Regional Variations in the Distribution of OBGYN Facilities and Their Policy Implications

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Introduction

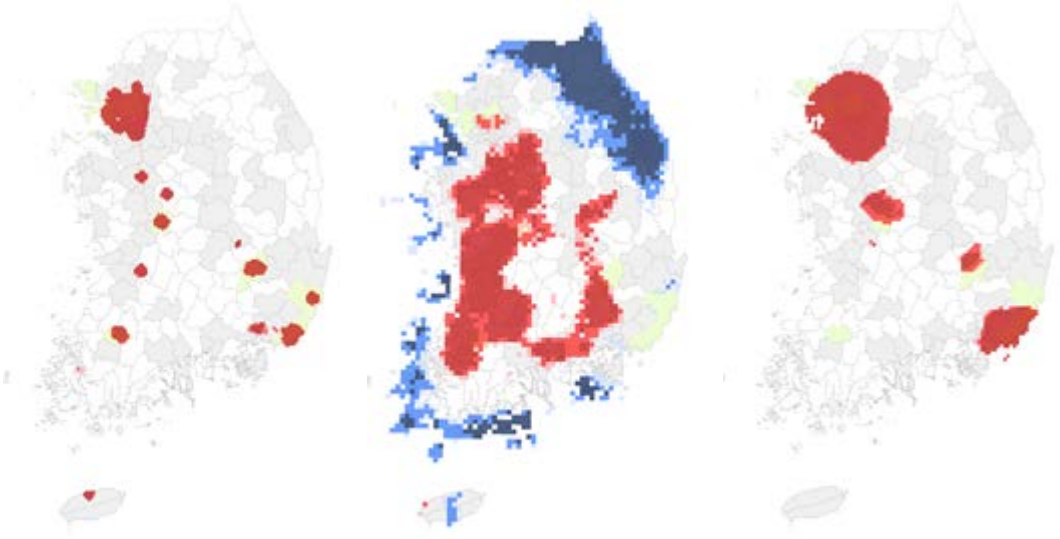
One among the various socioeconomic effects of Korea's persisted low fertility rate is the erosion of OBGYN infrastructure. The rate of closure for OBGYN hospitals and clinics, according to the National Assembly's Health and Welfare Committee (2013), has increased from 1.19 percent in 2009 to 2.17 percent in the first half of 2013, with the number of new obstetricians declining year after year. Also, the number of OBGYN specialists per 1,000 newborns as of June 2013 was 11.79, fewer by 1.14 than the average of 28 OECD countries.

Despite the declining number of newborns, however, the number of high-risk pregnancies and births of late has increased. According to Statistics Korea, preterm newborns—babies born before 37 weeks of pregnancy—as a share of all newborns grew to 6.7 percent in 2014 from 3.8 percent in 2004. Also, the proportion of babies born weighing less than 2,500 grams increased over the same period from 4.1 percent to 5.7 percent. All this suggests the need for further consideration of not only the quantity of OBGYN facilities but their quality and regional distribution. This study looks at the regional distribution of OBGYN care facilities and draws implications for changes needed.

Geographical distribution of OBGYN facilities

Figure 1 depicts the regional distribution of medical/health facilities with OBGYN care capabilities in *si*'s (cities), *gun*'s (counties), and *gu*'s (sub-city districts).

<Figure 1> The Getis-Ord spatial analysis of the distribution of health/medical facilities with OBGYN/cesarean-section capabilities



(a) Medical facilities with OBGYN care capabilities

(b) Health facilities with OBGYN care capabilities

(c) Medical/health facilities with cesarean-section capabilities

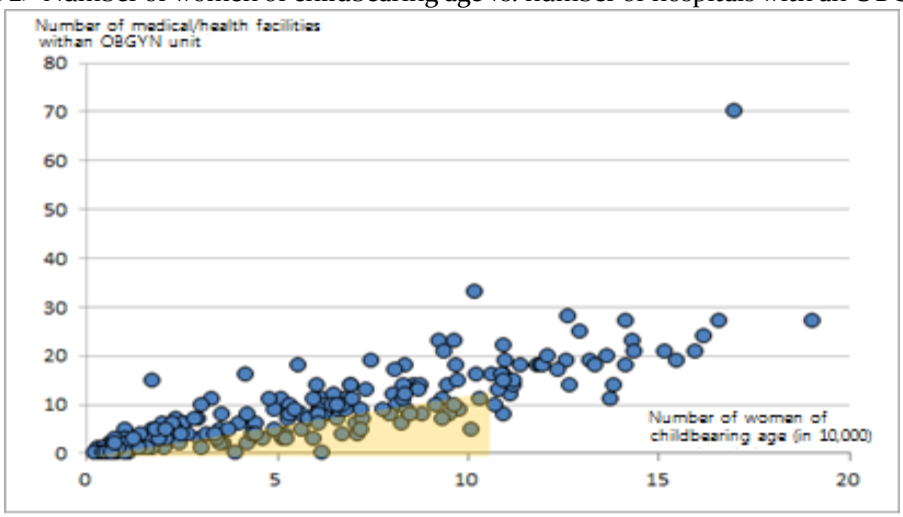
Source: So-young Lee et al. (2015), *Child Birth and Child Rearing and Its Policy Implication* (KIHASA), p. 113

Medical care facilities with an OBGYN unit—OBGYN specialty hospitals and clinics, district general hospitals, and tertiary-care general hospitals—are found highly clustered in the Seoul Capital Area, metropolitan cities and other core cities such as Jeonju (North Jeolla Province) and Gumi (North Gyeongsang Province). When it comes to public health care facilities (health centers, community health posts, county hospitals, and health center branch offices), the hot spots (spots in red) are dominated by *gun*'s in Chungcheong and Jeolla provinces, while Gangwon highland areas and west coast islands prevail in cold spots (spots in red). Medical facilities with cesarean-section capabilities are found densely clustered in the Seoul Capital Area, the Metropolitan City of Busan and Gyeongnam Province. This is to say that specialized medical facilities with a wide range of OBGYN capabilities are densely distributed in the Seoul Capital Area, metropolitan cities and other highly-populated urban areas, while public health facilities with an OBGYN unit are clustered in areas where, due in part to their geographical circumstances, medical establishments are only sparsely distributed.

Access to OBGYN services

Figure 2 is a graph depicting the number of women of childbearing age and the number of OBGYN units in *si*'s, *gun*'s, and *gu*'s. There is for the most part a clear correlation between these two, following in the main what is known as the law of demand and supply. The *si*'s, *gun*'s and *gu*'s represented by the dots in the yellow shade, however, are municipal areas that, with fewer than 10 OBGYN units per a population of 100,000 women of childbearing age, run the risk of being unable to meet the potential demand for OBGYN care.

<Figure 2> Number of women of childbearing age vs. number of hospitals with an OBGYN unit



Source: So-young Lee et al. (2015), *Child Birth and Child Rearing and Its Policy Implication* (KIHASA), p. 117

For a close look at the accessibility to OBGYN facilities in terms of supply and demand, we measured the straight-line distances from the center of each municipality to the nearest OBGYN unit and to the nearest cesarean-section service. Table 1 shows the city-wide and province-wide average straight-line distances. The estimates vary widely between *si*'s and *gun*'s and between *si*'s and provinces, and even between *si*'s and *gun*'s in the same city or the same province, indicating regional disparities in accessibility to OBGYN and delivery services. One of the findings of note is that the nation-wide average distance from *gun* areas to facilities with

delivery care was 24.1 km, about 5 times the average distance from *si* areas.

<Table 1> Average distances to the nearest OBGYN facilities (in km)

Municipal areas		OBGYN facilities	Cesarean-section facilities
Seoul Capital Area	*Si* area	0.3	1.1
Metropolitan cities and Sejong Special Governing City	*Si* area	0.4	3.9
	Gun area	0.6	10.4
Provinces	*Si* area	0.3	8.3
	Gun area	0.4	24.2
Nationwide	*Si* area	0.4	4.8
	Gun area	0.4	24.1

Source: So-young Lee et al. (2015), *Child Birth and Child Rearing and Its Policy Implication* (KIHASA)

Conclusion

The findings of this study reveal that in Korea, where the supply of OBGYN services as a whole has been determined by and large by the scale of the demand, medical facilities with OBGYN capabilities (hospitals, general and specialized) are concentrated in the Seoul Capital Area and other highly-populated cities, while the small-scale demands for OBGYN care in non-urban areas are responded to by local public health care facilities. Also noteworthy is that between *si*'s and *gun*'s there are wide gaps in distance-based accessibility to OBGYN services. To reduce the consequences of such disparities require improving the access of non-urban dwellers to not only general OBGYN care but also emergency care and specialized services for high-risk pregnancy and birth. This should involve overhauling perinatal care and establishing a close-knit network of emergency transport services for OBGYN care users. Any further effort to increase OBGYN facilities should move beyond the existing municipal boundaries of *si*'s, *gun*'s and *gu*'s and focus on achieving an equitable distribution based on a clear understanding of available traffic routes to the nearest service provider. To improve the regional equity of OBGYN facilities requires an even distribution of general OBGYN care across municipalities and an equitable distribution of specialized services for high-risk pregnancy and birth.