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Abstract

Background: Women often have a preference for female obstetrics and gynaecology specialists (ob/gyns). Following the policy allowing physician selection by patients in Turkey, distribution of ob/gyns by gender across provinces has been an important indicator of access to healthcare.

Aims: To analyse ob/gyns distribution by gender across provinces in Turkey, with emphasis on the relationship with conservativeness of the province and resulting physician workload.

Methods: We measured the number of male and female ob/gyns by province in 2016 and the number of outpatient visits and deliveries performed by male and female ob/gyns in 2015. Pearson and Spearman correlation of the female ratio with votes for conservative parties was used to assess the distribution of ob/gyns. We then analysed the correlation with resulting workload of female ob/gyns and ran linear regressions of these variables controlling the number of ob/gyns in a province.

Results: More conservative provinces, measured by the vote share for conservative political parties, have a higher ratio of female ob/gyns. Linear regression showed that a 1 percentage point (pp) increase in the vote share corresponded to a 0.69 pp increase in female ratio. For workload, a 1 pp higher female ratio resulted in a decrease in workload, measured as outpatient visits per female ob/gyn divided by that per male ob/gyn, by 0.014.

Conclusion: Conservative provinces have more female ob/gyns, but other provinces

compensate for that with higher female ob/gyn workload. High workload may have adverse health effects and result in lower quality of care.

Keywords: patient preference; geographic distribution; physician workload; obstetrics and gynaecology; Turkey

Citation: Erus B; Tuncay B. Inequalities in the geographical distribution and workload of obstetrics and gynaecology specialists by gender in Turkey. East Mediterr Health J. 2022;28(6):418–424. https://doi.org/10.26719/emhj.22.037
Received: 27/04/20; accepted: 02/03/22

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Ministry of Health in Turkey published ‘’Physician Selection Guideline’’ for patients in 2004 and the guideline came into force on 17/10/2007 with the law number 9379. Accordingly, patients seeking healthcare services in public hospitals are able to choose their physicians for physical examinations and treatments (https://www.saglikaktuel.com/d/file/makamoluru.pdf , https://www.saglikaktuel.com/haber/hekim-secme-yonergesi-1015.htm)

Introduction

The process of choosing a physician to seek advice or care is one of the important aspects of healthcare provision. The preference of patients for various physician characteristics (e.g. gender, education, level of experience, years in practice, etc.) may determine the quality and volume of care. If patients’ choice is based on characteristics such as gender, which are not correlated with physicians’ professional capacity, and are considered more important than competency, resources may not be allocated adequately to match patients’ preferences and needs. As a result, patients may receive lower quality of healthcare. If the supply of specialists is unbalanced with respect to the preferences of patients, this may result in inefficient use of medical resources, resulting in some physicians being overworked and others underworked.

There is evidence for the role of healthcare provider gender in patients' preference (1), especially for specialties such as obstetrics and gynaecology (2–5), where patients are predominantly female. Physicians' gender is a critical factor determining women's choice of obstetrics and gynaecology specialists (ob/gyns) in conservative societies. Rizk et al. found in a non-western society that most women (86.4%) preferred female ob/gyns because of sociocultural values (6). Mclean et al. found similar results among Emirati (Muslim) women (7). Bashour et al. reported that > 85% of Syrian patients preferred female obstetricians (8), and Lafta et al. reported that 74% of Iraqi patients preferred female gynaecologists (9). In Turkey, a mainly Muslim-populated country, patients who preferred female ob/gyns stated that they had high quality of communication, less embarrassment, and that they were more satisfied due to their religious beliefs (10). These personal statements show that such characteristics obviously influence patient preferences in favour of female physicians when given the choice.

Turkey reformed its healthcare system in 2002. Along with other significant changes, patients were given the right to choose their physicians in public hospitals.The government identified patient choice as a priority not only to achieve higher patient satisfaction levels but also to allow competition among healthcare providers and as a result improve care provision. Thus, patients have become more active about clinical processes related to their healthcare. One of the significant effects of this policy change has been in obstetrics and gynaecology where some patients express strong preference for female specialists.

Whether allocation of physicians should be based on patient choice and to what extent this choice should affect public health policy are important questions. Choice of physician becomes more controversial when it is not based on quality of care but on personal preferences. When gender is considered to be one of the most important factors for selection of physicians, such choice may pose a challenge to the management of healthcare services, and it is important to investigate whether it creates obstacles to access.

Research on gender disparity in physician distribution and its impact on the workload of physicians has rarely been conducted in Turkey, a developing country where communication between men and women is challenging (11–13). Sever and Yurdakul have stated that, in socially conservative circumstances, women are subject to social control that impedes them from public activities, such as interacting with men other than a family member (12). This means that women feel less comfortable, more embarrassed and less satisfied in their interactions with men, thus creating many challenges in communication.

In this study, using data from Turkey we analysed the distribution of ob/gyns by gender in public hospitals across provinces. In Turkey, specialists are appointed to provinces by the Ministry of

Health based on the needs of the province as well as preferences. We hypothesized that, in conservative locations, demand for female specialists would be higher, resulting in a higher female to male ob/gyns ratio compared to that in less conservative locations. We then investigated the implication of unbalanced gender distribution from the perspective of workloads of ob/gyns.

Methods

Data used for this study were obtained from the Turkish Ministry of Health. Since the study used aggregate level data and it was not possible to identify particular physicians or patients, no ethical approval was requested. Our data included the total number of male and female ob/gyns in public hospitals at a provincial level between 2012 and 2016. The data included the number of patients treated by male and female ob/gyns at the provincial and hospital levels in 2015, and the number of deliveries by male and female ob/gyns at the provincial level in 2015. For the analysis, we used the data from the latest year available, 2016 for the number of ob/gyns by provinces and 2015 for the workload of physicians. It should be noted that the number of physicians reflects the beginning of the year and hence was highly correlated, with a Pearson correlation coefficient of 0.996, with the numbers from the previous year.

To measure the difference in gender distribution of ob/gyns across provinces, we calculated the ratio of female ob/gyns to total ob/gyns at the provincial level. For the analysis, we limited the data to provinces with > 10 ob/gyns in 2016, because in provinces with 25% of the votes because vote share in those regions may have been shaped by ethnic concerns and hence failed to reflect conservativeness of the region. This left us with 32 of the 81 provinces in Turkey. As such, the sample was representative of the provinces with large populations. The data set is presented in Appendix A1.

To examine the relationship between conservativeness of the province and number of female ob/gyns our analysis made use of Pearson and Spearman correlation coefficients between the variables. Spearman correlation coefficient was presented because normal distribution assumption was not satisfied for certain variables and we had small samples. Another concern was the correlation between the denominators of ratio variables. To address this issue, we ran linear regression of the number of females on our conservativeness measure, controlling for the number of ob/gyns in a province. We hypothesized that female ratio would be higher in provinces that are more conservative.

To measure the imbalance in workload, we had two variables, number of outpatient visits and number of deliveries. We constructed two continuous dependent variables for each, the ratio of patients per female ob/gyn to patients per male ob/gyn and the number of patients per female

ob/gyn. While the former presented the workload relative to male ob/gyns, the latter gave an absolute measure. We measured the correlation of the dependent variable using the ratio of female ob/gyns to the total ob/gyns and performed linear regression.

Results

The mean number of ob/gyns in the provinces was 26.66 (standard deviation 14.25). Female ob/gyns comprised 43.17 (16.32)% of the total. Denizli had the lowest ratio of 21.05% and Erzurum, Rize and Giresun provinces had the highest ratios of 80%.

The descriptive statistics indicated an imbalanced distribution, to examine its relationship with conservativeness of the provinces, we used the ratio of female to male ob/gyns as a dependent variable and vote share for conservative political parties as an independent variable. The Pearson correlation coefficient was high (0.63, P = 0.0001) and Spearman correlation coefficient was 0.67 (Table 1). Linear regression estimation, controlling for the total number of ob/gyns, showed that the coefficient for the conservativeness measure was 0.693 (significant at 99% confidence level) (Table 2). Assuming that the vote share for AKP reflected conservativeness of the province, female ob/gyns comprised a larger proportion of ob/gyns practicing in conservative regions, in line with the hypothesis.

Given the results indicating composition of ob/gyn specialists to be related to the conservativeness of the province, we next looked into the workload of ob/gyns. The ratio of outpatient visits by female to male ob/gyns had a mean of 1 (0.40), indicating a balanced workload on average. However, the high standard error showed that there may have been imbalances in some provinces. For deliveries, the ratio was 0.65 (0.45), indicating heavier workload for male ob/gyns. This could be explained if female ob/gyns preferred to work within usual office hours and tried to avoid overtime, as deliveries are very difficult to schedule. Similar to outpatient visits, there was a high level of standard error.

To assess gender imbalance in workload, we examined the correlation between ratio of patients per female ob/gyn to male ob/gyn, and ratio of female ob/gyns to total number of ob/gyns across provinces. The correlation was negative at –0.53 (P = 0.0016) according to Pearson correlation coefficient and –0.68 according to Spearman correlation coefficient (Table 1). Regression analysis found that each percentage point increase in female ratio among ob/gyns was associated with a decrease in the relative workload of female ob/gyns by 0.0143, corresponding to 1.43% change relative to the mean value of 1.0 across the provinces (Table 2). This indicates that the workload for female ob/gyns was higher in provinces where female ob/gyns ratio was lower.

The correlation between ratio of deliveries by female ob/gyns to those by male ob/gyns and ratio of female to male ob/gyns was –0.62 (P = 0.0001) with Pearson correlation and –0.71 (P

While the ratios reveal something about the distribution of workload among male and female ob/gyns, they do not allow comparison of absolute differences in workload imbalance across provinces. The correlation of the number of outpatient visits with female to male ob/gyn ratio was negative (Pearson –0.45, P = 0.0104; Spearman –0.48, P = 0.0053) (Table 1). The correlation of the number of deliveries with female to male ob/gyn ratio, however, was not significant (Pearson –0.15, P = 0.4285; Spearman –0.19, P = 0.2962) (Table 1).

Discussion

We found a higher female to male ob/gyns ratio in conservative locations than in less conservative locations in Turkey, and a higher workload for female ob/gyns in provinces where the ratio of female to male ob/gyns was lower. Individuals differ with respect to their values and healthcare demands. Therefore, to what extent individuals need more options in healthcare, how patients choose their healthcare provider, and which provider qualities they prioritize are important research questions. As previously emphasized, gender is one of the most influential factors in selection of physicians, and this is most apparent in the specialty of obstetrics and gynaecology where patients are predominantly female. Little is known, however, about patient preferences regarding choice of physician in Turkey. In obstetrics and gynaecology practice, patient preference regarding the gender of healthcare provider affects the distribution of ob/gyns by gender and access to their services. Therefore, we aimed to contribute to the growing literature on this subject by emphasizing geographical distribution of gender imbalance and its consequences in Turkey. We analysed the difference in gender distribution of ob/gyns across provinces, and the correlation of differences across provinces with their conservativeness. We also investigated the consequences in terms of workload of ob/gyns.

Consultation between healthcare providers and patients is an important social interaction. As in every social interaction, the gender of the parties influences this encounter. As the proportion of female physicians in Turkey increases, gender characteristics may play a more important role in determining patient choice. Communication is a component of healthcare quality and barriers to selection of physicians may impede the quality, even if the choice is based on characteristics that are not correlated with the physician’s ability (14). Several studies among Turkish ob/gyns have found that male physicians use a distant and authoritarian communication style while female physicians use a more equitable and persistent communication style (10,15,16). The ability for patients to choose their own ob/gyn is important for optimizing patient satisfaction (e.g. improved access to healthcare). If patients are denied the choice, this may result in not consulting a physician; for instance, women delaying consultations in the absence of female physicians. This could be an inherent impediment to attaining high-quality and equitable care provision across all regions and population groups (17–19). Therefore, it may be argued that

policy-makers should ensure that the way care is presented to all population groups is responsive to both their clinical needs but also their socioeconomic expectations and norms.

Different from other studies (10,16) we used hospital administrative data and focused on the consequences of patients' preferences in terms of ob/gyns' distribution and workload. In parallel with previous studies, we found the distribution of ob/gyns and their workload correlated with a preference for female healthcare providers. Possible explanations for these results are that female patients may have good-quality communication with female physicians, less embarrassment, and they may be more comfortable due to their religious beliefs.

Our results show that the current distribution of ob/gyns was associated with the conservativeness of provinces, with more conservative provinces having a higher proportion of female ob/gyns. We also observed a shortfall of female ob/gyns in less-conservative provinces, and accordingly, female ob/gyns in those provinces faced a higher workload than those in conservative regions. While the conservative provinces had more female ob/gyns, other provinces compensated for that with higher female ob/gyns workload. The association between female to male ratio among ob/gyns and the conservativeness of a province supports the hypothesis, but shortage in less-conservative regions indicates that there may be other reasons for the results. For example, with an insufficient number of female ob/gyns, government may tend to be more responsive to the demand in more conservative regions. Or, the demand for female ob/gyns in those regions may be more vocal and effective. Further research is needed to identify reasons behind the findings.

With regard to imbalanced workload, if at any time the demand exceeds the available capacity, quality of performance decreases. High workload can lead to stress among physicians and impair their ability to provide good quality healthcare, increasing the potential for medical errors and adverse patient health outcomes. The workload imbalance of female ob/gyns in less-conservative provinces in Turkey should encourage public health policy-makers to assess the extent to which distribution of ob/gyns meets patient demand. The unfavourable situation in less conservative provinces may have adverse health effects and lead to lower quality of care. Inequalities in geographical workload of ob/gyns by gender in Turkey may give rise to inequalities in access to healthcare. We lack data on quality of care and hence leave the impact of higher workload on patient health for future research.

Also, high patient volume in less conservative provinces and poor working conditions may eventually lead to low job satisfaction among female physicians and poor access to healthcare among patients as healthcare providers' distress can negatively affect their interaction with patients (17).

It should be noted that the data are limited to provinces with > 10 ob/gyns, which limits the findings to provinces with large populations. However, we do not see any particular reason for the situation to be different in smaller provinces.

Finally, while noting that our findings are based on limited data, we hope that the results reported here will give directions for future qualitative and quantitative studies in Turkey that will guide policy-makers to implement reforms and regulations to improve patient access to healthcare, particularly in professions subject to gender disparity.

Funding: None

Competing interests: None declared.

Inégalités de genre dans la répartition géographique et la charge de travail des spécialistes en obstétrique et gynécologie en Turquie

Résumé

Contexte : Les femmes préfèrent les spécialistes en obstétrique et gynécologie de sexe féminin (femmes gynécologues/obstétriciennes). La répartition des gynécologues/obstétriciens par genre dans les provinces est un indicateur important de l'accès aux soins de santé, suite à la politique autorisant le choix du médecin par les patients en Turquie.

Objectifs : Analyser la répartition des gynécologues/obstétriciens par genre au niveau des provinces de Turquie, en mettant l'accent sur la relation entre le conservatisme de la province et la charge de travail qui en découle pour le médecin.

Méthodes : Nous avons estimé le nombre de gynécologues/obstétriciens de sexes masculin et féminin par province en 2016 ainsi que le nombre de visites ambulatoires et d'accouchements effectués par des gynécologues/obstétriciens des deux sexes en 2015. La corrélation de Pearson et Spearman entre le ratio féminin et les votes en faveur des partis conservateurs a été utilisée pour évaluer la répartition des gynécologues/obstétriciens. Nous avons ensuite analysé la corrélation avec la charge de travail des femmes gynécologues/obstétriciennes qui en a

résulté et avons effectué des régressions linéaires pour ces variables en contrôlant le nombre de gynécologues/obstétriciens dans une province.

Résultats : Les provinces plus conservatrices, mesurées par la part du vote en faveur des partis politiques conservateurs, ont un ratio plus élevé de femmes gynécologues/obstétriciennes. La régression linéaire a montré qu'une augmentation d'un point de pourcentage (pp) de la part de vote correspondait à une augmentation de 0,69 pp du ratio féminin. En ce qui concerne la charge de travail, une augmentation d'un point de pourcentage du ratio féminin entraînait une diminution de 0,014 de la charge de travail, mesurée par le rapport entre le nombre de visites ambulatoires par femme gynécologue/obstétricienne et le nombre de visites par gynécologue/obstétricien.

Conclusion : Les provinces conservatrices ont davantage de femmes gynécologues/obstétriciennes, mais d'autres provinces compensent cette augmentation par une charge de travail plus élevée pour les femmes gynécologues/obstétriciennes. Une charge de travail élevée peut avoir des effets néfastes sur la santé et nuire à la qualité des soins.

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0.69 0.014

[Appendix A1 Ratio of female ob/gyn specialists in selected provinces]

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