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A Qualitative Study Exploring the Impact of Gender in Career Development as a Traditional Korean Medicine Doctor

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Abstract

Objective: This study aims to look into the impact that gender and expected gender roles may have on the career development of young female traditional Korean Medicine (KM) doctors.

Design: We conducted semi-structured interview and the interview was designed to explore the experiences of early career choices, employment, job performance and career move, future career aspirations of the subjects related to their gender. The transcription was analyzed using Strauss & Corbin constant comparative analysis method.

Setting: The interview conducted at a quiet and comfortable place chosen by the participants in South Korea.

Participants: Ten female KM doctors in their thirties.

Results: This study shows that female KM doctors were initially unaware of their gender affecting career decisions. However after graduation and during employment, females experienced direct discrimination or gender segregation in choosing areas of treatment and specialty, as they were preferred in pediatrics and dermatology than in departments treating musculoskeletal health problems. After entering the workforce, female KM doctors had experiences related to gender affecting patient-doctor relationship and life events such as pregnancy and childbirth causing temporary career breaks. Female KM doctors also experienced stereotypical gender roles in the workforce and at home, having to become the main nurturer of the child.

Conclusion: Gender and stereotyped gender roles affected overall career planning, career moves, and even patient-doctor relationships. Females were also more likely to experience specific gender roles in not only the workplace but also at home, with childbirth and also child rearing.

Article Summary

Strengths and limitations of this study

- This is the first study on the effect of gender on the career of female KM doctors.

- The qualitative method allowed us to capture the real-world phenomena involved by gender factor in various sectors such as employment, medical practice and career courses of female KM doctors.

- The results of this study increase the understanding of female KM doctors' career development process and gives insight into the education and policy development for medical workforce.

- The study results are not necessarily generalized because selection bias like non-response bias exist.

Keywords: Qualitative Rerearch, Human resource management, Medical Education & Training

Introduction

The number of female workers in the medical field is increasing worldwide. This is also true in the field of traditional Korean Medicine (KM). In 2017, the ratio of female traditional KM doctors and female allopathic medicine doctors to the total number of KM and allopathic doctors in Korea turned out to be 21% and 25.4%[1]. Although this figure is still lower than the world average (46%[2]), it is a significant increase compared to the ratio decades ago. Just in the field of KM, the total number of female KM doctors has risen from 2.4% in 1980, to 11.1% in 2000, and to 21% in 2017[1]. The number of female students getting admitted into KM universities has also increased to 37% in 2017[3], and reports show that these numbers are expected to rise.

Yet, according to the Global Gender Gap Report 2017, South Korea ranked 118 among 144 nations in the gender gap index[4], and ranked the lowest in glass ceiling index among the 29 Organisation for Economic Co-operation and Development (OECD) countries[5]. Previous studies further support this data, as research indicates that the number of Korean females being hired in the labor market lag far behind those of Korean men.[6]. The number of females entering the professional work force is increasing, but females with advanced degrees are still under-employed compared to those of their male counterparts, with a higher number working as part-time[7]. Also, only in South Korea and Japan, the employment to population ratio show a characteristic 'M-shaped curve' [8], with females in their thirties being hired less during their pregnancy and after giving birth. Even after being hired, female workers report experiencing discrimination, exclusion, and tokenism as minorities in the industry. In the professional field, women physicians are positioned in lower ranking roles and have limited options in selecting their specialties, choosing their forms of employment, and exhibiting leadership[9]. In the field of KM we see a similar phenomenon. A total of 77.98% of practitioners work in local clinics, but only 15.9% female doctors are hired and only 31.1% and 28.9% are hired in KM hospitals and hospitals[10]. Therefore, although the number of female KM doctors is increasing, they are still subject to exclusion in the form of employment and career development, as well as being prone to experiencing continued discrimination.

Despite these problems, research related to gender discrimination in the KM field is insufficient. A previous study reported that females with advanced degrees have high expectations during their first few years of employment, but soon experience limits as female professionals and change career paths as they go through labor and childrearing[11]. Another study showed that sociocultural factors such as fixed gender roles affect career advancement. Korean female interns and residents reported that they either hid their gender to gain more professionalism or experienced internal conflict as they tried to juggle work and family balance[12]. According to a report from Japan where the workforce structure is similar to Korea, female doctors pointed out that poor working conditions and stereotypical gender roles were hindrances to maintaining their career[13]. A survey conducted among KM university graduating students also revealed that students preferred working with a male colleague in the future[14].

As such, although the number of female practitioners in the KM field is increasing, the problems of discrimination in career development persist, and there is a strong need to explore the factors underlying these problems. In this study, we aimed to look closely into the

experiences of female KM doctors through semi-structured interviews. We aimed to explore: 1) the factors hindering career development and 2) gender roles that are affecting career choices, maintenance, and advancement.

Materials and Methods

Participants

The subjects of this study included female KM doctors and board-licensed specialists in their thirties (as of February 2018). The participants were informed of the study and consent was obtained. The inclusion criteria was limited to include female KM doctors in their thirties because previous studies have shown that this is the age range in which the highest number of female worker breakaway from the workforce and this age group would most adequately reflect the aim of this study[8]. A purposive sampling method was used to recruit participants with the help of personal contacts of researchers, KM college professors, and the Association of Women Korean Medical Doctor. Those who finished the interview were asked to recommend other participants that would be able to provide a different perspective (snowball sampling). Theoretical sampling approach was also used to select the next participant for the interview. Data collection continued until it was agreed among all the researchers that data saturation was met.

Study Design

Institutional review board approval was acquired from the Korea National Institute for Bioethics Policy (IRB # P01-201808-22-010). All participants were informed of the research protocol in detail, including the study purpose, method, protection of private information, and participant rights. The participants were also notified that the interview will be digitally audiotaped and that they could stop the interview any time if they felt uncomfortable with the topics being discussed.

Data Collection

Data collection began from February 11, 2018 to July 14, 2018. The in-depth interview was conducted face-to-face, in Korean, using a semi-structured interview guide at a quiet and comfortable place chosen by the participants. The open-ended questions were selected and refined during a pilot study that was conducted before the main trial and the adequacy of the questions were checked using face validity. Questions were divided into categories looking into career planning and employment, job performance, career move, and future plans. Participant experience during each stage was explored. Within 24 hours of the interview, participants were followed up via telephone to ask if they had additional information to provide. All interviews were conducted by two researchers (SEC, JHL) and lasted from 37 to 99 minutes (average 59 minutes).

Analysis

After each interview, the interview was transcribed verbatim by three researchers (SEC, JHL, JEL) and double checked by researcher (SEC). The transcribed data was analyzed line by line using Strauss & Corbin (1998) constant comparative analysis method. The initial concepts were identified by labeling experiences that were significantly related to gender. Categories and subcategories emerged and were grouped according to their relationship with the concepts (open coding). Coding was performed using MAXQDA 2018 (VERBI GmbH, Berlin, Germany) to reduce methodological errors that may occur when coding by hand[15].

Validity and Reliability

This study was designed and conducted following the Consolidated Criteria for Reporting Qualitative Research (COREQ) (see supplementary document) [16]. To increase validity during the sampling process, the researchers purposefully selected participants from backgrounds so that a variety of different experiences could emerge. Researcher bias was reduced by bracketing possible assumption[17], and the thoughts and interpretations arising during analysis were meticulously recorded to maintain valid perception throughout the process[18]. After coding the data, a participant was randomly selected to review the results and to verify the accuracy and objectivity of the analysis process[19].

Two bilingual translators translated and proofread the original Korean transcripts into English. If there were areas that were ambiguous or could have several meanings, a third translator was consulted to choose a translation that better retained its original nuance.

Results

Participants' characteristics

Overall, twelve eligible KM doctors were contacted for the interview. two declined for personal reasons. By July 2018 a total of ten participants consented to participate and were interviewed for this study. Among the participants, there were more general practitioners than specialists, but half of the participants had experience working as an intern or a resident at a hospital. Most of the interviewees were currently working as a primary physician in their own local clinics while a few were employed at the hospital and one was taking a break and currently unemployed. A total of eight out of ten were married and half had children. The basic characteristics of the participants are shown in Table 1.

Table 1. Basic characteristics of participants

Analysis Results

A total of six categories, 14 subcategories, and 27 concepts emerged. The emerging categories were: (1) initially unperceived gender differences; (2) gender segregation in KM practice; (3) genders that affect patient-doctor relationships; (4) suspended career or career movement due to life events; (5) fixed gender roles; and (6) maintenance and pursuit of a career. The gender related experiences of female KM doctors in choosing and advancing their career path is described in each categories.

1) Initially unperceived gender differences

Most of the participants expressed that during their medical school years, gender differences did not affect in planning their career paths. Even if there were career choices made based on their gender, they did not perceive it as being a decisive factor. Participants said that they mapped out their careers considering occupational characteristics and personal life conditions.

At that time, my gender as a woman didn't really affect how I planned my career. (#006)

But as for me, my gender as a woman wasn't a big concern when I was planning my career path. (#007)

The bigger factor affecting career choice was concern over possible lack of ability as a doctor. Some also answered that their own sense of purpose or limited career options affected their initial choice, and a few said that work experience as a student, and age also affected career decisions.

Um, I wasn't confident that I could do a good job as a traditional Korean medical doctor solely with my bachelor's degree. So I thought I needed to do a little bit more to be a better, unashamed traditional Korean medical doctor.(#002)

Most of the male students went on to work as a public health doctor(Male doctors in Korea need to serve in a public health center for 3 years to complete their mandatory military service), *people who were older opened their own clinics, and young female students only made up 20 %*

of all 100 students at our school. All 20 of them applied to work at a hospital including me. I worked at a traditional Korean Medicine hospital at my university. I had no choice but to work as an intern since I didn't have a lot of options to choose from. So I worked as an intern there. (#001)

2) Gender segregation in KM practice

Gender segregation in KM practice also stood out as significant factors affecting female KM doctors' career decisions and employment.

2.1) Career paths suggested for female KM doctors

Majority of the participants answered that there were specific career paths that were either recommended or not recommended for female KM doctors.

As a woman, just because I am a woman, I got a lot of advice. Just because I am a woman, am young, and had just graduated, I was advised that running a clinic wouldn't work out, and to not open my own clinic, but to rather work as a resident doctor, and to get trained working for someone else, or to choose to work in the area of aesthetics like skin care or weight loss. I just got a lot of advice of that kind. But… how can I put it, they hurt my pride as a doctor and hearing those remarks, it seemed like they assumed that I would be interested in aesthetics just because I am a woman. So I was repulsed by what I had to hear. (#005)

2.2) Employment followed by gender segregation

Majority of the participants experienced gender segregation in KM practice during employment. Female KM doctors were preferred in departments such as KM dermatology and KM pediatrics, whereas male counterparts were more preferred in the department of acupuncture and moxibustion, department of rehabilitation, and local clinics.

Usually, female Korean medicine doctors are preferred and wanted by Korean medicine clinics that specialize in aesthetics like skin care and weight loss but those specializing in pure traditional Korean medicine prefer male doctors. (#007)

Most Korean medicine clinics that use a lot of acupuncture don't prefer female doctors. when I did my job interview, they did not look pleased and said to me 'Can you even bear to work standing up all day?' (#001)

Few of the participants followed these gender segregation rules and succeeded in getting employed. Others deviated, and as a result experienced difficulties getting a job. A few chose

to deviate from the expected roles at first, but later came back to specialize in the field that was known to be recommended for females. This was because their boss required them to be in charge of such field, ultimately experiencing mixed stability and insecurity in their career.

The Korean medicine clinic that I was hired at was for kids. So, I was basically hired because in the area of pediatrics, a woman has certain advantages in that field. (#001)

It was not like I wanted to work in pediatrics. When I saw the job ad, the job descriptions weren't particularly about diet or children's illness. It was just that as I was working there, there was a need (for me to focus on the area of pediatrics) from the doctor that hired me and I being a woman worked out well so I thought about it more in-depth. (#006)

In the process of expanding the clinic to receive more acupuncture patients, the original plan was to hire an extra male doctor to do so. But the plan changed, I was placed in charge of treating children and the head of the clinic was a man so he focused on acupuncture instead, and I naturally got to be in charge of children and could become a full-time doctor. (#003)

3) Genders that affect patient-doctor relationships

Most of the participants mentioned that there were situations where their gender affected the patient-doctor relationship. More than half of them answered that they experienced patients being aware of the doctor's gender.

I often hear patients say 'huh, the doctor is so young. The doctor is a woman.' That really happens. They just say that in my face. 'Oh, you are a woman.'(#005)

The female KM doctors also mentioned that they experienced being able to relate better to with female patients and said that this worked as an advantage. Patients also had a tendency to feel more at ease with a female KM doctor. This had both positive and negative effects.

Patients want to be able to talk about themselves comfortably with doctors at Korean medicine clinics. They want to build a close relationship with doctors and want to talk about their symptoms and worries in details. And being a female doctor has its advantages because patients tend to talk more comfortably with female doctors. (#003)

But there are also some male patients who talk down to female doctors from time to time. (#009)

A few participants also experienced situations where patients seemed to feel more comfortable with body exposure because the doctor was a woman. Sometimes, patients did not relate to them as KM doctors and sexually objectified or harassed them in the clinic.

It is inevitable for patients to expose skin at a Korean medicine clinic for acupuncture. And patients tend to feel more comfortable showing their skin to female doctors and I also feel comfortable as a woman to treat patients in that sense.(#004)

People just assume that most of the Korean medicine doctors are old or they think it is acceptable if the doctors are young male doctors. But when I come into the room, some old ladies say "where is the doctor? Tell the doctor to come and not the nurse. I hear all kinds of appellations at work. Some call me Miss, Missus, hey, doctor, ma'am and more. I was once called 'unni' which means an older sister in Korean. "Hey, my kid is sick. Unni, do you recommend me feeding so and so to my kid?"(#001)

There were one or two cases when our staff were (harassed). The patients would do that to the staff (…). Sometimes they would do that to me too. A female doctor (…). They would ask me to touch them, or joke about my figure, or remark about it. For instance saying stuff like "well doctor, you are in better shape than I had imagined."(#007)

4) Suspended career or career movement due to life events

Half of the participants went through pregnancy and childbirth and these life events had a direct hit in their careers. If the female KM doctors were self-employed and were managing their own clinics, they all had to take time off, hire a part time doctor to fill in for their positions, and come back after a fixed period of time. If the female KM doctor was employed at local clinics or a hospital, all went on to resign from their positions. After resignation, female KM doctors experienced significant career breaks that was equal to the amount of time being spent giving birth and receiving postnatal care. The length of this period depended on each individual, as some went back to work or opened their own clinics, while some doctors had a longer delay due to childrearing or second childbirth.

When I was pregnant, I had my substitute cover my shift for 3 months. Some people say that they went to work earlier than that. I can't say if that was enough or not. (#010)

When I changed my job for the second time, I needed time off when I was pregnant. (#004)

If pregnancy or childbirth was planned, female KM doctors chose to change jobs or to make career plans with their possible pregnancy in mind. Some mentioned the difficulties of maternity leave, especially in the medical profession.

As I was planning for my pregnancy, I found a relatively easy position at a nursing home, and I quit after working for 6 or 7 months. (#001)

Big corporations have a lot of subs available, however, even in big hospitals, subbing for someone isn't easy. It means someone new has to be hired since the other workers are not that flexible in terms of schedule to cover another person's work. (#003)

Meanwhile, these life events had an effect during the employment process and for some, it felt like a barrier.

During the job interview, there were two other female doctors and we were all asked during the interview if we had a boyfriend. I wonder if they asked that kind of question to the male doctors as well. We were also individually asked if we had a boyfriend or whether we were planning to get married any time soon. They really did. So I said no. Two other female doctors and I talked about it afterwards saying that if we are asked about such things, the answer must always be 'no'. (#008)

5) Fixed gender roles

Female KM doctors experienced their male counterparts being favored during the employment process. As a female, they also experienced having to become the main nurturer of children at home.

5.1) Direct discrimination during employment

A majority of the participants answered that they felt male doctors were preferred during the employment process. Sometimes male KM doctors were even preferred in the fields that were unrelated to gender segregation of KM or known to be roles for female doctors. Some also answered that objective job performance indicators were not reflected during the employment process.

I was asked to post a job ad for my replacement and was asked to include 3 requirements; must be male, someone who is not too young, and from OO University. Actually, I don't fulfill any

of those. I understand that doctors with those qualities are likely to be preferred but I was thinking whether all that was necessary. I thought that someone who can do their work well should be more considered but he just wanted someone with those three qualities rather than experience. (#008)

Although I was a women resident, I think, I wanted to show that I was capable of continuing my job at the hospital. So in the last year as a resident, I really worked hard and performed my best, compared to the fellow residents, which resulted in the highest rate of returning patients and making the most profit in the hospital. But unfortunately, it turned out that my efforts didn't mean much because I was a woman. I am sure if I were a man, things would have turned out differently. Males would have been given the privilege to apply to a director position at a hospital. (#002)

Occasionally some participants had experiences where the employers preferred hiring a female doctor over a male. This was so when the predecessor had been a female employee or if the workplace required attitudes based on stereotyped feminine roles.

That doctor (employer) seemed to think that he lacked a gentle personality and you know there are patients who like that kind of personality? So I think he hired me (to make up) for that image… (#009)

5.2) Role of becoming the main nurturer

Half of the female KM doctors in this study had gone through childbirth and they replied that they were the person in charge of childrearing at home. All of them expressed difficulties managing work-family balance. Some of them mentioned that their extra job of having to take care of the children significantly infringed upon their personal time for self-improvement such as studying and attending continuing education programs as KM doctors.

At first, it was physically overwhelming so for about a year, I really thought about it really much, on whether I should continue working or whether I should focus more on my duties as a mom and a wife.(#002)

On the other hand, a majority of the female KM doctors with children also said that they were taking on the role as the main nurturer voluntarily, out of maternal affection. Many of the participants without children also perceived that they would become the main person to take care of their children in the future.

Maybe it is because I am a mother but I think I have a stronger urge than my husband to care

and protect my kid. (#010)

6) Maintenance and pursuit of a career

Almost all of the study participants had had optimistic expectations of their career while mapping out their career plans in the beginning. They were the generation that was called the "Highest College Scholastic Aptitude Test Generation" (students during the 1990s and early 2000s needed to score in the highest range of the Korean college scholastic aptitude test to get into any of the KM universities). They were not concerned of their future as KM doctors or also had high expectations and great ambitions for the future.

(Scores had to be) Very high. Very high. I entered medical school as a class of 2006 (entering in the year 2000) and that was when getting into a KM university was most rigorous. On top of that, there was this popular Korean drama about KM called "Heo-jun." (#001)

When I was an undergraduate, I had really ambitious and big dreams, such as spreading Korean medicine worldwide. (laughs) Hm, yes I had those dreams. (#002)

After getting employed, most of the female KM doctors changed jobs in pursuit of self-development and more than half of the participants answered that their ultimate goal is to become better professionals or to develop specialties in their field. On this account, the specialties that the participants anticipated to develop showed a tendency to be related to their gender roles. A few also answered that they wished to operate a stable business and to balance out their family duties. When discussing about career goals of the present and the future, participants tended to have a specific grip on reality and made adjustments to their career goals accordingly.

Now I don't want something that grandiose. Rather, I would like to think about the people that need my help, or has received my help. Right, being able to provide better care for the people that come to me in need, and to be a better doctor, that is my current goal. (#004)

I am interested in women's diseases and I like children. So I would like to further study the field of pediatrics and consultation. In the long run, I want to be a Korean medicine doctor with better skills and knowledge in that area. That is what I am thinking about now. I am thinking about having more experience in that field. (#007)

Discussion

In this study, we aimed to look into how gender and gender roles affect female KM doctors' career choices, career advancement, and maintenance by conducting in-depth interviews and qualitatively analyzing the results. This study revealed that gender segregation in KM practice were affecting career decision paths, employment, and job positions even after employment. Existence of gender segregation in profession of medicine has been previously noted. According to the AAMC (Association of American Medical Colleges) 2015 report of active physicians by sex and specialty, the highest number of female physicians was in pediatrics (61.9%), obstetrics and gynecology (54.5%), pediatric hematology/oncology (51.9%) while male doctors were more concentrated in orthopedic surgery (95%), thoracic surgery (94%), and interventional cardiology (92.6%)[20]. Although no such report exists in the KM field, a noteworthy survey among graduating students revealed that students perceived male KM doctors would be favored in the department of KM rehabilitation, acupuncture & moxibustion, and KM internal medicine, while female KM doctors would be favored in order of KM obstetrics and gynecology, KM pediatrics, and KM ENT[14]. However, one difference is that in the field of KM, the number of doctors that go into further training at different specialties only amount to 11.7% (as of 2016)[21], but even so, gender segregation continue to play a part among general practitioners. Lack of competence and skills were another factor for female KM doctors not choosing a specific career path, which was frequently mentioned in interviews, described as 'lacking sufficient clinical experience'. A DREEM(Dundee Ready Educational Environment Measure) survey among KM university students showed that SPL(students' perception of learning) scores related to their competence were low[22], and in Nomura et al's study[23], female medical students showed lower confidence in clinical and academic competitiveness compared to their colleagues.

Fixed gender roles were also experienced during employment and at work-home environments. Male counterparts were generally preferred during the employment process, and this experience is in agreement with previous studies. In a 'Sense of gender division of labor survey' conducted among physicians in South Korea, more than half of the respondents answered that if they had the authority to select new physicians or residents in the hospital, they would choose a male doctor.[9]. This result coincided with the study results by Jeong et al. [14] that looked into the gender preferences of future colleagues among graduating students. Maternalism was another big factor leading female KM doctors to take the lead in becoming the main nurturer at home. In Heo[24]'s panel analysis of gender role attitudes among women between 24 to 37 years of age in South Korea, the ideology of gender division of labor had become diluted, but child rearing attitudes remained unchanged. Women with higher education and degrees tended to disagree with gender division of labor but adhered more strongly to the female figure being in the primary nurturer of preschool children. Female KM doctors were no exception to career breaks during and after childbirth, which coincides with the characteristic 'M-shaped curve' reflecting employment to population ratio of females only seen in South Korea and Japan. Most of the participants expressed that childbirth had a bigger impact in their careers than marriage. Eun et al.[25] reported that the percentage of females falling out of the workforce after marriage was low, but the numbers increased after giving birth in South Korea. In Japan as well, many female physicians resigned from full-time jobs at the hospital within ten years of graduation, due to long working hours, lack of substitute doctors, added to the burden of childcare[26]. In this study, Career moves after childbirth breaks ranged from opening their own clinic full time, to taking time off, which is different from previous study results[27].

Even when female KM doctors opened their own clinics, there were occasions when such decisions were a result of limited options after childbirth or were a demand due to flexible work hours.

Despite experiences of gender discrimination, female KM doctors maintained their career goals by making small adjustment in the development process. Work-family balance forced many to shorten their work hours but even in these situations, participants in this study chose to maintain their career instead of breaking away from the labor market. This was different from other studies[13] that looked into the perception of career pursuit among female physicians, and was also different from the 'leaky pipeline phenomenon' noticeable among female workers in STEM (Science, Technology, Engineering & Mathematics). The difference in our results may be due to different economic status of each participant and because the participants included in our study were a significant generation in the history of KM, achieving the top 0.1% of scores in the college scholastic aptitude test, and with high levels of expectation of their future career. Another interesting result was that participants in this study frequently answered that their gender as a female doesn't matter to them and that it did not seem to affect their career but interview results revealed otherwise. This was the same with Smith et al[28]'s study. Kim et al.[29] also noted that people in disadvantaged groups such as women or less-educated workers in South Korea tend to report less discrimination for themselves than the male and college or more educated workers.

Also noteworthy in this study was that all of the female participants experienced their gender affecting patient-doctor relationships in the clinic. Gender was associated with other factors such as age and specialties. Studies have shown that demographic factors and socio-economic factors can influence relations between the doctor and the patient[30] but sex becoming a factor is a recent phenomenon in South Korea. The finding that female KM doctors in our study related particularly better with female patients has been noted in other studies as well. According to a report by Bertakis et al.[30], doctors report a higher degree of understanding and patients show a higher level of comfort when they are of the same sex. In a study by Schieber et al.[31], researchers showed that doctor recommendations were more easily accepted by patients of the same sex. Especially between woman doctors and woman patients, recommendations regarding nutrition and exercise were accepted with less resistance. Interestingly, female KM doctors in our study answered that male patients seemed to feel more comfortable with female doctors and tended to reveal sensitive health issues with them. Other studies have shown that if given an option, male patients choose male doctors over females[32], but Himmelstein and Sanchez et al.[33] further noted that men of strong masculinity tend to report fewer symptoms to male doctors than female doctors. Regarding sexual objectification and harassment, the South Korean Medical Association reported in 2017 that 45.5% of female residents experienced sexual harassment in the healthcare workplace[34]. There is no known survey on training and working conditions of KM female doctors and our study shows that such investigation is desperately warranted.

This study has several limitations. Although participants were recruited through several channels and purposefully sampled to incorporate as many different experiences as possible, there is still a risk of non-response bias. Those unwilling and unable to share stories of their

career may have declined to participate from the beginning and those who already left the medical workforce may have been lost for contact. Also, most of the participants were located in the metropolitan area of South Korea and the experiences of female KM doctors living in smaller villages may be different. Since such selection bias may exist, further studies are warranted to confirm whether these results can be generalized to a larger population. However, to the best of our knowledge, this study is the first qualitative study to look into the affect that gender has on the career of female KM doctors, and we believe that this may provide a significant information for future studies related to gender sensitive education for KM university students, and development of improved working conditions and policies for minority females working in STEM related fields.

Conclusion

For the past forty years, the number of females working in KM healthcare has increased, and this trend is expected to continue. Problems related to gender gap are also expected to rise especially among female professionals working in the KM field. This study was designed to look into the difficulties that female KM doctors face during employment, job performance, and career maintenance, and we revealed significant factors related to gender specific factors. Our study revealed that during employment, there were strong stereotypical gender roles directly or indirectly affecting the employment process. In the medical field, pediatrics, dermatology and such areas of specialized care were occupied by female KM doctors whereas in the department of acupuncture & moxibustion, rehabilitation, and general KM clinics KM doctors preferred male counterparts. Participants in our study showed a tendency to maintain their pursuit of a career but these attempts had limits with important life events such as childbirth. Female KM doctors had maternalism notions that made them carry out standardized gender roles at home. In patient-doctor relationships, gender was a significant factor. With patients of the same sex, female KM doctors were able to relate in-depth. This study has limitations such as selection bias, but is a valuable resource for future large scale quantitative studies.

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References

[1] Statistics Korea. The lives of women as reflected in 2018 statistics. Statistics Korea; 2018. 97p.

[2] OECD (2017), Health at a Glance 2017: OECD Indicators, OECD Publishing, Paris. http://dx.doi.org/10.1787/health_glance-2017-en

[3] Korean Ministry of Education, Korean Educational Development Institute. Statistical yearbook of education 2017. Korean Ministry of Education; 2017. 870-75p.

[4] K Schwab, R Samans, S Zahidi et al. The global gender gap report 2017. World Economic Forum; 2017. 10-1p

[5] The Data Team of The Economist. The Glass Ceiling Index. The Economist. 2018 Feb 17;426(9079). 56p.

[6] Seong Eun Choi. What Makes It Difficult for Korean High Educated Women to Participate in the Labor Market?: The Heritage of the Developmental Welfare Production Regimes of Korea. Issues in Feminism. 2017 Apr;17(1):145-92.

[7] SY Son. Labor experiences and dilemma of highly-educated professional women in Korea. Korean Association of Women's Studies. 2005; 21(3): 67-97p.

[8] YY Cho. Childbirth and Labor Supply for Married Women: Lifecycle model. Korea Development Institute; 2006. 5-11

[9] SH Kim. The Gendered structures and status of female doctor in korean healthcare institution. Pusan National University. 2004

[10] Health Insurance Review & Assessment Service, National Health Insurance Service. 2016 National health insurance statistical year book. National Health Insurance Service; 2016. 50-1p.

[11] JH Ahn. The influence of gender on professionalism female in trainees. Korean journal of medical education. 2012; 24(2): 153-162.

[12] JH Son. Career experiences of highly educated professional women: Focusing on women with 5-10 career years. Korea Journal of Counseling. 2013;14(1): 501-522.

[13] K Nomura, Y Yamazaki, L.D. Gruppen et al. The difficulty of professional continuation among female doctors in Japan: a qualitative study of alumnae of 13 medical schools in Japan. BMJ open. 2015; 5(3): e005845. doi: 10.1136/bmjopen-2014-005845.

[14] HR Jeong, JH Lee. A study on Korean medicine college students perception of Korean medicine doctors: Focus on gender differences. Journal of Oriental Neuropsychiatry. 2015; 26(3): 211-224.

[15] SM Lee, SP Yang, ES Kim et al. Admission care for Bell`s Palsy patients; A Qualitative report on patient experiences. Journal of Acupuncture Research. 2013; 30(5).

[16] Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item

checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–57.

17) Ramani S1, Mann K2. Introducing medical educators to qualitative study design: Twelve tips from inception to completion. Med Teach, 2016 May;38(5):456-63.

18) Juliet Corbin, Anselm L. Strauss. Basics of Qualitative Research. 4th ed. SAGE Publications; 2015. 106-33

19) L Birt, S Scott, D Cavers et al. Member checking: A Tool to enhance trustworthiness or merely a nod to validation?. Qualitative Health Research. 2016; 26(13): 1802-1811.

20) Association of American Medical Colleges. Active physicians by sex and specialty, 2015 [Internet]. Association of American Medical Colleges; 2016. [cited 2018 Aug 30]. Available from: https://www.aamc.org/data/workforce/reports/458712/1-3-chart.html

21) Publication committee of Yearbook of Tradiotional Korean Medicine. 2016 Yearbook of Tradiotional Korean Medicine. Korea Institute of Oriental Medicine; 2016. 229p

22) HH Kim, HY Jeong, PJ Jeon et al. Perception study of traditional Korean medical students on the medical education using the Dundee Ready Educational Environment Measure. Evidence-Based Complementary and Alternative Medicine. 2016. doi: 10.1155/2016/6042967.

23) K Nomura, E Yano, T Fukui. Gender differences in clinical confidence: a nationwide survey of resident physicians in Japan. Academic Medicine. 2010; 85(4): 647-653.

24) E Heo. Individualization and gender division of labor: Panel Analysis of gender role attitudes of women in the formative period of a family. Korean Sociological Association. 2017; 51(4): 47-78.

25) KS Eun. Korean women's labor force participation and career discontinuity. Korean Policy Studies Review. 2018; 41(2): 117-150.

26) M Izumi, K Nomura, Y Higaki et al. Gender role stereotype and poor working condition pose obstacles for female doctors to stay in full-time employment: Alumnae survey from two private medical schools in Japan. The Tohoku Journal of Experimental Medicine. 2013; 229(3): 233-237.

27) Florian SM. Motherhood and employment among Whites, Hispanics, and Blacks: A life course approach. Journal of Marriage and Family. 2018; 80(1): 134-149.

28) V Smith, C Bethune, KF Hurley. Examining medical student specialty choice through a gender lens: An orientational qualitative study. Teaching and Learning in Medicine. 2018; 30(1): 33-44.

29) SS Kim, Y Chung, S Subramanian. V et al. Measuring discrimination in South Korea: underestimating the prevalence of discriminatory experiences among female and less educated workers?. PLOS ONE 7(3): e32872. https://doi.org/10.1371/journal.pone.0032872

30) KD Bertakis. The influence of gender on the doctor–patient interaction. Patient Education and Counseling. 2009; 76(3): 356-60.

31) AC Schieber, C Delpierre, B Lepage et al. Do gender differences affect the doctor–patient interaction during consultations in general practice? Results from the INTERMEDE study. Family Practice. 2014; 31(6): 706-13.

32) K Fennema, D Meyer, N Owen. Sex of physician: patients' preferences and stereotypes. The Journal of family practice. 1990; 30(4): 1–7.

33) MS Himmelstein, DT Sanchez. Masculinity in the doctor's office: Masculinity, gendered doctor preference and doctor–patient communication. Preventive Medicine. 2016; 84: 34-40.

[34] MG Kim, WR Mun, DH Ki, et al. 2017 Survey of training and work environment of doctors in training. Research Institute for Healthcare Policy. 2017: 1-223p.

Supplementary Table 1. Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description	Response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Inter viewer/facilitator	Which author/s conducted the interview or focus group?	#001, 002, 003, 004, 006, 007, 008, 009 by SEC, #005, 010 by JHL. (page 3)
2.	Credentials	What were the researcher's credentials? E.g. PhD, MD	SEC, JEL and JHL were KM college student. SMKL, JL and HK were KMD, PhD.
3.	Occupation	What was their occupation at the time of the study?	Researcher's occupations at the time of the study included student, research fellow, research professor.
4.	Gender	Was the researcher male or female?	Female
5.	Experience and training	What experience or training did the researcher have?	2 months
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	No, there wasn't.
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Name, occupation, reasons for doing the research
8.	Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Age, type of certificate, current workplace, location of workplace
Domain 2: Study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	constant comparative analysis method, Grounded Theory Methodology (page 2)

Participant selection			
10.	Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Purposive sampling, snowball sampling, theoretical sampling (page 2)
11.	Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Face-to-face (page 2)
12.	Sample size	How many participants were in the study?	10 (page 3)
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	2 for personal reason (page 3)
Setting			
14.	Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	A quiet and comfortable place chosen by the participants (page 2)
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	2 interviewees with their baby
16.	Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Female KM doctors in their 30's (page 4)
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes, they were. / Yes, it was. (page 2)
18.	Repeat interviews	Were repeat inter views carried out? If yes, how many?	No, they weren't.
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording (page 2)
20.	Field notes	Were field notes made during and/or after the inter view or focus group?	Yes, they were.
21.	Duration	What was the duration of the inter views or focus group?	Average 59 minutes (page 3)
22.	Data saturation	Was data saturation discussed?	Yes, it was.
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	2 participants randomly selected and reviewed.
Domain 3: Analysis and findings			

Data analysis			
24.	Number of data coders	How many data coders coded the data?	1 (SEC)
25.	Description of the coding tree	Did authors provide a description of the coding tree?	Yes, we did.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Yes, they were. (page 2)
27.	Software	What software, if applicable, was used to manage the data?	MAXQDA 2018 (page 3)
28.	Participant checking	Did participants provide feedback on the findings?	2 participants randomly selected and feedbacked (page 3)
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes, there was. (page 5-11)
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, there was.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were.
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, there is. (page 5-11)

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Qualitative Study on the Impact of Gender on the Career Development of Female Traditional Korean Medicine Doctors

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Abstract

Objective: This study aims to examine the impact of gender and expected gender roles on the career development of young female traditional Korean Medicine (KM) doctors.

Design: We conducted semi-structured interviews to examine the experiences of study subjects regarding early career choices, employment, job performance, and career moves, as well as future career aspirations, from the perspective of gender. The transcription was analyzed using the Strauss and Corbin constant comparative analysis method.

Setting: The interview was conducted at a quiet and comfortable place selected by the participants in South Korea.

Participants: Ten female KM doctors in their thirties participated in the study.

Results: This study reveals that, initially, the participating female KM doctors were unaware of their gender affecting career decisions. However, after graduation and during employment, female doctors experienced direct discrimination or gender segregation while selecting areas of treatment and specialty; they found that they were preferred to work in pediatrics and dermatology departments than in departments treating musculoskeletal health problems. Further, after entering the workforce, female KM doctors found that their gender significantly affects patient–doctor relationships and life events such as pregnancy and childbirth require temporary career breaks. In addition, female KM doctors assumed stereotypical gender roles both in the workplace and at home, as well as becoming the main nurturer of their children.

Conclusion: Gender and stereotyped gender roles affect the overall career planning, career moves, and even patient–doctor relationships of female KM doctors. Female doctors were also more likely to experience specific gender roles not only in the workplace but also at home, including both childbirth and child-rearing.

Article Summary

Strengths and limitations of this study

- This is the first study to be conducted on how their gender affects the career of female KM doctors.

- By adopting the qualitative method, we could clarify the reality of gender discrimination issues prevalent in various sectors, such as employment, medical practice, and career courses of female KM doctors.

- The study results help understand the career development process of female KM doctors and provide insights into the education of and policy development for the medical workforce.

- This study does not reflect the experiences of female KM doctors living in relatively small villages, and only those people who could be contacted and who decided to participate in the study were self-selected.

Introduction

The number of female medical professionals is increasing worldwide. This is true in the field of traditional Korean Medicine (KM), as well. In 2017, the ratios of numbers of female traditional KM doctors and female allopathic medicine doctors to the total numbers of KM and allopathic medicine doctors in Korea were 21% and 25.4%, respectively[1]. Although this figure is lower than the world average (46%[2]), it reflects a significant increase compared to the ratio decades ago. In the field of KM alone, the total number of female KM doctors has increased from 2.4% in 1980 to 11.1% in 2000 and 21% in 2017[1]. The number of female students being admitted in KM universities has increased to 37% in 2017[3], as well, and reports show that these numbers are expected to increase further.

However, according to the Global Gender Gap Report 2017, South Korea was ranked 118 among 144 nations in the gender gap index[4] and ranked the lowest in the glass ceiling index among the 29 Organisation for Economic Co-operation and Development (OECD) countries[5]. Earlier studies further support these data, since research indicates that the number of Korean women being hired in the labor market lag far behind that of Korean men[6]. Although the number of women entering the professional workforce is increasing, more women with advanced academic degrees remain underemployed compared to their male counterparts, with a large number working on part-time jobs[7]. Further, in South Korea and Japan alone, the employment to population ratio shows a characteristic "M-shaped curve"[8], with less women in their thirties being hired during pregnancy and after childbirth. Even after being hired, female workers report experiencing discrimination, exclusion, and tokenism as minorities in the industry. In the professional field, female physicians are assigned to low-ranking roles and have limited options in selecting their specialties, choosing their forms of employment, and exhibiting leadership[9]. We observe this trend in the field of KM, as well. A total of 77.98% practitioners work in local clinics; however, only 15.9% of all graduating female doctors are hired, and only 31.1% and 28.9% of these female doctors are hired by KM hospitals and general hospitals, respectively[10]. Therefore, although the number of female KM doctors is increasing, they continue to experience exclusion in terms of employment and career development, as well as experiencing discrimination.

Although such problems are widespread, insufficient research exists on gender discrimination in the KM field. An earlier study reported that women with advanced degrees have high career-related expectations during their first few years of employment; however, soon, they experience career limitations and change their career paths during pregnancy and childrearing[11]. Another study showed that sociocultural factors such as fixed gender roles affect career advancement. Korean female interns and residents reported that they either hide their gender to gain more professionality or experience internal conflict while attempting to balance workplace and familial responsibilities[12]. According to a report from Japan, where the workforce structure is similar to that of Korea, female doctors indicated poor working conditions and stereotypical gender roles as hindrances to continuing their careers[13].

Hence, although the number of female practitioners in the KM field is increasing, they persistently encounter problems of discrimination in career development, and there is an urgent need to examine the factors underlying these problems. Therefore, in this study, we closely

examine the experiences of female KM doctors by conducting semi-structured interviews. We aim to clarify 1) the factors hindering career development and 2) gender roles affecting career choices, maintenance, and advancement of female KM doctors.

Materials and Methods

Cultural Context

The Republic of Korea has a dualized medical system, which includes Western medicine (WM) and traditional KM[14]. KM is one component of the Traditional East Asian Medicine (TEAM), which encompasses the traditional medicine systems of Korea, China, Taiwan and Japan. The main therapeutic methods of TEAM include acupuncture, moxibustion, and herbal medicine[15]. TEAM has played an important role in medical service systems in East Asia[16]. It developed as an aspect of national policies based on historical and cultural backgrounds differing from those of complementary and alternative medicine (CAM) in Western society[17].

The differences between KM and CAM are as follows: First, unlike CAM, KM is considered a dual medical system with WM. According to the World Health Organization's classification, the Korean medical system is the equalization system[18], and the official licensing system in Korea includes both Doctor of Medicine (MD) and Korean Medicine Doctor (KMD). KMD is procured through a national medical licensing examination targeting only those who have studied both WM and KM at a six-year KM medical school. Second, the main therapies under KM are covered, either completely or partially, by the national health insurance, unlike in Western society. Third, KM includes a KM specialist system. The Ministry of Health and Welfare of Korea implemented the KM specialist system in 1999 by following the WM specialist system model. There are eight KM specialties, including acupuncture and moxibustion, internal medicine, gynecology, pediatrics and ophthalmology-otorhinolaryngology-dermatology, and so on[19]. However, KM general practitioners practicing in local clinics are expected to treat cases under most of these specialties. Furthermore, some WM and KM specialty treatments have been developed in conformance with the prevalent sociocultural environment. For example, lookism is an important aspect of contemporary Korean culture and, hence, aesthetic medicine is extensively practiced in local clinics[20].

Another important consideration in the current study is that the Republic of Korea, which technically continues to be at war with North Korea, mandates conscription for all men. Accordingly, male doctors in South Korea must serve in a public health center for 3 years to complete their mandatory military service. Since women are not eligible for drafting in the country, female doctors immediately begin their career after graduation. Therefore, Korean doctors generally encounter gender difference during their initial career development phase due to such special circumstances.

Participants

The subjects of this study included female KM doctors and board-licensed specialists of in clinical medicine in their thirties (as of February 2018). We informed the participants of the study and obtained their consent. The inclusion criterion was to include female KM doctors in

their thirties since, according to earlier studies, this is the age range corresponding to the breakaway of the highest number of female workers from the workforce and this age group best reflects the aim of this study[8]. Considering the career difference between the medical practice and the medical education, the subjects include only medical practitioners in clinical medicine, as well. A purposive sampling method was used to recruit participants with the help of personal contacts of researchers, KM college professors, and the Association of Women Korean Medical Doctor. On completing the interview, the participants were asked to recommend other participants who could provide a different perspective (snowball sampling). Further, the theoretical sampling approach was used to select the next participant for the interview. Finally, data collection continued until all the researchers agreed that data saturation had occurred.

Study Design

The study was approved by the Korea National Institute for Bioethics Policy (IRB # P01-201808-22-010). All the participants were provided a detailed explanation of the research protocol, including the study purpose, study method, protection of private information, and participant rights. Further, the participants were notified that their interviews would be digitally audiotaped and that they could stop the interview whenever they felt uncomfortable with the topics being discussed. In addition, this study was designed based on the symbolic interactionism and intersectionality theory. According to the former, the human self is actively creating meaning to the world, and these meanings are undergoing constant change because they are being defined and redefined by human interaction[21]. On the other hand, the intersectionality theory suggests that various social identities such as gender, class, age, and culture dynamically act together in human beings and that mutually constitutive relations of these identities explain specific forms of social oppression[22][23].

Data Collection

Data collection was performed from February 11, 2018 to July 14, 2018. The in-depth face-to-face interview was conducted in Korean using a semi-structured interview guide at a quiet and comfortable place selected by the participants. The open-ended questions were selected and refined during a pilot study that was conducted before the main trial and, subsequently, the adequacy of the questions was checked. The questions were divided into different categories based on career planning and employment, job performance, career moves, and future plans. Participants' experience for each category was colleted. Within 24 hours of the interview, participants were followed up through telephone to check whether they could provide any additional information. All the interviews were conducted by two researchers (SEC and JHL), and each interview took 37–99 minutes (59 minutes on average) to complete.

Analysis

After each interview, the interview was transcribed verbatim by three researchers (SEC, JHL, and JEL) and double-checked by one researcher (SEC). The transcribed data were analyzed line by line using the Strauss and Corbin constant comparative analysis (CCA) method. This method was selected to systematically interweave the perspectives of the researchers and study participants and used to create a modified version. Using the CCA, the collected data were analyzed based on the data itself, which helped maintain the insider's perspective, enabling us to understand the meaning given by research participants[24]. In addition, the theoretical framework applied by the researcher enables the constant comparative process, which causes the introduction of the outsider's perspective into the study[25]. To identify the initial concepts, experiences that were significantly related to gender were labeled, resulting in categories and subcategories, which were grouped according to their relationship with the concepts (open coding). Further, coding was performed using MAXQDA 2018 (VERBI GmbH, Berlin, Germany) to reduce the methodological errors that may occur when coding is performed by hand[26].

Validity and Reliability

This study was designed and conducted according to the Consolidated Criteria for Reporting Qualitative Research (see supplementary document) [27]. To increase the validity of the sampling process, the researchers purposefully selected participants from different backgrounds to ensure that the study considers a variety of different experiences. Researcher bias was reduced by bracketing possible assumption[28], and the thoughts and interpretations that arose during analysis were meticulously recorded to maintain a valid perception throughout the process[29]. After coding the data, a participant was randomly selected to review the results and verify the accuracy and objectivity of the analysis process[30].

Two bilingual translators translated and proofread the original Korean transcripts into English. In case of areas that were ambiguous, a third translator was consulted to select a translation that best retained its original nuance.

Patient and public involvement

Before starting the study, we performed a pilot interview on a female professional in her thirties to test the interview design and, subsequently, made minor changes to the interview questions. This interview was not included in the study. There was no further involvement of the patient and public in the design or conduct of the study. Further, a lay summary of the study's findings will be disseminated to study participants.

Results

Participants' Characteristics

Overall, 12 eligible KM doctors were contacted to attend the interview, of whom two declined due to personal reasons. By July 2018, a total of 10 subjects consented to participate and were, subsequently, interviewed for this study. Among the participants, there were more general practitioners than specialists; however, half of the participants had experience working as interns or residents in hospitals. At the time of conducting the study, most of the interviewees were working as primary physicians in their own local clinics; however, a few were employed at a hospital and one was taking a break and am currently unemployed. Further, 8 out of 10 participants were married, and half had children. Table 1 depicts the participants' basic characteristics.

Code	Age	Date of acquiring certification	Type of certificate	Current workplace	Current designation
#001	37	2006	GP	Unemployed	
#002	32	2010	Specialist	Doctor's office	Owner
#003	36	2011	GP	Doctor's office	Owner
#004	37	2007	GP	Doctor's office	Employee
#005	33	2009	GP	Doctor's office	Employee
#006	32	2010	GP	Doctor's office	Owner
#007	35	2008	GP	Doctor's office	Owner
#008	36	2007	Specialist	Doctor's office	Owner
#009	34	2007	Specialist	Hospital	Employee
#010	36	2006	GP	Doctor's office	Owner

GP: general practitioner

Table 1. Basic characteristics of study participants

Analysis Results

The analysis generated 6 categories, 14 subcategories, and 27 concepts. The emerging categories were (1) initially unperceived gender differences, (2) gender segregation in KM practice, (3) gender–related aspects that affect patient–doctor relationships, (4) suspended career or career movement caused by life events, (5) fixed gender roles, and (6) maintenance and pursuit of a career. The gender-related experiences of female KM doctors in selecting their career paths and advancing in them are described for each category.

Initially unperceived gender differences

According to most participants, gender differences did not affect career planning during their medical school years. Although some career choices were made based on their gender, they did not perceive gender as being a decisive factor. Participants said that they mapped out their careers after considering occupational characteristics and personal life conditions.

At the time, my gender being a woman didn't really affect how I planned my career. (#006)

The more important factor affecting career choice was one's concern over her possible lack of ability as a doctor. Some participants answered that their own sense of purpose or limited career options affected their initial choice, whereas a few said that work experience as a student and age affected career decisions, as well.

Most of the male students went on to work as public health doctors, people who were older opened their own clinics, and young female students only made up 20% of all the 100 students at our school. All 20 of them applied to work at a hospital, including me. (…) I had no choice but to work as an intern since I didn't have a lot of options to choose from. (#001)

Gender segregation in KM practice

In addition, gender segregation in KM practice stands out as a significant factor affecting female KM doctors' career decisions and employment.

Career paths recommended for female KM doctors

The majority of the participants answered that there were some specific career paths that were either recommended or not recommended for female KM doctors.

Just because I am a woman, am young, and had just graduated, I was advised that running a clinic wouldn't work out, and to not open my own clinic, (…) or to choose to work in the area of aesthetics like skin care or weight loss (Aesthetic KM is similar to aesthetic medicine in WM. The therapeutic methods of aesthetic KM include acupuncture for skin care and herbal medicines acting as appetite suppressants for weight loss, and so on). *I just got a lot of advice of that kind. But … how can I put it, they hurt my pride as a doctor and, on hearing those remarks, it seemed like they assumed that I would be interested in aesthetics just because I am a woman. (#005)*

Employment followed by gender segregation

The majority of the participants experienced gender segregation in KM practice while finding employment. Female KM doctors were preferred in departments such as KM dermatology and KM pediatrics, whereas their corresponding male counterparts were better preferred in the department of acupuncture and moxibustion, the department of rehabilitation, and local clinics.

Usually, female Korean medicine doctors are preferred and wanted by Korean medicine clinics that specialize in aesthetics like skin care and weight loss but those specializing in pure traditional Korean medicine prefer male doctors. (#007)

Most Korean medicine clinics that use a lot of acupuncture don't prefer female doctors. When I attended my job interview, they did not look pleased and said to me, "Can you even bear to work standing up all day?" (#001)

A few participants followed such gender segregation rules and succeeded in becoming employed. In other words, in women-centered, segregated specialties, some participants had an advantage in securing employment during the early days of their career. The others deviated from the expected roles and, hence, experienced difficulties in becoming employed. A few others initially deviated from the expected roles, but later conformed with the roles to specialize in the fields recommended for female professionals. This was because their bosses required them to be in charge of such fields, and they ultimately experienced mixed stability and insecurity in their career.

It was not like I wanted to work in pediatrics. When I saw the job ad, the job descriptions weren't particularly about dieting or children's illnesses. It was just that as I was working there, I was asked (to focus on the area of pediatrics) by the doctor who had hired me and I, being a woman, worked out well, so I cared more about that kind of illness. (#006)

Gender–related aspects that affect patient–doctor relationships

Most of the participants mentioned that they had encountered situations where their gender affected the patient–doctor relationship. More than half of them answered that they had experienced patients being aware of the doctor's gender.

I often hear patients say, "huh, the doctor is so young. The doctor is a woman." That really happens. They just say that in my face. "Oh, you are a woman." (#005)

Further, female KM doctors mentioned that they could better relate to female patients and

said that this worked as an advantage. Patients had a tendency to feel more at ease with a female KM doctor, as well. This tendency has both positive and negative effects.

Patients want to be able to talk about themselves comfortably with doctors at Korean medicine clinics. (...) And being a female doctor has its advantages because patients tend to talk more comfortably with female doctors. (#003)

But there are also some male patients who talk down to female doctors from time to time. (#009)

A few participants had experienced situations where patients seemed to feel more comfortable with body exposure because the doctor was a woman. However, sometimes, patients did not treat them as KM doctors and sexually objectified or harassed them in the clinic.

People just assume that most of the Korean medicine doctors are old or they think it is acceptable if the doctors are young male doctors. But when I come into the room, some old ladies say, "where is the doctor? Tell the doctor to come and not the nurse." (...) I was once called "unni," which means an older sister in Korean. "Hey, my kid is sick. Unni, do you recommend me feeding so and so to my kid?" (#001)

There were one or two cases when our staff were (harassed). The patients would do that to the staff (...). Sometimes, they would do that to me too. A female doctor (...). They would ask me to touch them, or joke about my figure, or remark about it. For instance, saying stuff like "well doctor, you are in better shape than I had imagined." (#007)

Suspended career or career movement caused by life events

Half of the participants had experienced pregnancy and childbirth and been directly affected by these life events. In cases where the female KM doctors were self-employed and were managing their own clinics, they had to take a career break, hire a part-time doctor to fill in for their positions, and come back after a fixed period following pregnancy/childbirth. If these doctors were employed at a local clinic or a hospital, all had to resign from their positions. Following resignation, female KM doctors experienced significant career breaks equal to the amount of time that was spent giving birth and receiving postnatal care. The length of this period showed individual variations, since some went back to work or opened their own clinics, whereas others experienced longer delays following childrearing or second childbirth. . In case of planned pregnancy or childbirth, female KM doctors opted to change jobs or make career

plans with their possible pregnancy in mind. Some mentioned the difficulties of obtaining maternity leave, particularly in the medical profession.

As I was planning for my pregnancy, I found a relatively easy position at a nursing home, and I quit after working for 6 or 7 months. (#001)

Big corporations have a lot of subs available; however, even in big hospitals, subbing for someone isn't easy. It means that someone new has to be hired since the other workers are not that flexible in terms of schedule to cover another person's work. (#003)

Meanwhile, these life events had an effect on the employment process and, for some, they were hindrances to career advancement.

During the job interview, there were two other female doctors and we were all asked during the interview whether we had a boyfriend. I wonder if they asked that kind of question to the male doctors, as well. We were also individually asked if we had a boyfriend or whether we were planning to get married any time soon. They really did. So I said no. Two other female doctors and I talked about it afterward, saying that if we are asked about such things, the answer must always be "no." (#008)

Fixed gender roles

Many female KM doctors witnessed their male counterparts being favored during the employment process. As women, they experienced having to become the main nurturer of children at home, as well.

Direct discrimination during employment

The majority of the participants answered that they felt male doctors were preferred by employers. Sometimes, male KM doctors were preferred over female doctors in the fields that were unrelated to the gender segregation prevalent in KM or that were known to prefer female doctors. Further, some participants felt that objective job performance indicators were not examined during the employment process.

I was asked to post a job ad for my replacement and was asked to include three requirements; must be male, someone who is not too young, and from OO University. Actually, I don't fulfill any of these requirements. I understand that doctors with these qualities are likely to be

preferred, but I was thinking whether all that was necessary. (#008)

Although I was a female resident, I think I wanted to show that I was capable of continuing my job at the hospital. So, in the last year as a resident, I really worked hard and performed my best compared to my fellow residents, which resulted in the highest rate of returning patients and making the most profit for the hospital. But, unfortunately, it turned out that my efforts didn't mean much because I was a woman. I am sure if I were a man, things would have turned out differently. Men would have been given the privilege to apply to a director position at a hospital. (#002)

Occasionally, some participants reported cases where the employers preferred to hire a female doctor over a male one. Usually, this trend was observed when the predecessor had been a female employee or the workplace required attitudes based on stereotyped feminine roles.

That doctor (employer) seemed to think that he lacked a gentle personality and you know there are patients who like that kind of personality? So I think he hired me (to make up) for that image ... (#009)

Role of becoming the main nurturer

Half of the female KM doctors participating in this study had experienced childbirth and responded that they were the person in charge of childrearing at home. All of them expressed difficulties in managing the work–family balance. Some of them mentioned that their additional job of having to care for the children significantly infringed on their personal time for self-improvement, such as studying and attending continuing education programs as KM doctors.

At first, it was physically overwhelming; so for about a year, I really thought about it really much, on whether I should continue working or whether I should focus more on my duties as a mom and a wife. (#002)

On the other hand, the majority of the female KM doctors with children also said that they voluntarily took on the role of the main nurturer out of maternal affection. Further, many of the participants without children perceived that they would become the main nurturer of their children in the future.

Maintenance and pursuit of a career

Almost all the study participants had had optimistic career expectations while making their

career plans at the start of their careers. They were the generation called the "Highest College Scholastic Aptitude Test Generation" (students during the 1990s and early 2000s had to score the highest range of the Korean college scholastic aptitude test to gain entry to any of the KM universities). They had not been concerned about their future as KM doctors and had had high expectations and great ambitions regarding their future careers.

(Scores had to be) Very high. Very high. I entered the medical school as the class of 2006 (entering in the year 2000) and that was when getting into a KM university was most rigorous. (#001)

When I was an undergraduate, I was really ambitious and had big dreams, such as spreading Korean medicine worldwide (laughs). Hmm, yes I had those dreams. (#002)

After becoming employed, most of the female KM doctors changed jobs in pursuit of self-development, and more than half of the participants answered that their ultimate goal is to become better professionals or develop specialties in their field. The specialties that the participants intended to develop themselves in tended to be related to their gender roles, as well. A few answered that they wished to operate a stable business and balance their work-related and familial duties. While discussing their present and future career goals, participants tended to maintain a grip on reality and make corresponding adjustments to their career goals.

Now, I don't want something that grandiose. Rather, I would like to think about the people that need my help or has received my help. Right, being able to provide better care for the people that come to me in need and to be a better doctor, that is my current goal. (#004)

Discussion

In this study, we examined how gender and gender roles affect female KM doctors' career choices, advancement, and maintenance by conducting in-depth interviews and qualitatively analyzing the results. This study revealed that gender segregation in KM practice affects career decision paths, employment, and job positions of female KM doctors even after they become employed. The existence of gender segregation in the medical profession has been previously noted, as well. According to the Association of American Medical Colleges 2015 report on active physicians by sex and specialty, the highest number of female physicians occurs in pediatrics (61.9%), obstetrics and gynecology (54.5%), and pediatric hematology/oncology (51.9%), whereas that of male doctors was in orthopedic surgery (95%), thoracic surgery (94%), and interventional cardiology (92.6%)[31]. Although no such report exists in the KM field, a noteworthy survey among graduating students revealed that students perceived male KM

doctors would be favored in the departments of KM rehabilitation, acupuncture and moxibustion, and KM internal medicine, whereas female KM doctors would be favored in KM obstetrics and gynecology, KM pediatrics, and KM ENT[14]. However, one difference is that the number of doctors who attend further training in different specialties is only 11.7% (as of 2016) in the field of KM[32]; however, even then, gender segregation is highly prevalent among general practitioners. The lack of adequate competence and skills is another reason why female KM doctors do not select a specific career path, which was frequently mentioned by interviewees, who described this as "lacking sufficient clinical experience." A Dundee Ready Educational Environment Measure survey among KM university students showed that the students' perception of learning scores related to their competence were low[33]; further, in the study by Nomura et al.[34], female medical students showed lower confidence in clinical and academic competitiveness compared to their male colleagues.

Female KM doctors experienced fixed gender roles during employment and in work–home environments, as well. Their male counterparts were generally preferred during the employment process, and this finding agrees with previous studies. In a "Sense of gender division of labor survey" conducted among physicians in South Korea, more than half of the respondents answered that if they had the authority to select new physicians or residents in hospitals, they would select male doctors[9]. A survey conducted among students graduating from a KM university revealed that students preferred to work with male colleagues in the future, as well[35]. Further, a study by McKimm[36] revealed that traditional stereotypes on medical leaders and their behaviors are biased in favor of men, and a culture based on such masculine styles of leadership can devalue women, so that many women may choose not to apply for leadership positions. Maternalism is another major reason why female KM doctors take the lead in becoming the main nurturer at home. Further, Heo's panel analysis[37] of gender role attitudes among women aged 24–37 years in South Korea revealed that although the ideology of gender division of labor has become diluted, attitudes on childrearing remain unchanged. Although women with higher educational degrees tended to disagree with the gender division of labor, they adhered more strongly to the concept of the female figure being the primary nurturer of preschool children. Female KM doctors were no exception to taking career breaks during and after childbirth; this trend coincides with the characteristic M-shaped curve, reflecting the employment–population ratio of women that is observed only in South Korea and Japan. Most of the participants felt that childbirth had a bigger impact on their careers than marriage. Eun et al.[38] reported that, in South Korea, whereas the percentage of women quitting the workforce after marriage was low, the corresponding numbers increased following childbirth. In Japan, as well, many female physicians resigned from full-time hospital jobs within 10 years of graduation since they could not manage long working hours, the lack of substitute doctors, and the added burden of childcare[39]. In this study, the career moves made by women after childbirth breaks ranged from opening their own full-time clinics to taking time off from work; this result is different from that of an earlier study[40]. Even when female KM doctors opened their own clinics, such decisions were often the result of having limited options after childbirth or were a demand due to flexible work hours.

Despite experiencing gender discrimination, most female KM doctors maintained their career goals by making small adjustments in the development process. To maintain the work–family balance, many were forced to shorten their work hours; however, even in these

situations, the study participants chose to retain their careers, rather than quitting the labor market, which is different from the results of other studies[13] examining the perception of career pursuits among female physicians; this is also different from the "leaky pipeline phenomenon" noticed among female workers in science, technology, engineering and mathematics (STEM) fields. The difference shown by our results may be attributed to the fact that the participants in this study consist of female KM doctors from different economic backgrounds who formed a remarkable generation in the history of KM. Another interesting result was that some participants in this study frequently answered that their gender as a woman does not matter to them and that it did not affect their career, although interview results revealed otherwise. This finding conformed to the finding by Smith et al.[41]. Further, Kim et al.[42] noted that people in disadvantaged groups, such as women or less-educated workers in South Korea, tend to report less discrimination for themselves compared to men or higher educated workers, respectively.

Another noteworthy aspect of this study is that the gender of all the female participants affected clinic-based patient–doctor relationships. Gender was associated with other factors, such as age and culture, as well. Studies have shown that demographic factors and socioeconomic factors can influence patient–doctor relationships[43]; however, the prevalence of gender as a factor is a recent phenomenon in South Korea. The finding that the female KM doctors in our study related particularly well with female patients has been noted by other studies, as well. According to a report by Bertakis et al.[30], doctors report a high degree of understanding and patients feel a high level of comfort when both are of the same gender. In a study by Schieber et al.[44], researchers showed that patients more easily accepted doctor's recommendations when both were of the same gender. In particular, female doctors' recommendations regarding nutrition and exercise were accepted with less resistance by female patients. Interestingly, the female KM doctors in our study answered that male patients seemed to feel more comfortable with female doctors and tended to reveal sensitive health issues to the latter. However, other studies have shown that, if given an option, male patients choose male doctors over female doctors[45]; however, Himmelstein and Sanchez[46] further noted that men of strong masculinity tend to report fewer symptoms to male doctors than female doctors. Regarding sexual objectification and harassment, the South Korean Medical Association reported in 2017 that 45.5% of female residents experienced sexual harassment in the healthcare workplace[47]. There is no published survey on the training and working conditions of KM female doctors, and our study shows that such investigations are urgently required.

This study has several limitations. Globally, gender is a sensitive topic in all male-dominated fields, including the medical profession; hence, the participants could have been prone to providing desirable answers. However, some of these answers enabled meaningful discoveries in this qualitative study; an example is the participants' constant denial of gender being a career barrier. Although participants were recruited through several channels and purposefully sampled to incorporate as many different experiences as possible, most of them were located in the metropolitan area of South Korea and their experiences may differ from those of female KM doctors living in smaller villages. In addition, only those participants who could be contacted and could consent to participate were self-selected. Although this ensured compliance with research ethics, the study might have missed those who were unwilling or unable to share their career experiences and those who had already left the medical workforce.

Since such limitations may exist, further studies are required to confirm whether the study's results can be generalized to larger populations. However, to the best of our knowledge, this is the first qualitative study to examine the effect of gender on the careers of female KM doctors, and we believe that this study provides significant information for future studies on the provision of gender sensitive education to KM university students and development of improved working conditions and policies for female professionals working in STEM-related fields.

Conclusions

Over the past 40 years, the number of women working in KM healthcare has increased, and this trend is expected to continue. Problems related to the gender gap are also expected to increase, particularly among female professionals working in the KM field. This study was designed to examine the difficulties encountered by female KM doctors in terms of employment, job performance, and career maintenance, and we revealed significant gender-specific factors. Our study revealed that during employment, strong stereotypical gender roles directly or indirectly affect the employment process. In the medical field, female KM doctors pursued pediatrics, dermatology, and similar areas of specialized care, whereas their male counterparts focused on departments of acupuncture and moxibustion, rehabilitation, and general KM clinics. Our study participants showed a tendency to maintain their career pursuits; however, their pursuits were limited by important life events, such as childbirth. Female KM doctors maintained maternalism notions that made them conform to standardized gender roles at home. Further, gender significantly affected patient–doctor relationships. Female KM doctors could relate more with patients of the same gender. Finally, although this study has limitations, it is a valuable resource for future large-scale quantitative studies.

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References

[1] Statistics Korea. The lives of women as reflected in 2018 statistics. Seoul: Statistics Korea, 2018.

[2] OECD. Health at a glance 2017: OECD indicators. Paris: OECD Publishing, 2017.

[3] Korean Ministry of Education, Korean Educational Development Institute. Statistical yearbook of education 2017. Chungbuk, Republic of Korea: Korean Ministry of Education, 2017.

[4] K Schwab, R Samans, S Zahidi et al. The global gender gap report 2017. Geneva: World Economic Forum, 2017.

[5] Data Team of The Economist. The glass ceiling index. The Economist. 2018 Feb 17;426(9079): 56.

[6] SE Choi. What makes it difficult for Korean high educated women to participate in the labor market? The heritage of the developmental welfare production regimes of Korea. Issues in Feminism. 2017 Apr;17(1): 145-92.

[7] SY Son. Labor experiences and dilemma of highly-educated professional women in Korea. Korean Association of Women's Studies. 2005;21(3): 67-97.

[8] YY Cho. Childbirth and labor supply for married women: Lifecycle model. Sejong-si, Republic of Korea: Korea Development Institute; 2006. 5-11p.

[9] SH Kim. The gendered structures and status of female doctor in Korean healthcare institution. Pusan, Republic of Korea: Pusan National University. 2004.

[10] Health Insurance Review & Assessment Service, National Health Insurance Service. National health insurance statistical year book. Seoul: National Health Insurance Service, 2016.

[11] JH Ahn. The influence of gender on professionalism female in trainees. Korean Journal of Medical Education. 2012;24(2): 153-162.

[12] JH Son. Career experiences of highly educated professional women: Focusing on women with 5-10 career years. Korea Journal of Counseling. 2013;14(1): 501-522.

[13] K Nomura, Y Yamazaki, LD Gruppen et al. The difficulty of professional continuation among female doctors in Japan: A qualitative study of alumnae of 13 medical schools in Japan. BMJ Open. 2015;5(3): e005845. doi: 10.1136/bmjopen-2014-005845

[14] HY Lee, HW Kang, NK Kim et al. Effectiveness of collaborative treatment using Korean and Western medicine for mild cognitive impairment or dementia: A protocol for a prospective observational exploratory study. Medicine (Baltimore). 2018 Aug;97(35):e12098.

[15] F Cheung. TCM: made in China. Nature. 2011 Dec 21;480(7378):82-3.

[16] HJ Sung, HK Shin. Comparison and research on policy of rraditional medicine in Korea and three countries of East Asia, Daejeon, Republic of Korea: Korean Institute of Oriental Medicine, 1997.

[17] GC Ryu, HW Lee, SJ Oh et al, International competitiveness and tasks of Korean traditional medicine from the perspective of international comparison of curricula and research. Journal of Korean Institute for Health and Social Affairs; 2005;25(2): 107–146

[18] KJ Yoon, DS Kim. Ways of integrating Oriental medicine and Western medicine. Sejong-si, Republic of

Korea: Korea Institute of Health and Social Affairs, 2013.

[19] HL Park, HS Lee, BC Shin. Traditional dedicine in China, Korea, and Japan: a brief introduction and comparison. Evidence-Based Complementary and Alternative Medicine. 2012;2012, Article ID 429103, 9.

[20] YM Yun, SH Jung. Trajectories of appearance concerns of South Korean adolescents. Journal of Health Informatics and Statistics. 2018;43(4):245-254.

[21] KM Aldiabat, CL Le Navenec. Philosophical roots of classical grounded theory: its foundations in symbolic interactionism. The Qualitative Report. 2011;16(4):1063-1080

[22] SA. Shields. Gender: An intersectionality perspective. Sex Roles: A Journal of Research. 2008;59(5-6):301-311.

[23] Y Wilson, A White, A Jefferson et al. Intersectionality in clinical medicine: the need for a conceptual framework. The American Journal of Bioethics;2019. 19(2): 8–19.

[24] CS Jennifer, Jane Mills, and Kim Usher. Linking symbolic interactionism and grounded theory methods in a research design: from Corbin and Strauss' assumptions to action. SAGE Open; 2013;3(3):1–10.

[25] SM. Fram. The constant comparative analysis method outside of grounded theory. The Qualitative Report. 2013;18(1):1-25.

[26] SM Lee, SP Yang, ES Kim et al. Admission care for Bell's Palsy patients: A qualitative report on patient experiences. Journal of Acupuncture Research. 2013;30(5). 11-23

[27] A Tong, P Sainsbury, J Craig. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. International Journal for Quality in Health Care. 2007;19: 349-357.

[28] S1 Ramani, K2 Mann. Introducing medical educators to qualitative study design: Twelve tips from inception to completion. Medical Teacher. 2016 May;38(5): 456-463.

[29] J Corbin, AL Strauss. Basics of qualitative research. 4th ed. Los Angeles: SAGE Publications; 2015

[30] L Birt, S Scott, D Cavers et al. Member checking: A tool to enhance trustworthiness or merely a nod to validation? Qualitative Health Research. 2016;26(13): 1802-1811.

[31] Association of American Medical Colleges. Active physicians by sex and specialty, 2015. https://www.aamc.org/data/workforce/reports/458712/1-3-chart.html (Accessed 2018 Aug 30)

[32] Publication committee of Yearbook of Traditional Korean Medicine. 2016 Yearbook of traditional Korean medicine. Daejeon, Republic of Korea: Korea Institute of Oriental Medicine, 2016.

[33] HH Kim, HY Jeong, PJ Jeon et al. Perception study of traditional Korean medical students on the medical education using the Dundee Ready Educational Environment Measure. Evidence-based complementary and alternative medicine. 2016. doi: 10.1155/2016/6042967.

[34] K Nomura, E Yano, T Fukui. Gender differences in clinical confidence: A nationwide survey of resident physicians in Japan. Academic Medicine. 2010;85(4): 647-653.

[35] HR Jeong, JH Lee. A study on Korean medicine college students' perception of Korean medicine doctors: Focus on gender differences. Journal of Oriental Neuropsychiatry. 2015;26(3): 211-224.

[36] J McKimm, AS Da Silva, S Edwards et al. Women and leadership in medicine and medical education: international perspectives, in (ed.) Gender, Careers and Inequalities in Medicine and Medical Education:

International Perspectives (International Perspectives on Equality, Diversity and Inclusion, Volume 2. Emerald Group Publishing Limited. 2015;69-98.

[37] E Heo. Individualization and gender division of labor: Panel analysis of gender role attitudes of women in the formative period of a family. Korean Sociological Association. 2017;51(4): 47-78.

[38] KS Eun. Korean women's labor force participation and career discontinuity. Korean Policy Studies Review. 2018;41(2): 117-150.

[39] M Izumi, K Nomura, Y Higaki et al. Gender role stereotype and poor working condition pose obstacles for female doctors to stay in full-time employment: Alumnae survey from two private medical schools in Japan. The Tohoku Journal of Experimental Medicine. 2013;229(3): 233-237.

[40] SM Florian. Motherhood and employment among Whites, Hispanics, and Blacks: A life course approach. Journal of Marriage and Family. 2018;80(1): 134-149.

[41] V Smith, C Bethune, KF Hurley. Examining medical student specialty choice through a gender lens: An orientational qualitative study. Teaching and Learning in Medicine. 2018;30(1): 33-44.

[42] SS Kim, Y Chung, SV Subramanian et al. Measuring discrimination in South Korea: Underestimating the prevalence of discriminatory experiences among female and less educated workers. PLOS ONE. 2012;7(3): e32872. https://doi.org/10.1371/journal.pone.0032872

[43] KD Bertakis. The influence of gender on the doctor–patient interaction. Patient Education and Counseling. 2009;76(3): 356-360.

[44] AC Schieber, C Delpierre, B Lepage et al. Do gender differences affect the doctor–patient interaction during consultations in general practice? Results from the INTERMEDE study. Family Practice. 2014;31(6): 706-713.

[45] K Fennema, D Meyer, N Owen. Sex of physician: Patients' preferences and stereotypes. The Journal of Family Practice. 1990;30(4): 1-7.

[46] MS Himmelstein, DT Sanchez. Masculinity in the doctor's office: Masculinity, gendered doctor preference and doctor–patient communication. Preventive Medicine. 2016;84: 34-40.

[47] MG Kim, WR Mun, DH Ki et al. 2017 Survey of training and work environment of doctors in training. Seoul: Research Institute for Healthcare Policy;2017.

Supplementary Table 1. Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description	Response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Inter viewer/facilitator	Which author/s conducted the interview or focus group?	#001, 002, 003, 004, 006, 007, 008, 009 by SEC, #005, 010 by JHL. (page 5)
2.	Credentials	What were the researcher's credentials? E.g. PhD, MD	SEC, JEL and JHL were KM college student. SMKL, JL and HK were KMD, PhD.
3.	Occupation	What was their occupation at the time of the study?	Researcher's occupations at the time of the study included student, research fellow, research professor.
4.	Gender	Was the researcher male or female?	Female
5.	Experience and training	What experience or training did the researcher have?	Two months
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	No, there wasn't.
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Name, occupation, reasons for doing the research
8.	Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Age, type of certificate, current workplace, location of workplace
Domain 2: Study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Constant comparative analysis method (page 6)

Participant selection			
10.	Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Purposive sampling, snowball sampling, theoretical sampling (page 5)
11.	Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Face-to-face (page 6)
12.	Sample size	How many participants were in the study?	Ten participants (page 7)
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	Two for personal reason (page 7)
Setting			
14.	Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	A quiet and comfortable place chosen by the participants (page 5)
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	Two interviewees with their baby
16.	Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Female KM doctors in their 30's (page 4-5)
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes, they were. / Yes, it was. (page 5)
18.	Repeat interviews	Were repeat inter views carried out? If yes, how many?	No, they weren't.
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording (page 5)
20.	Field notes	Were field notes made during and/or after the interview or focus group?	Yes, they were.
21.	Duration	What was the duration of the inter views or focus group?	Average 59 minutes (page 5)
22.	Data saturation	Was data saturation discussed?	Yes, it was.
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Two participants randomly selected and reviewed.
Doman 3: Analysis and findings			

Data analysis			
24.	Number of data coders	How many data coders coded the data?	One (SEC)
25.	Description of the coding tree	Did authors provide a description of the coding tree?	Yes, we did.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Yes, they were. (page 6)
27.	Software	What software, if applicable, was used to manage the data?	AXQDA 2018 (page 6)
28.	Participant checking	Did participants provide feedback on the findings?	Two participants randomly selected and feedbacked (page 6)
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes, there was. (page 8-13)
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, there was.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were. (page 8-13)
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, there is. (page 8-15)

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Qualitative Study on the Impact of Gender on the Career Development of Female Traditional Korean Medicine Doctors

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Abstract

Objective: This study aims to examine the impact of gender and expected gender roles on the career development of young female traditional Korean Medicine (KM) doctors.

Design: We conducted semi-structured interviews to examine the experiences of study subjects regarding early career choices, employment, job performance, and career moves, as well as future career aspirations, from the perspective of gender. The transcription was analyzed using the Strauss and Corbin constant comparative analysis method.

Setting: The interview was conducted at a quiet and comfortable place selected by the participants in South Korea.

Participants: Ten female KM doctors in their thirties participated in the study.

Results: This study reveals that, initially, the participating female KM doctors were unaware of their gender affecting career decisions. However, after graduation and during employment, female doctors experienced direct discrimination or gender segregation while selecting areas of treatment and specialty; they found that they were preferred to work in pediatrics and dermatology departments than in departments treating musculoskeletal health problems. Further, after entering the workforce, female KM doctors found that their gender significantly affects patient–doctor relationships and life events such as pregnancy and childbirth require temporary career breaks. In addition, female KM doctors assumed stereotypical gender roles both in the workplace and at home, as well as becoming the main nurturer of their children.

Conclusion: Gender and stereotyped gender roles affect the overall career planning, career moves, and even patient–doctor relationships of female KM doctors. Female doctors were also more likely to experience specific gender roles not only in the workplace but also at home, including both childbirth and child-rearing.

Article Summary

Strengths and limitations of this study

- This is the first study to examine how gender affects the career progression of female KM doctors.

- By adopting the qualitative method, we could clarify the reality of gender discrimination issues prevalent in various sectors, such as employment, medical practice, and career courses of female KM doctors.

- The study results provide insights into the education of and policy development for the medical workforce and will contribute to research on gender obstacles in medicine.

- This study does not reflect the experiences of female KM doctors living in relatively small villages, and only those people who could be contacted and who decided to participate in the study were self-selected.

Introduction

The number of female medical professionals is increasing worldwide. This is true in the field of traditional Korean Medicine (KM), as well. In 2017, the ratios of numbers of female traditional KM doctors and female allopathic medicine doctors to the total numbers of KM and allopathic medicine doctors in Korea were 21% and 25.4%, respectively[1]. Although this figure is lower than the world average (46%[2]), it reflects a significant increase compared to the ratio decades ago. In the field of KM alone, the total number of female KM doctors has increased from 2.4% in 1980 to 11.1% in 2000 and 21% in 2017[1]. The number of female students being admitted in KM universities has increased to 37% in 2017[3], as well, and reports show that these numbers are expected to increase further.

However, according to the Global Gender Gap Report 2017, South Korea was ranked 118 among 144 nations in the gender gap index[4] and ranked the lowest in the glass ceiling index among the 29 Organisation for Economic Co-operation and Development (OECD) countries[5]. Earlier studies further support these data, since research indicates that the number of Korean women being hired in the labor market lag far behind that of Korean men[6]. Although the number of women entering the professional workforce is increasing, more women with advanced academic degrees remain underemployed compared to their male counterparts, with a large number working on part-time jobs[7]. Further, in South Korea and Japan alone, the employment to population ratio shows a characteristic "M-shaped curve"[8], with less women in their thirties being hired during pregnancy and after childbirth. Even after being hired, female workers report experiencing discrimination, exclusion, and tokenism as minorities in the industry. In the professional field, female physicians are assigned to low-ranking roles and have limited options in selecting their specialties, choosing their forms of employment, and exhibiting leadership[9]. We observe this trend in the field of KM, as well. A total of 77.98% practitioners work in local clinics; however, only 15.9% of all graduating female doctors are hired, and only 31.1% and 28.9% of these female doctors are hired by KM hospitals and general hospitals, respectively[10]. Therefore, although the number of female KM doctors is increasing, they continue to experience exclusion in terms of employment and career development, as well as experiencing discrimination.

Although such problems are widespread, insufficient research exists on gender discrimination in the KM field. An earlier study reported that women with advanced degrees have high career-related expectations during their first few years of employment; however, soon, they experience career limitations and change their career paths during pregnancy and childrearing[11]. Another study showed that sociocultural factors such as fixed gender roles affect career advancement. Korean female interns and residents reported that they either hide their gender to gain more professionality or experience internal conflict while attempting to balance workplace and familial responsibilities[12]. According to a report from Japan, where the workforce structure is similar to that of Korea, female doctors indicated poor working conditions and stereotypical gender roles as hindrances to continuing their careers[13].

Hence, although the number of female practitioners in the KM field is increasing, they persistently encounter problems of discrimination in career development, and there is an urgent need to examine the factors underlying these problems. Therefore, in this study, we closely

examine the experiences of female KM doctors by conducting semi-structured interviews. We aim to clarify 1) the factors hindering career development and 2) gender roles affecting career choices, maintenance, and advancement of female KM doctors.

Cultural Context

The Republic of Korea has a dualized medical system, which includes Western medicine (WM) and traditional KM[14]. KM is one component of the Traditional East Asian Medicine (TEAM), which encompasses the traditional medicine systems of Korea, China, Taiwan and Japan. The main therapeutic methods of TEAM include acupuncture, moxibustion, and herbal medicine[15]. TEAM has played an important role in medical service systems in East Asia[16]. It developed as an aspect of national policies based on historical and cultural backgrounds differing from those of complementary and alternative medicine (CAM) in Western society[17].

The differences between KM and CAM are as follows: First, unlike CAM, KM is considered a dual medical system with WM. According to the World Health Organization's classification, the Korean medical system is the equalization system[18], and the official licensing system in Korea includes both Doctor of Medicine (MD) and Korean Medicine Doctor (KMD). KMD is procured through a national medical licensing examination targeting only those who have studied both WM and KM at a six-year KM medical school. Second, the major KM treatments are largely covered by national health insurance, unlike CAM treatments in the West, which are mostly covered by private health insurance. Third, KM includes a KM specialist system. The Ministry of Health and Welfare of Korea implemented the KM specialist system in 1999 by following the WM specialist system model. There are eight KM specialties, including acupuncture and moxibustion, internal medicine, gynecology, pediatrics, ophthalmology-otorhinolaryngology-dermatology, neuropsychiatry, rehabilitation medicine, and Sasang constitutional medicine[19]. However, KM general practitioners practicing in local clinics are expected to treat cases under most of these specialties. Furthermore, some WM and KM specialty treatments have been developed in conformance with the prevalent sociocultural environment. For example, appearance-based discrimination is widespread in contemporary Korean society and, hence, aesthetic medicine is extensively practiced in local clinics[20].

Another important consideration in the current study is that the Republic of Korea, which technically continues to be at war with North Korea, mandates conscription for all men. Accordingly, male doctors in South Korea must serve in a public health center for 3 years to complete their mandatory military service. Since women are not eligible for drafting in the country, female doctors immediately begin their career after graduation. Therefore, Korean doctors generally encounter gender difference during their initial career development phase due to such special circumstances.

Materials and Methods

Participants

The subjects of this study included female KM doctors and board-licensed specialists of clinical medicine in their thirties (as of February 2018). We informed the participants of the

study and obtained their consent. The inclusion criterion was to include female KM doctors in their thirties since, according to earlier studies, this is the age range corresponding to the breakaway of the highest number of female workers from the workforce and this age group best reflects the aim of this study[8]. Considering the career difference between the medical practice and the medical education, the subjects include only medical practitioners in clinical medicine, as well. A purposive sampling method was used to recruit participants with the help of personal contacts of researchers, KM college professors, and the Association of Women Korean Medical Doctor. On completing the interview, the participants were asked to recommend other participants who could provide a different perspective (snowball sampling). Further, the theoretical sampling approach was used to select the next participant for the interview. Finally, data collection continued until all the researchers agreed that data saturation had occurred.

Study Design

The study was approved by the Korea National Institute for Bioethics Policy (IRB # P01-201808-22-010). All the participants were provided a detailed explanation of the research protocol, including the study purpose, study method, protection of private information, and participant rights. Further, the participants were notified that their interviews would be digitally audiotaped and that they could stop the interview whenever they felt uncomfortable with the topics being discussed. In addition, this study was designed based on the symbolic interactionism and intersectionality theory. According to the former, the human self is actively creating meaning to the world, and these meanings are undergoing constant change because they are being defined and redefined by human interaction[21]. On the other hand, the intersectionality theory suggests that various social identities such as gender, class, age, and culture dynamically act together in human beings and that mutually constitutive relations of these identities explain specific forms of social oppression[22][23].

Data Collection

Data collection was performed from February 11, 2018 to July 14, 2018. The in-depth face-to-face interview was conducted in Korean using a semi-structured interview guide at a quiet and comfortable place selected by the participants. The open-ended questions were selected and refined during a pilot study that was conducted before the main trial and, subsequently, the adequacy of the questions was checked. The questions were divided into different categories based on career planning and employment, job performance, career moves, and future plans. Participants' experience for each category was colleted. Within 24 hours of the interview, participants were followed up through telephone to check whether they could provide any additional information. All the interviews were conducted by two researchers (SEC and JHL), and each interview took 37–99 minutes (59 minutes on average) to complete.

Analysis

After each interview, the interview was transcribed verbatim by three researchers (SEC, JHL, and JEL) and double-checked by one researcher (SEC). The transcribed data were analyzed line by line using the Strauss and Corbin constant comparative analysis (CCA) method. This method was selected to systematically interweave the perspectives of the researchers and study participants and used to create a modified version. Using the CCA, the collected data were analyzed based on the data itself, which helped maintain the insider's perspective, enabling us to understand the meaning given by research participants[24]. In addition, the theoretical framework applied by the researcher enables the constant comparative process, which causes the introduction of the outsider's perspective into the study[25]. To identify the initial concepts, experiences that were significantly related to gender were labeled, resulting in categories and subcategories, which were grouped according to their relationship with the concepts (open coding). Further, coding was performed using MAXQDA 2018 (VERBI GmbH, Berlin, Germany) to reduce the methodological errors that may occur when coding is performed by hand[26].

Validity and Reliability

This study was designed and conducted according to the Consolidated Criteria for Reporting Qualitative Research (see supplementary document) [27]. To increase the validity of the sampling process, the researchers purposefully selected participants from different backgrounds to ensure that the study considers a variety of different experiences. Researcher bias was reduced by bracketing possible assumption[28], and the thoughts and interpretations that arose during analysis were meticulously recorded to maintain a valid perception throughout the process[29]. After coding the data, a participant was randomly selected to review the results and verify the accuracy and objectivity of the analysis process[30].

Two bilingual translators translated and proofread the original Korean transcripts into English. In case of areas that were ambiguous, a third translator was consulted to select a translation that best retained its original nuance.

Patient and public involvement

Before starting the study, we performed a pilot interview on a female professional in her thirties to test the interview design and, subsequently, made minor changes to the interview questions. This interview was not included in the study. There was no further involvement of the patient and public in the design or conduct of the study. Further, a lay summary of the study's findings will be disseminated to study participants.

Results

Participants' Characteristics

Overall, 12 eligible KM doctors were contacted to attend the interview, of whom two declined due to personal reasons. By July 2018, a total of 10 subjects consented to participate and were, subsequently, interviewed for this study. Among the participants, there were more general practitioners than specialists; however, half of the participants had experience working as interns or residents in hospitals. At the time of conducting the study, most of the interviewees were working as primary physicians in their own local clinics; however, a few were employed at a hospital and one was taking a break and am currently unemployed. Further, 8 out of 10 participants were married, and half had children. Table 1 depicts the participants' basic characteristics.

Code	Age	Date of acquiring certification	Type of certificate	Current workplace	Current designation
#001	37	2006	GP	Unemployed	
#002	32	2010	Specialist	Doctor's office	Owner
#003	36	2011	GP	Doctor's office	Owner
#004	37	2007	GP	Doctor's office	Employee
#005	33	2009	GP	Doctor's office	Employee
#006	32	2010	GP	Doctor's office	Owner
#007	35	2008	GP	Doctor's office	Owner
#008	36	2007	Specialist	Doctor's office	Owner
#009	34	2007	Specialist	Hospital	Employee
#010	36	2006	GP	Doctor's office	Owner

GP: general practitioner

Table 1. Basic characteristics of study participants

Analysis Results

The analysis generated 6 categories, 14 subcategories, and 27 concepts. The emerging categories were (1) initially unperceived gender differences, (2) gender segregation in KM practice, (3) gender–related aspects that affect patient–doctor relationships, (4) suspended career or career movement caused by life events, (5) fixed gender roles, and (6) maintenance and pursuit of a career. The gender-related experiences of female KM doctors in selecting their career paths and advancing in them are described for each category.

Initially unperceived gender differences

According to most participants, gender differences did not affect career planning during their medical school years. Although some career choices were made based on their gender, they did not perceive gender as being a decisive factor. Participants said that they mapped out their careers after considering occupational characteristics and personal life conditions.

At the time, my gender being a woman didn't really affect how I planned my career. (#006)

The more important factor affecting career choice was one's concern over her possible lack of ability as a doctor. Some participants answered that their own sense of purpose or limited career options affected their initial choice, whereas a few said that work experience as a student and age affected career decisions, as well.

Most of the male students went on to work as public health doctors, people who were older opened their own clinics, and young female students only made up 20% of all the 100 students at our school. All 20 of them applied to work at a hospital, including me. (…) I had no choice but to work as an intern since I didn't have a lot of options to choose from. (#001)

Gender segregation in KM practice

In addition, gender segregation in KM practice stands out as a significant factor affecting female KM doctors' career decisions and employment.

Career paths recommended for female KM doctors

The majority of the participants answered that there were some specific career paths that were either recommended or not recommended for female KM doctors.

Just because I am a woman, am young, and had just graduated, I was advised that running a clinic wouldn't work out, and to not open my own clinic, (…) or to choose to work in the area of aesthetics like skin care or weight loss (Aesthetic KM is similar to aesthetic medicine in WM. The therapeutic methods of aesthetic KM include acupuncture for skin care and herbal medicines acting as appetite suppressants for weight loss, and so on). *I just got a lot of advice of that kind. But … how can I put it, they hurt my pride as a doctor and, on hearing those remarks, it seemed like they assumed that I would be interested in aesthetics just because I am a woman. (#005)*

Employment followed by gender segregation

The majority of the participants experienced gender segregation in KM practice while finding employment. Female KM doctors were preferred in departments such as KM dermatology and KM pediatrics, whereas their corresponding male counterparts were better preferred in the department of acupuncture and moxibustion, the department of rehabilitation, and local clinics.

Usually, female Korean medicine doctors are preferred and wanted by Korean medicine clinics that specialize in aesthetics like skin care and weight loss but those specializing in pure traditional Korean medicine prefer male doctors. (#007)

Most Korean medicine clinics that use a lot of acupuncture don't prefer female doctors. When I attended my job interview, they did not look pleased and said to me, "Can you even bear to work standing up all day?" (#001)

A few participants followed such gender segregation rules and succeeded in becoming employed. In other words, in women-centered, segregated specialties, some participants had an advantage in securing employment during the early days of their career. The others deviated from the expected roles and, hence, experienced difficulties in becoming employed. A few others initially deviated from the expected roles, but later conformed with the roles to specialize in the fields recommended for female professionals. This was because their bosses required them to be in charge of such fields, and they ultimately experienced mixed stability and insecurity in their career.

It was not like I wanted to work in pediatrics. When I saw the job ad, the job descriptions weren't particularly about dieting or children's illnesses. It was just that as I was working there, I was asked (to focus on the area of pediatrics) by the doctor who had hired me and I, being a woman, worked out well, so I cared more about that kind of illness. (#006)

Gender–related aspects that affect patient–doctor relationships

Most of the participants mentioned that they had encountered situations where their gender affected the patient–doctor relationship. More than half of them answered that they had experienced patients being aware of the doctor's gender.

I often hear patients say, "huh, the doctor is so young. The doctor is a woman." That really happens. They just say that in my face. "Oh, you are a woman." (#005)

Further, female KM doctors mentioned that they could better relate to female patients and

said that this worked as an advantage. Patients had a tendency to feel more at ease with a female KM doctor, as well. This tendency has both positive and negative effects.

Patients want to be able to talk about themselves comfortably with doctors at Korean medicine clinics. (...) And being a female doctor has its advantages because patients tend to talk more comfortably with female doctors. (#003)

But there are also some male patients who talk down to female doctors from time to time. (#009)

A few participants had experienced situations where patients seemed to feel more comfortable with body exposure because the doctor was a woman. However, sometimes, patients did not treat them as KM doctors and sexually objectified or harassed them in the clinic.

People just assume that most of the Korean medicine doctors are old or they think it is acceptable if the doctors are young male doctors. But when I come into the room, some old ladies say, "where is the doctor? Tell the doctor to come and not the nurse." (...) I was once called "unni," which means an older sister in Korean. "Hey, my kid is sick. Unni, do you recommend me feeding so and so to my kid?" (#001)

There were one or two cases when our staff were (harassed). The patients would do that to the staff (...). Sometimes, they would do that to me too. A female doctor (...). They would ask me to touch them, or joke about my figure, or remark about it. For instance, saying stuff like "well doctor, you are in better shape than I had imagined." (#007)

Suspended career or career movement caused by life events

Half of the participants had experienced pregnancy and childbirth and been directly affected by these life events. In cases where the female KM doctors were self-employed and were managing their own clinics, they had to take a career break, hire a part-time doctor to fill in for their positions, and come back after a fixed period following pregnancy/childbirth. If these doctors were employed at a local clinic or a hospital, all had to resign from their positions. Following resignation, female KM doctors experienced significant career breaks equal to the amount of time that was spent giving birth and receiving postnatal care. The length of this period showed individual variations, since some went back to work or opened their own clinics, whereas others experienced longer delays following childrearing or second childbirth. . In case of planned pregnancy or childbirth, female KM doctors opted to change jobs or make career

plans with their possible pregnancy in mind. Some mentioned the difficulties of obtaining maternity leave, particularly in the medical profession.

As I was planning for my pregnancy, I found a relatively easy position at a nursing home, and I quit after working for 6 or 7 months. (#001)

Big corporations have a lot of subs available; however, even in big hospitals, subbing for someone isn't easy. It means that someone new has to be hired since the other workers are not that flexible in terms of schedule to cover another person's work. (#003)

Meanwhile, these life events had an effect on the employment process and, for some, they were hindrances to career advancement.

During the job interview, there were two other female doctors and we were all asked during the interview whether we had a boyfriend. I wonder if they asked that kind of question to the male doctors, as well. We were also individually asked if we had a boyfriend or whether we were planning to get married any time soon. They really did. So I said no. Two other female doctors and I talked about it afterward, saying that if we are asked about such things, the answer must always be "no." (#008)

Fixed gender roles

Many female KM doctors witnessed their male counterparts being favored during the employment process. As women, they experienced having to become the main nurturer of children at home, as well.

Direct discrimination during employment

The majority of the participants answered that they felt male doctors were preferred by employers. Sometimes, male KM doctors were preferred over female doctors in the fields that were unrelated to the gender segregation prevalent in KM or that were known to prefer female doctors. Further, some participants felt that objective job performance indicators were not examined during the employment process.

I was asked to post a job ad for my replacement and was asked to include three requirements; must be male, someone who is not too young, and from OO University. Actually, I don't fulfill any of these requirements. I understand that doctors with these qualities are likely to be

preferred, but I was thinking whether all that was necessary. (#008)

Although I was a female resident, I think I wanted to show that I was capable of continuing my job at the hospital. So, in the last year as a resident, I really worked hard and performed my best compared to my fellow residents, which resulted in the highest rate of returning patients and making the most profit for the hospital. But, unfortunately, it turned out that my efforts didn't mean much because I was a woman. I am sure if I were a man, things would have turned out differently. Men would have been given the privilege to apply to a director position at a hospital. (#002)

Occasionally, some participants reported cases where the employers preferred to hire a female doctor over a male one. Usually, this trend was observed when the predecessor had been a female employee or the workplace required attitudes based on stereotyped feminine roles.

That doctor (employer) seemed to think that he lacked a gentle personality and you know there are patients who like that kind of personality? So I think he hired me (to make up) for that image ... (#009)

Role of becoming the main nurturer

Half of the female KM doctors participating in this study had experienced childbirth and responded that they were the person in charge of childrearing at home. All of them expressed difficulties in managing the work–family balance. Some of them mentioned that their additional job of having to care for the children significantly infringed on their personal time for self-improvement, such as studying and attending continuing education programs as KM doctors.

At first, it was physically overwhelming; so for about a year, I really thought about it really much, on whether I should continue working or whether I should focus more on my duties as a mom and a wife. (#002)

On the other hand, the majority of the female KM doctors with children also said that they voluntarily took on the role of the main nurturer out of maternal affection. Further, many of the participants without children perceived that they would become the main nurturer of their children in the future.

Maintenance and pursuit of a career

Almost all the study participants had had optimistic career expectations while making their

career plans at the start of their careers. They were the generation called the "Highest College Scholastic Aptitude Test Generation" (students during the 1990s and early 2000s had to score the highest range of the Korean college scholastic aptitude test to gain entry to any of the KM universities). They had not been concerned about their future as KM doctors and had had high expectations and great ambitions regarding their future careers.

(Scores had to be) Very high. Very high. I entered the medical school as the class of 2006 (entering in the year 2000) and that was when getting into a KM university was most rigorous. (#001)

When I was an undergraduate, I was really ambitious and had big dreams, such as spreading Korean medicine worldwide (laughs). Hmm, yes I had those dreams. (#002)

After becoming employed, most of the female KM doctors changed jobs in pursuit of self-development, and more than half of the participants answered that their ultimate goal is to become better professionals or develop specialties in their field. The specialties that the participants intended to develop themselves in tended to be related to their gender roles, as well. A few answered that they wished to operate a stable business and balance their work-related and familial duties. While discussing their present and future career goals, participants tended to maintain a grip on reality and make corresponding adjustments to their career goals.

Now, I don't want something that grandiose. Rather, I would like to think about the people that need my help or has received my help. Right, being able to provide better care for the people that come to me in need and to be a better doctor, that is my current goal. (#004)

Discussion

In this study, we examined how gender and gender roles affect female KM doctors' career choices, advancement, and maintenance by conducting in-depth interviews and qualitatively analyzing the results. This study revealed that gender segregation in KM practice affects career decision paths, employment, and job positions of female KM doctors even after they become employed. The existence of gender segregation in the medical profession has been previously noted, as well. According to the Association of American Medical Colleges 2015 report on active physicians by sex and specialty, the highest number of female physicians occurs in pediatrics (61.9%), obstetrics and gynecology (54.5%), and pediatric hematology/oncology (51.9%), whereas that of male doctors was in orthopedic surgery (95%), thoracic surgery (94%), and interventional cardiology (92.6%)[31]. Although no such report exists in the KM field, a noteworthy survey among graduating students revealed that students perceived male KM

doctors would be favored in the departments of KM rehabilitation, acupuncture and moxibustion, and KM internal medicine, whereas female KM doctors would be favored in KM obstetrics and gynecology, KM pediatrics, and KM ENT[14]. However, one difference is that the number of doctors who attend further training in different specialties is only 11.7% (as of 2016) in the field of KM[32]; however, even then, gender segregation is highly prevalent among general practitioners. The lack of adequate competence and skills is another reason why female KM doctors do not select a specific career path, which was frequently mentioned by interviewees, who described this as "lacking sufficient clinical experience." A Dundee Ready Educational Environment Measure survey among KM university students showed that the students' perception of learning scores related to their competence were low[33]; further, in the study by Nomura et al.[34], female medical students showed lower confidence in clinical and academic competitiveness compared to their male colleagues.

Female KM doctors experienced fixed gender roles during employment and in work–home environments, as well. Their male counterparts were generally preferred during the employment process, and this finding agrees with previous studies. In a "Sense of gender division of labor survey" conducted among physicians in South Korea, more than half of the respondents answered that if they had the authority to select new physicians or residents in hospitals, they would select male doctors[9]. A survey conducted among students graduating from a KM university revealed that students preferred to work with male colleagues in the future, as well[35]. Further, a study by McKimm[36] revealed that traditional stereotypes on medical leaders and their behaviors are biased in favor of men, and a culture based on such masculine styles of leadership can devalue women, so that many women may choose not to apply for leadership positions. Maternalism is another major reason why female KM doctors take the lead in becoming the main nurturer at home. Further, Heo's panel analysis[37] of gender role attitudes among women aged 24–37 years in South Korea revealed that although the ideology of gender division of labor has become diluted, attitudes on childrearing remain unchanged. Female KM doctors were no exception to taking career breaks during and after childbirth; this trend coincides with the characteristic M-shaped curve, reflecting the employment–population ratio of women that is observed only in South Korea and Japan. Most of the participants felt that childbirth had a bigger impact on their careers than marriage. Eun et al.[38] reported that, in South Korea, whereas the percentage of women quitting the workforce after marriage was low, the corresponding numbers increased following childbirth. In Japan, as well, many female physicians resigned from full-time hospital jobs within 10 years of graduation since they could not manage long working hours, the lack of substitute doctors, and the added burden of childcare[39]. In this study, the career moves made by women after childbirth breaks ranged from opening their own full-time clinics to taking time off from work; this result is different from that of an earlier study[40]. Even when female KM doctors opened their own clinics, such decisions were often the result of having limited options after childbirth or were a demand due to flexible work hours.

Despite experiencing gender discrimination, most female KM doctors maintained their career goals by making small adjustments in the development process. To maintain the work–family balance, many were forced to shorten their work hours; however, even in these situations, the study participants chose to retain their careers, rather than quitting the labor market, which is different from the results of other studies[13] examining the perception of career

pursuits among female physicians; this is also different from the "leaky pipeline phenomenon" noticed among female workers in science, technology, engineering and mathematics (STEM) fields. The difference shown by our results may be attributed to the fact that the participants in this study consist of female KM doctors from different economic backgrounds who formed a remarkable generation in the history of KM. Another interesting result was that some participants in this study frequently answered that their gender as a woman does not matter to them and that it did not affect their career, although interview results revealed otherwise. This finding conformed to the finding by Smith et al.[41]. Further, Kim et al.[42] noted that people in disadvantaged groups, such as women or less-educated workers in South Korea, tend to report less discrimination for themselves compared to men or higher educated workers, respectively.

Another noteworthy aspect of this study is that the gender of all the female participants affected clinic-based patient–doctor relationships. Gender was associated with other factors, such as age and culture, as well. Studies have shown that demographic factors and socioeconomic factors can influence patient–doctor relationships[43]; however, the prevalence of gender as a factor is a recent phenomenon in South Korea. The finding that the female KM doctors in our study related particularly well with female patients has been noted by other studies, as well. According to a report by Bertakis et al.[30], doctors report a high degree of understanding and patients feel a high level of comfort when both are of the same gender. In a study by Schieber et al.[44], researchers showed that patients more easily accepted doctor's recommendations when both were of the same gender. Interestingly, the female KM doctors in our study answered that male patients seemed to feel more comfortable with female doctors and tended to reveal sensitive health issues to the latter. However, other studies have shown that, if given an option, male patients choose male doctors over female doctors[45]; however, Himmelstein and Sanchez[46] further noted that men of strong masculinity tend to report fewer symptoms to male doctors than female doctors. Jefferson et al. also revealed that social expectations of how female doctors should behave may lead patients and female doctors to spend more time on psychosocial communication, reinforcing the gender role[47]. Regarding sexual objectification and harassment, the South Korean Medical Association reported in 2017 that 45.5% of female residents experienced sexual harassment in the healthcare workplace[48]. There is no published survey on the training and working conditions of KM female doctors, and our study shows that such investigations are urgently required.

This study has several limitations. Globally, gender is a sensitive topic in all male-dominated fields, including the medical profession; hence, the participants could have been prone to providing desirable answers. However, some of these answers enabled meaningful discoveries in this qualitative study; an example is the participants' constant denial of gender being a career barrier. Although participants were recruited through several channels and purposefully sampled to incorporate as many different experiences as possible, most of them were located in the metropolitan area of South Korea and their experiences may differ from those of female KM doctors living in smaller villages. In addition, only those participants who could be contacted and could consent to participate were self-selected. Although this ensured compliance with research ethics, the study might have missed those who were unwilling or unable to share their career experiences and those who had already left the medical workforce. Since such limitations may exist, further studies are required to confirm whether the study's

results can be generalized to larger populations. However, to the best of our knowledge, this is the first qualitative study to examine the effect of gender on the careers of female KM doctors, and we believe that this study provides significant information for future studies on the provision of gender sensitive education to KM university students and development of improved working conditions and policies for female professionals working in STEM-related fields.

Conclusions

Over the past 40 years, the number of women working in KM healthcare has increased, and this trend is expected to continue. Problems related to the gender gap are also expected to increase, particularly among female professionals working in the KM field. This study was designed to examine the difficulties encountered by female KM doctors in terms of employment, job performance, and career maintenance, and we revealed significant gender-specific factors. Our study revealed that during employment, strong stereotypical gender roles directly or indirectly affect the employment process. In the medical field, female KM doctors pursued pediatrics, dermatology, and similar areas of specialized care, whereas their male counterparts focused on departments of acupuncture and moxibustion, rehabilitation, and general KM clinics. Our study participants showed a tendency to maintain their career pursuits; however, their pursuits were limited by important life events, such as childbirth. Female KM doctors maintained maternalism notions that made them conform to standardized gender roles at home. Further, gender significantly affected patient–doctor relationships. Female KM doctors could relate more with patients of the same gender. Finally, although this study has limitations, it is a valuable resource for future large-scale quantitative studies.

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References

[1] Statistics Korea. The lives of women as reflected in 2018 statistics. Seoul: Statistics Korea, 2018.

[2] OECD. Health at a glance 2017: OECD indicators. Paris: OECD Publishing, 2017.

[3] Korean Ministry of Education, Korean Educational Development Institute. Statistical yearbook of education 2017. Chungbuk, Republic of Korea: Korean Ministry of Education, 2017.

[4] K Schwab, R Samans, S Zahidi et al. The global gender gap report 2017. Geneva: World Economic Forum, 2017.

[5] Data Team of The Economist. The glass ceiling index. The Economist. 2018 Feb 17;426(9079): 56.

[6] SE Choi. What makes it difficult for Korean high educated women to participate in the labor market? The heritage of the developmental welfare production regimes of Korea. Issues in Feminism. 2017 Apr;17(1): 145-92.

[7] SY Son. Labor experiences and dilemma of highly-educated professional women in Korea. Korean Association of Women's Studies. 2005;21(3): 67-97.

[8] YY Cho. Childbirth and labor supply for married women: Lifecycle model. Sejong-si, Republic of Korea: Korea Development Institute; 2006. 5-11p.

[9] SH Kim. The gendered structures and status of female doctor in Korean healthcare institution. Pusan, Republic of Korea: Pusan National University. 2004.

[10] Health Insurance Review & Assessment Service, National Health Insurance Service. National health insurance statistical year book. Seoul: National Health Insurance Service, 2016.

[11] JH Ahn. The influence of gender on professionalism female in trainees. Korean Journal of Medical Education. 2012;24(2): 153-162.

[12] JH Son. Career experiences of highly educated professional women: Focusing on women with 5-10 career years. Korea Journal of Counseling. 2013;14(1): 501-522.

[13] K Nomura, Y Yamazaki, LD Gruppen et al. The difficulty of professional continuation among female doctors in Japan: A qualitative study of alumnae of 13 medical schools in Japan. BMJ Open. 2015;5(3): e005845. doi: 10.1136/bmjopen-2014-005845

[14] HY Lee, HW Kang, NK Kim et al. Effectiveness of collaborative treatment using Korean and Western medicine for mild cognitive impairment or dementia: A protocol for a prospective observational exploratory study. Medicine (Baltimore). 2018 Aug;97(35):e12098.

[15] F Cheung. TCM: made in China. Nature. 2011 Dec 21;480(7378):82-3.

[16] HJ Sung, HK Shin. Comparison and research on policy of rraditional medicine in Korea and three countries of East Asia, Daejeon, Republic of Korea: Korean Institute of Oriental Medicine, 1997.

[17] GC Ryu, HW Lee, SJ Oh et al, International competitiveness and tasks of Korean traditional medicine from the perspective of international comparison of curricula and research. Journal of Korean Institute for Health and Social Affairs; 2005;25(2): 107–146

[18] KJ Yoon, DS Kim. Ways of integrating Oriental medicine and Western medicine. Sejong-si, Republic of

Korea: Korea Institute of Health and Social Affairs, 2013.

[19] HL Park, HS Lee, BC Shin. Traditional dedicine in China, Korea, and Japan: a brief introduction and comparison. Evidence-Based Complementary and Alternative Medicine. 2012;2012, Article ID 429103, 9.

[20] YM Yun, SH Jung. Trajectories of appearance concerns of South Korean adolescents. Journal of Health Informatics and Statistics. 2018;43(4):245-254.

[21] KM Aldiabat, CL Le Navenec. Philosophical roots of classical grounded theory: its foundations in symbolic interactionism. The Qualitative Report. 2011;16(4):1063-1080

[22] SA. Shields. Gender: An intersectionality perspective. Sex Roles: A Journal of Research. 2008;59(5-6):301-311.

[23] Y Wilson, A White, A Jefferson et al. Intersectionality in clinical medicine: the need for a conceptual framework. The American Journal of Bioethics;2019. 19(2): 8–19.

[24] CS Jennifer, Jane Mills, and Kim Usher. Linking symbolic interactionism and grounded theory methods in a research design: from Corbin and Strauss' assumptions to action. SAGE Open; 2013;3(3):1–10.

[25] SM. Fram. The constant comparative analysis method outside of grounded theory. The Qualitative Report. 2013;18(1):1-25.

[26] SM Lee, SP Yang, ES Kim et al. Admission care for Bell's Palsy patients: A qualitative report on patient experiences. Journal of Acupuncture Research. 2013;30(5). 11-23

[27] A Tong, P Sainsbury, J Craig. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. International Journal for Quality in Health Care. 2007;19: 349-357.

[28] S1 Ramani, K2 Mann. Introducing medical educators to qualitative study design: Twelve tips from inception to completion. Medical Teacher. 2016 May;38(5): 456-463.

[29] J Corbin, AL Strauss. Basics of qualitative research. 4th ed. Los Angeles: SAGE Publications; 2015

[30] L Birt, S Scott, D Cavers et al. Member checking: A tool to enhance trustworthiness or merely a nod to validation? Qualitative Health Research. 2016;26(13): 1802-1811.

[31] Association of American Medical Colleges. Active physicians by sex and specialty, 2015. https://www.aamc.org/data/workforce/reports/458712/1-3-chart.html (Accessed 2018 Aug 30)

[32] Publication committee of Yearbook of Traditional Korean Medicine. 2016 Yearbook of traditional Korean medicine. Daejeon, Republic of Korea: Korea Institute of Oriental Medicine, 2016.

[33] HH Kim, HY Jeong, PJ Jeon et al. Perception study of traditional Korean medical students on the medical education using the Dundee Ready Educational Environment Measure. Evidence-based complementary and alternative medicine. 2016. doi: 10.1155/2016/6042967.

[34] K Nomura, E Yano, T Fukui. Gender differences in clinical confidence: A nationwide survey of resident physicians in Japan. Academic Medicine. 2010;85(4): 647-653.

[35] HR Jeong, JH Lee. A study on Korean medicine college students' perception of Korean medicine doctors: Focus on gender differences. Journal of Oriental Neuropsychiatry. 2015;26(3): 211-224.

[36] J McKimm, AS Da Silva, S Edwards et al. Women and leadership in medicine and medical education: international perspectives, in (ed.) Gender, Careers and Inequalities in Medicine and Medical Education:

International Perspectives (International Perspectives on Equality, Diversity and Inclusion, Volume 2. Emerald Group Publishing Limited. 2015;69-98.

[37] E Heo. Individualization and gender division of labor: Panel analysis of gender role attitudes of women in the formative period of a family. Korean Sociological Association. 2017;51(4): 47-78.

[38] KS Eun. Korean women's labor force participation and career discontinuity. Korean Policy Studies Review. 2018;41(2): 117-150.

[39] M Izumi, K Nomura, Y Higaki et al. Gender role stereotype and poor working condition pose obstacles for female doctors to stay in full-time employment: Alumnae survey from two private medical schools in Japan. The Tohoku Journal of Experimental Medicine. 2013;229(3): 233-237.

[40] SM Florian. Motherhood and employment among Whites, Hispanics, and Blacks: A life course approach. Journal of Marriage and Family. 2018;80(1): 134-149.

[41] V Smith, C Bethune, KF Hurley. Examining medical student specialty choice through a gender lens: An orientational qualitative study. Teaching and Learning in Medicine. 2018;30(1): 33-44.

[42] SS Kim, Y Chung, SV Subramanian et al. Measuring discrimination in South Korea: Underestimating the prevalence of discriminatory experiences among female and less educated workers. PLOS ONE. 2012;7(3): e32872. https://doi.org/10.1371/journal.pone.0032872

[43] KD Bertakis. The influence of gender on the doctor–patient interaction. Patient Education and Counseling. 2009;76(3): 356-360.

[44] AC Schieber, C Delpierre, B Lepage et al. Do gender differences affect the doctor–patient interaction during consultations in general practice? Results from the INTERMEDE study. Family Practice. 2014;31(6): 706-713.

[45] K Fennema, D Meyer, N Owen. Sex of physician: Patients' preferences and stereotypes. The Journal of Family Practice. 1990;30(4): 1-7.

[46] MS Himmelstein, DT Sanchez. Masculinity in the doctor's office: Masculinity, gendered doctor preference and doctor–patient communication. Preventive Medicine. 2016;84: 34-40.

[47] L Jefferson, K Bloor, K Spilsbury. Exploring gender differences in the working lives of UK hospital consultants. Journal of the Royal Society of Medicine. 2015;108(5):184-91.

[48] MG Kim, WR Mun, DH Ki et al. 2017 Survey of training and work environment of doctors in training. Seoul: Research Institute for Healthcare Policy;2017.

Supplementary Table 1. Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description	Response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Inter viewer/facilitator	Which author/s conducted the interview or focus group?	#001, 002, 003, 004, 006, 007, 008, 009 by SEC, #005, 010 by JHL. (page 5)
2.	Credentials	What were the researcher's credentials? E.g. PhD, MD	SEC, JEL and JHL were KM college student. SMKL, JL and HK were KMD, PhD.
3.	Occupation	What was their occupation at the time of the study?	Researcher's occupations at the time of the study included student, research fellow, research professor.
4.	Gender	Was the researcher male or female?	Female
5.	Experience and training	What experience or training did the researcher have?	Two months
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	No, there wasn't.
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Name, occupation, reasons for doing the research
8.	Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Age, type of certificate, current workplace, location of workplace
Domain 2: Study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Constant comparative analysis method (page 6)

Participant selection			
10.	Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Purposive sampling, snowball sampling, theoretical sampling (page 5)
11.	Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Face-to-face (page 6)
12.	Sample size	How many participants were in the study?	Ten participants (page 7)
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	Two for personal reason (page 7)
Setting			
14.	Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	A quiet and comfortable place chosen by the participants (page 5)
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	Two interviewees with their baby
16.	Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Female KM doctors in their 30's (page 4-5)
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes, they were. / Yes, it was. (page 5)
18.	Repeat interviews	Were repeat inter views carried out? If yes, how many?	No, they weren't.
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording (page 5)
20.	Field notes	Were field notes made during and/or after the interview or focus group?	Yes, they were.
21.	Duration	What was the duration of the inter views or focus group?	Average 59 minutes (page 5)
22.	Data saturation	Was data saturation discussed?	Yes, it was.
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Two participants randomly selected and reviewed.
Doman 3: Analysis and findings			

Data analysis			
24.	Number of data coders	How many data coders coded the data?	One (SEC)
25.	Description of the coding tree	Did authors provide a description of the coding tree?	Yes, we did.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Yes, they were. (page 6)
27.	Software	What software, if applicable, was used to manage the data?	AXQDA 2018 (page 6)
28.	Participant checking	Did participants provide feedback on the findings?	Two participants randomly selected and feedbacked (page 6)
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes, there was. (page 8-13)
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, there was.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes. they were. (page 8-13)
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, there is. (page 8-15)

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