk of adverse pregnancy outcomes,[14, 15] The current Japanese Labour Standard Act [16] allows a woman to take prenatal leave 6 weeks before childbirth, but only if requested. In the clinical workplace, taking long term leave immediately impacts on others, who then need to cover this additional work. This means, there is no temporary or alternative staff to compensate for the deficit in the medical workforce. This may explain the lack of support and understanding from colleagues when women become pregnant and may be one of the main reasons women leave work completely rather than take maternity leave. [4]

Even after women have given birth, new barriers are presented to returning to work. Recent statistics have shown a significant shortage of child-care centers in Japanese society as a whole, having approximately 50,000 children on waiting lists to enter a nursery .[17] The lack of childcare is perpetuating the medical workforce shortage. The long working week combined with insufficient childcare during working hours seems to have negatively influenced the professional motivation to continue to work as a female doctor. Indeed we found that some women in our sample stated that it is very difficult to pursue a professional career while maintaining family responsibilities. In addition, our previous study based on a national survey of residents, we found that women were also less confident about their clinical competence than were their male peers.[18] The finding of less confidence among women is often reported in academic medicine.[19] The findings of our study may be explained by the nature of women in medicine that under such stressful circumstances (i.e., a male dominated workplace, where male doctors are not supportive of female colleagues), women tend to be less confident. [20]

We also found that some women in the middle-older age groups were critical of younger women who seemed to have lower aspirations for future career development than they had had. This may be explained by the generation gap between women who had worked before

and after the Equal Employment Opportunity Law came in.[21] Before the introduction of the Act, it must have been even more challenging so that the older women with a pioneering spirit were less encouraging or supportive towards younger women who currently face work life balance difficulties. In order to redefine gender roles and move away from older forms of gender stereotyping, male doctors in particular, should be encouraged to share roles both at work and at home. Participation in child rearing, household chores, and even parental leaves, help men understand the major challenges faced by women at work. Increased understanding by male physicians may also lead to a needed gender balance of board members of Japanese medical societies and to benefits of having a female perspective in a male dominated medical career.[22]

Our previous study showed that unmarried female doctors spent more time on household chores compared to married male doctors with children,[23] indicating that the gender-based division of household labor is prevalent in Japan. In this study, some women expressed their desire to raise their children on their own. The importance of choice must be respected, but at the same time the women who choose to work need to be support to do so, and helped to reduce the medical shortage. The current poor working conditions for women with caring responsibilities must be urgently improved. In addition, to support female

careers, a system needs to be established which enables part-time doctors to hold a specialist license. Currently this is only issued to doctors working in full-time practice.

The medical schools should raise these issues with all medical students and discuss how they can combine medicine with future caring roles, as well as being supportive of colleagues who have caring roles.

Some respondents in this study had experienced gender-based discrimination. Such gender-related harassment seemed to influence perception of their value at work, resulting in some women deciding to leave rather than challenge the strong negative attitudes they encountered in the workplace. In this study we found that women who perceived gender-based obstacles related to work opportunities or promotion were more likely to have moved to part-time rather than full-time work. The lower rate of full-time working practice among females compared to their male counterparts was considered as an obstacle to the utilization of female physicians in the medical work force. This means that gender-based discrimination will probably remain a barrier[15] unless part-time working is given equal status as it is in other countries.[24]

Limitations

This study has several limitations that need to be acknowledged. First, all of our respondents graduated from private medical schools. Thus, their views may not be generalizable to those educated in national, municipal and other private medical schools not included in the survey. Second, those who have felt uncomfortable with gender issues or with expressing their true concerns may not have participated in this study or may have declined to respond. Third, our analyses were based on textual analyses using the KJ method, which may not have thematically saturated data. Fourth, our survey method did not permit probing for more information as well as observation of nonverbal cues such as facial expressions or body language. Nevertheless, our sample was relatively large, and we therefore believe that we were able to identify the important themes.

The long working hours of doctors and the lack of childcare works against supporting Japanese female doctors returning to work following childbirth. The current system which does not support part-time training or working at specialist level also needs challenging. Unfortunately our data has exposed negative attitudes towards female doctors from male colleagues, part of the problem is a system that does not provide sufficient cover for maternity leave, resulting in other staff taking on heavy workloads and directing negative comments at the pregnant females rather than at a system that is in need of modernisation.

Finally, the roles of males and females in Japan, need modernisation, reflecting the benefits of sharing work roles and parental roles, and supporting women to pursues a career that will benefit both them and society.

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Contributorship statement

KN conceived study design and carried out survey. KN and YY performed qualitative analyses. KN drafted manuscript which were edited by LG, and JI. MT and SH contributed to the project management and revision of the manuscript. All authors read and approved the final manuscript.

Competing interests

None of the authors have any financial conflicts of interest.

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Data sharing

All the data collected as part of this study are available to interested researchers through ethical approval from Ethics Committee. Please contact KN (kyoko@med.teikyo-u.ac.jp) if you are interested in accessing the data.

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Original Research

The difficulty of professional continuation among female doctors in Japan: A qualitative study of alumnae of 13 medical schools in Japan

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Abstract (290)

Objectives: To investigate the difficulties Japanese female doctors face in continuing professional practice.

Design: A qualitative study by using the Kawakita Jiro method.

Setting: A survey of 13 private Japanese medical school alumni associations conducted in 2011.

Participants: 359 female doctors

Primary outcome measures: Barriers of balancing work and gender role.

Results: The female doctors reported that professional practice was a struggle with long working hours due to a current shortage of doctors in Japan. There was also a severe shortage of child-care facilities in the workplace. Some women appeared to have low confidence in balancing the physician's job and personal life, resulting in low levels of professional pursuit. There appeared to be two types of stereotypical gender roles including one expected from society like "child rearing is a women's job", and the other perceived by the women themselves, that some women had a very strong desire to raise their own children. Male and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked while raising children because the

coworkers feared that they would have to perform additional work as a result of the women taking long periods of leave.

Conclusions: Important factors identified in promoting the continuation of professional practice among female doctors in Japan was the need to improve working conditions, including long working hours and a shortage of nursery places, and to introduce educational interventions to clarify professional responsibilities and redefine the gender division of labour for both male and female doctors. In addition, we identified a need to modernize the current employment practices by introducing temporary posts to cover maternity leave and introduce flexible working during specialist training thus supporting and encouraging more women to continue their medical careers.

Article Summary

- A qualitative study based on 359 female doctors revealed that barriers of balancing work and gender role were mainly poor working conditions including long working hours due to a physician shortage and nursery shortage, and stereotypical gender role.
- There appeared to be two types of stereotypical gender roles including one expected from society like “child rearing is a women’s job”, and the other perceived by the women themselves, that some had a very strong desire to raise their own children.
- Male and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked while raising children because the coworkers feared that they would have to perform additional work as a result of the women taking long periods of leave.
- The limitation of this study includes textual analyses using the KJ method, which may not have thematically saturated data.

Introduction

According to the Global Gender Gap Report 2013, Japan was ranked 105th out of 135 countries on gender equality[1], and on female participation in the labour force and political participations (i.e., percentage of women in parliament, ministerial positions) and have the lowest percentage of females in the workforce among the Organisation for Economic Co-operation and Development (OECD) countries.[2] The number of female doctors in Japan today are comparable with where the US was over twenty years ago, with only18.9% (55,897) of all physicians[3] being female. Given the critical shortage of doctors in Japan, it is worth considering why there are so few female doctors practicing and what can be done to increase this number.

Previous research has shown that female doctors in Japan work fewer hours, retire earlier, and are more likely to be professionally inactive compared to their male counterparts.[4] A survey of 711 Japanese female doctors revealed that 55% had resigned from full-time positions at least once, and only 30% of these women returned to full-time employment.[5] It is known that women in Japan often stop working in their 30s after having children and then return to the workforce after they have finished raising their children. This work pattern, which has been described as an "M-shaped curve" representing rates of

participation in the labor force by age, is characterized by peaks in the early 20s and late 40s combined with a trough in the early 30s.[6]

This pattern has interestingly not been observed in any other country except Japan and Korea. Indeed, such low participation among the younger female generation may not be fully explained by child-rearing. First, gender-role stereotype is embedded into the Japanese cultural systems, beliefs, and behaviors; meaning that men and women tend to follow their specific gender roles and that women believe they should stay at home to take care of family responsibilities while men should go out to work. According to a public opinion survey in 2013, conducted by the Japanese government,[7] 50 % of respondents in their 20's agreed with the stereotyping gender role while 46.6% disagreed and the rest answered that they did not know. Second, in our previous study based on 1,684 female doctors, we demonstrated that more women than men significantly experienced gender discrimination related to professional advancement,[8] and doctors with the strongest perception of gender-based career obstacles were more likely to work part-time rather than full-time.[9]

Hence we attempted to explore the factors that make it difficult for female doctors to balance professional development with gender role responsibilities using a qualitative

approach.

Methods

Subjects

This cross-sectional study was based on a survey of alumnae who had previously trained at one of 13 private medical schools. The study was conducted between June 2009 and May 2011. Japan has 80 medical schools, 29 of which are private. The present study was jointly sponsored by the Council of Private Medical School Alumni Associations, the Ministry of Education, Science, Sports, and Culture, Grand in Scientific Research and the Pfizer Health Research Foundation and targeted at female doctors.

The aim was to identify the challenges of having a good work-life balance. All of the 18 schools in the eastern region of Japan were targeted, and 13 agreed to participate in the study. In total there were 9,544 female alumnae registered in the 13 alumni associations. We sent an invitation letter to these women via email. The exact response rate is difficult to determine as many of the emails were no longer used, however, 2,029 alumnae responded with written informed consent to take part in the study. Of those that agreed to take part, 1,684 answered a self-administered questionnaire (response rate to the informed consent:

83%).

We included a single open-ended question soliciting participants' thoughts about the challenges of balancing professional work development with gender role responsibilities. The question had no word or page count limit. The questionnaire also included basic demographics, marital status, numbers of children, work status (i.e., full-time/part-time/unemployed), worksite (university hospital/hospital/clinics/others) and questions about any experience of gender inequality in career opportunities and questions about any perception of gender-based obstacles.

The study protocol was approved by the Institutional Review Board of Teikyo University School of Medicine (No. 08-107).

Theoretical perspective

Our study draws on a constructivist perspective, recognizing that this study listens to the social constructions and meaning making of the study participants and as researchers we bring our own interpretation reflecting that some of us are trainees and others are senior clinicians, male and female and living within the same culture as the study participants and others are non-clinicians, with a gender mix, living outside Japan in a western culture.[10] We

recognize that we are involved in the process of making new social constructions that result from the perspective of both the researcher and research object to form new constructions.[11]

Kawakita Jiro (KJ) Method

The responses to the open-ended question were analyzed qualitatively using the Kawakita Jiro (KJ) method,[12] which was developed by Jiro Kawakita (a Japanese anthropologist). It is also called an affinity diagram that helps to synthesize large amounts of data by finding relationships between ideas and is suited to a constructivist perspective.

Six researchers including two coauthors (KN and YK) and two male medical students with different ages, marital status, and employment status analyzed the data. Firstly, we all initially reviewed respondents' comments as a working group and divided the comments into 1,322 fragments, each of which had only a single meaning (e.g., miscarriage following long working hours, depression following over work); these were recorded individually on cards. Second, we spread the cards out on a table and grouped them according to the similarity of the comments they presented or the context in which they appeared in the initial transcript (e.g., poor working condition). Third, we discussed the shared meaning of each of the sorted groups and wrote the main theme description for each group on a blank

card and placed this at the top of the group. Following this, we grouped the themes until we had reached the broadest, but still a meaningful, category. Forth, we drew lines connecting the themes using an interactive process of discussion and consensus. If anyone disagreed, we negotiated around a provisional domain of categories. This process continued until all the data was classified under one of the categories. Every process was performed together by the six researchers. The quotes given are reproduced exactly as written by our participants except where indicated as the authors' clarification in square brackets.

Results

Participant characteristics

Of the 1,684 participants who returned questionnaires, this analysis focused on the 359 (21%) who provided answers to the open-ended question about continuing to work and deal with the challenges of developing their careers; 78% of this group were married, 91% were working as clinical physicians at the time of the study, 60% worked full-time and 35% worked part-time, and 264 (74%) had children. The median age (inter-quartile range) was 45 years and the age range was from 38 years to 53 years.

Overview of qualitative analysis

The KJ method yielded 5 domains

1) Poor working condition with poor child support (184 cards)

2) Low levels of professional pursuit (96 cards)

3) Lack of understanding in the workplace and harassment (132 cards)

4) Stereotypical gender roles (255 cards)

5) Switch from full-time to part-time labor and consequent career stagnation (157 cards)

Below we describe the factors that these female doctors identified as barriers to their professional development while also having stereotypical gender role responsibilities and discuss how these factors are related to reduced involvement in work and subsequent career stagnation.

1) Poor working condition with poor child support

1-1) long working hours and subsequent occupational health hazard

Medical workforce shortages result in both men and women having to work long hours and having to agree to frequent night shifts. In this study (excluding those who were unemployed), the median weekly working hour was 70 hours with interquartile ranges from

50-80 hours among the 152 women in their 20's, which far exceeds the 40 hours per week, which is the maximum working hours regulated by Japanese Labor Standards Act (Article 32). Respondents pointed out that such long working hours resulted in occupational health hazards.

"*As the result of my hard work, including night shifts even during pregnancy, I experienced a near miscarriage and had no choice but to resign*." (part-time, 46 y/o, married)

"*When I experienced a near miscarriage with my second child, I had to work long hours. People at my workplace did not adjust my shift schedule.*" (anonymous)

"*I have been suffering from depression for 5 years due to overwork*." (part-time, 42 y/o, married)

1-2) Lack of child-care facilities at work

Many of our respondents claimed that the number of child-care facilities, including those

that care for a sick child, were inadequate in the workplace. Two respondents suggested that increased availability of child-care facilities may increase the participation of women in the workforce.

"If my workplace had provided me with a child-care facility, including one that would care for a sick child, I could have afforded to work full-time when my children were little." (full-time, 69 y/o, divorced)

"Whenever my children have a fever, I am always called by the childcare facility to pick up my kid. I wish that my workplace had a child-care facility for sick children." (full-time, 50 y/o, married)

2) Low levels of professional pursuit

Two single women and an older female doctor who had a pioneering spirit, as they continued to work while raising children suggested that some women tend to be too passive in their career development and leave the workplace too easily.

"*Female doctors from younger generations do not work very hard and do not pursue careers. I have had a very hard time balancing my work and child*

rearing. I never used my children as an excuse for my work but worked as much as or even harder than my male peers did." (full-time, 56 y/o, divorced)

"*Female doctors with children sometimes claim that their workloads should be reduced because they have family responsibilities. I do not think it is fair. Once you became a doctor, you should fulfill your responsibility to serve patients."* (full-time, 45 y/o, single)

"*I do not know why some female doctors become pregnant very easily soon after they belong to a clinical department at hospitals where they are expected to work very hard*." (full-time, 36 y/o, single)

Here are examples of women who seemed to have low motivation for a professional career and sadly some who have attitudes in stark contrast to the ones above. Some women appeared to have low confidence in balancing a physician's job and personal life, resulting in low levels of professional pursuit.

"*It is very difficult to seek promotion while fulfilling family responsibilities. My friends and I think it is a good idea to catch a man physician who will be a good candidate for a professorship and to enjoy life overseas while he studies abroad*." (full-time, 49 y/o, married)

"*Because my husband will open a private clinic in the future, I will help to run a clinic. To be honest, my career is not important*." (part-time, 43 y/o, married)

3) Lack of understanding in the workplace and harassment

The respondents identified two aspects of a lack of workplace support: 3-1) a lack of understandings from both male and female colleagues, and 3-2) harassment.

3-1) Lack of understanding from men and female doctors

A lack of understanding at the workplace from men and some women was associated with fears about the extra work incurred when women took long periods of leave due to life events.

"It is unfair that only female doctors who have children are allowed to take such a long absence from work." (part-time, 50 y/o, married)

"*Male doctors at my workplace do not want to help female colleagues who insist that they cannot afford to work because of family responsibilities*." (full-time, 35 y/o, single)

"*Because there are few OBs &GYNs specialists at my university hospital, the workload of each medic is tremendously heavy. So, I just can't say, 'I want to take any long leave because of women's life events*.' (part-time, 41 y/o, married)

3-2) Harassment

The harassment reported here included unwanted and annoying actions from one party or a group, including threats and demands and appeared to be caused by offenders' fears that they would have to perform additional work as a result of women taking long periods of leave.

"I was laid off by my boss when I told him that I claimed the right to take parental leave. My boss said, 'Your taking maternal leave will add an

additional work burden to others. I prefer to give your salaried position to others.'" (work schedule unknown, 39 y/o, married)

"*I resigned from full-time work because of harassment from male doctors. Even though people at my workplace knew that I had children, I was forced to work and take night shifts as much as my male peers did*." (full-time, 56 y/o, divorced)

4) Stereotypical gender roles

It was clear that some women accepted that the caring role was theirs and theirs alone and had little or no expectation of sharing it with their partners or others.

4-1) Gender-related role expectations from others

"*Women have to take care of not only children but also the elderly*." (full-time, 43 y/o, divorced)

"Child rearing is women's social responsibility." (full-time, 48 y/o, single)

"*The reason I am unemployed is not a matter of my career but involves the need to provide support for my husband until he becomes a professor. It is not because of biological sex but because of gender roles; it is very hard for female doctors to work as much as their male peers do*." (unemployed, 45 y/o, married)

4-2) Desire to rear their own children themselves

This study showed that gender role expectation from others strongly prevailed, even among females doctors, but also some women had a strong desire to play the gender role (i.e., to raise her own children by themselves) put their children before their careers.

"*If had I tried, I could have balanced work and parenting. But I had a strong desire to raise my children by myself as much as possible; I chose part-time practice.*" (part-time, 50 y/o, married)

"*For my patients, they had many other doctors to choose from. but for my children, I am their only mother*." (full-time, 64 y/o, married)

4-3) Gender-based discrimination

Several respondents experienced gender-based discrimination that appeared to influence their subsequent decisions about work. Some respondents reported very negative comments from male colleagues who clearly indicated that women doctors were not wanted.

"*When I became a member of a clinical department at a university hospital, I was told, 'We do not need women. We won't teach women how to operate on patients.' I was very hurt and felt very sad. After it all, I gave up the struggle and chose another career path. I have no regrets, but sometimes I think that if I had been born 20 years later, I would have been a different type of physician*." (full-time, 51 y/o, divorced)

"*When I was working at a university hospital, I saw that when a young female doctors expressed her opinion at a clinical conference, a senior male doctor*

said to her, 'Women and children must shut up.'" (President of a company, 48 y/o, single)

5) Switch from full-time to part-time labor and consequent career stagnation

Our respondents provided examples from their career that indicated that after a certain point there was no further professional advancement.

"*I did not know why so many talented female doctors resigned from university hospitals when they became pregnant until I was in the same place. Because there are a very limited numbers of salaried positions at university hospitals, doctors who can afford to work on a long-term basis are better candidates than are women who have children*." (part-time, 39 y/o, married)

"*Female doctors do not take parental leave because of the limited number of co-workers. They have no choice but to quit a job or become part-timers*."

(full-time, 46 y/o, single)

Once female doctors shift from full-time to part-time work, career development becomes very difficult because full-time practice is one of the requirements for specialist status.

"*Because of my part-time practice, I could not apply to be a specialist, which would require me to work full-time*." (part-time, 40 y/o, married)

After marriage, female doctors' work schedule and their place of residence both depend substantially on their husbands. Under such a circumstance, women had no choice but to switch from full-time to part-time labor which lead to fewer professional opportunities resulting in career stagnation.

"*My four children and I moved to Hiroshima and then to Kobe* [which are 700 and 500 km west from Tokyo, respectively] *from Tokyo to follow my husband's transfer*." (full-time, 50 y/o, married)

"*I went to the US with my husband because he studied abroad. I had a baby in the US and took care of the baby there (meaning that she was absent from professional work during the time period).*" (full-time, 47 y/o, married)

"*'Going out' was very difficult for me, so I could not attend seminars or annual meetings to meet the specialist requirements. Now, I am not entitled to hold a specialist position. I hope the medical societies of the clinical departments in Japan change their specialist requirements* [so that it does not have to be based on full-time practice.]" (full-time, 49 y/o, married, four children)

Discussion

The findings from this study demonstrated that two factors: poor working condition with poor child support, and stereotypical views on gender roles contributed to a reduction of female doctors in the Japanese workplace and propelled women to switch from full-time to part-time labor. It was also found that poor working conditions influenced low aspirations of future career attainment and long working hours resulted in pregnant women being at risk of miscarriage or becoming psychologically depressed. We will discuss our results in

the context of the extant literature.

Poor working condition represented by long working hours in this study is embedded in a chronic, nationwide medical workforce shortage that Japan has faced over the past three decades. [2] Although the data was not shown, our study found that the weekly working hours among women in their 20's was 70 hours. This is similar to the findings from a survey of 1,036 doctors conducted by the Japanese Medical Labour Association [13]: physicians worked 10 hrs per day on average and approximately one-third worked more than 80 hours per week, and one-fourth worked a night shift and then worked continuously the following day.[13] The present study highlighted that some women specified that they had experienced near miscarriages or depression due to a heavy workload. There is an increasing body of evidence indicates that long working hours or frequent nights on call increase the risk of adverse pregnancy outcomes,[14, 15]. The current Japanese Labour Standard Act [16] allows a woman to take prenatal leave 6 weeks before childbirth, but only if requested. In the clinical workplace, taking long term leave immediately impacts on others, who then need to cover this additional work. This means, there are no temporary or alternative staff to compensate for the deficit in the medical workforce. This may explain the lack of support and understanding from colleagues when women become pregnant and may be one of the

main reasons women leave work completely rather than take maternity leave. [4]

Even after women have given birth, new barriers are presented to returning to work. Recent statistics have shown a significant shortage of child-care centers in Japanese society as a whole, having approximately 50,000 children on waiting lists to enter a nursery .[17] The lack of childcare is perpetuating the medical workforce shortage. The long working week combined with insufficient childcare during working hours seems to have negatively influenced the professional motivation to continue to work as a female doctor. Indeed we found that some women in our sample stated that it is very difficult to pursue a professional career while maintaining family responsibilities. In addition, our previous study based on a national survey of residents, we found that women were also less confident about their clinical competence than were their male peers. [18] The finding of less confidence among women is often reported in academic medicine.[19] The findings of our study may be explained by the nature of women in medicine that under such stressful circumstances (i.e., a male dominated workplace, where male doctors are not supportive of female colleagues), women tend to be less confident. [20]

We also found that some women in the middle-older age groups were critical of younger women who seemed to have lower aspirations for future career development than they had

had. This may be explained by the generation gap between women who had worked before and after the Equal Employment Opportunity Law came in.[21] Before the introduction of the Act, it must have been even more challenging so that the older women with a pioneering spirit were less encouraging or supportive towards younger women who currently face work life balance difficulties. In order to redefine gender roles and move away from older forms of gender stereotyping, male doctors in particular, should be encouraged to share roles both at work and at home. Participation in child rearing, household chores, and even parental leave, help men understand the major challenges faced by women at work. Increased understanding by male physicians may also lead to a needed gender balance of board members of Japanese medical societies and to seeing the benefits of having a female perspective in a male dominated medical career.[22]

Our previous study showed that unmarried female doctors spent more time on household chores compared to married male doctors with children,[23] indicating that the gender-based division of household labor is prevalent in Japan. In this study, some women expressed their desire to raise their children on their own. The importance of choice must be respected, but at the same time the women who choose to work need to be supported to do so, and helped to reduce the medical shortage. The current poor working conditions for women

with caring responsibilities must be urgently improved. In addition, to support female careers, a system needs to be established which enables part-time doctors to hold a specialist license. Currently this is only issued to doctors working in full-time practice.

The medical schools should raise these issues with all medical students and discuss how they can combine medicine with future caring roles, as well as being supportive of colleagues who have caring roles.

Some respondents in this study had experienced gender-based discrimination. Such gender-related harassment seemed to influence perception of their value at work, resulting in some women deciding to leave rather than challenge the strong negative attitudes they encountered in the workplace. In this study we found that women who perceived gender-based obstacles related to work opportunities or promotion were more likely to have moved to part-time rather than full-time work. Once dropped into part-time practice, the likelihood of having an opportunity to build a career easily deteriorates. This is one of the reasons why female physicians cannot pursue their career although they are legally offered to take maternity leave. The lower rate of full-time working practice among females compared to their male counterparts was considered as an obstacle to the utilization of female doctors in the medical work force. This means that gender-based discrimination will

probably remain a barrier[15] unless part-time working is given equal status as it is in other countries.[24]

Limitations

This study has several limitations that need to be acknowledged. First, all of our respondents graduated from private medical schools. Thus, their views may not be generalizable to those educated in national, municipal and other private medical schools not included in the survey. Similarly, those who have felt uncomfortable with gender issues or with expressing their true concerns may not have participated in this study or may have declined to respond. Hence, the transferability of this study might be limited however, the quotes cited in this study are very important in terms of whether they raise thought-provoking issues that health-care systems should consider how to maximize women's potential to increase the numbers of women in leadership positions. Second, our analyses were based on textual analyses using the KJ method, which may not have thematically saturated data. Third, our survey method did not permit probing for more information as well as observation of nonverbal cues such as facial expressions or body language. Nevertheless, our sample was relatively large, and we therefore believe that we

were able to identify the important themes.

The long working hours of doctors and the lack of childcare works against supporting Japanese female doctors returning to work following childbirth. The current system which does not support part-time training or working at specialist level also needs challenging. Unfortunately our data has exposed negative attitudes towards female doctors from male colleagues, part of the problem is a system that does not provide sufficient cover for maternity leave in spite of maternity leave offered by laws, resulting in other staff taking on heavy workloads and directing negative comments at the pregnant females rather than at a system that is in need of modernisation. Finally, the roles of males and females in Japan, need modernisation, reflecting the benefits of sharing work roles and parental roles, and supporting women to pursues a career that will benefit both them and society.

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Contributorship statement

KN conceived study design and carried out survey. KN and YY performed qualitative analyses. KN drafted manuscript which were edited by LG, and JI. MT and SH contributed to the project management and revision of the manuscript. All authors read and approved the final manuscript.

Competing interests

None of the authors have any financial conflicts of interest.

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Data sharing

All the data collected as part of this study are available to interested researchers through ethical approval from Ethics Committee. Please contact KN (kyoko@med.teikyo-u.ac.jp) if you are interested in accessing the data.

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