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Factors associated with health services utilization between the years 2010 and 2012 in Korea: using Andersen's Behavioral model

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Abstract

Objectives: This study aimed to examine the factors associated with health services utilization using Andersen's behavioral model.

Methods: We collected Korea Health Panel data between the years 2010 and 2012 from the consortium of the National Health Insurance Service and the Korea Institute for Health and Social Affairs, and analyzed the data to determine the outpatients and inpatients of health services utilization.

Results: Health services utilization was more significantly explained by predisposing and need factors than enabling factors. The outpatients were examined more specifically; sex, age, and marital status as predisposing factors, and chronic illness as a need factor were the variables that had significant effects on health-services-utilization experience. The inpatients were examined more specifically: sex, age, and marital status in predisposing factors; education level, economic activities, and insurance type in enabling factors; and chronic illness and disability status in need factors were the significant variables having greater effects on health-services-utilization experience.

Conclusion: This study suggests the practical implications for providing health services for outpatients and inpatients. Moreover, verifying the general characteristics of outpatients and inpatients by focusing on their health services utilization provides the baseline data for establishing health service policies and programs with regard to the recently increasing interest in health services.

1. Introduction

The medical security system in Korea has achieved remarkable quantitative growth over a relatively short period. However, income inequality intensified in the overall society during the International Monetary Fund crisis, which accordingly engendered health-equity issues. Differentiation occurs at the basic health level, since health needs and achievements vary by income, education level, and employment security; there are also gaps in health services accessibility [1].

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Health services utilization is not created by a simple health condition, but is a final outcome after creating health needs based on socioeconomic factors [2,3]. This becomes the foundation of theories on health needs and is important when determining the aspects of health services utilization. Moreover, in the behavioral model, an individual's demographic, sociostructural, and economic factors affect health services utilization along with disease factors [4−6]. Using this theoretical background, multiple studies have examined individuals' socioeconomic factors and the characteristics of the communities to which the individuals belong, in addition to the disease factors, to analyze health services utilization. The results suggest that health services utilization is basically motivated by individual illness, but the quality and quantity of health services utilization vary significantly based on socioeconomic factors, such as income or health-insurance status [7,8].

Meanwhile, the health and medical field conventionally uses the health belief and Andersen theoretical models to explain services utilization [9−11]. Of the two, the Andersen model, which explains that the services utilization is determined by predisposing, enabling, and need factors, is used broadly as a theoretical model that analyzes predictors of health services utilization. This may also be a suitable model when exploratory research is needed due to lack of previous studies on outpatient and inpatient health services utilization, as in this study [12].

To research how the relevance of categorized factors with health services utilization varies, Andersen and Newman [13] compared the size of factors affecting health services utilization, such as inpatient and outpatient services, by combining the results of Andersen's individual research [14]. As a result, both inpatient and outpatient services were strongly affected by the disease factors that represent health conditions, whereas predisposing factors and enabling factors had medium effects [10]. For the predisposing factors, social factors, such as education and employment status, had significant effects on inpatient services, implying that outpatient than inpatient services may respond more sensitively to an individual's socioeconomic position [5,15,16].

This study will verify the general experiences of outpatient and inpatient services in Korea, and explore and examine the predictors that affect the health services utilization by applying the Andersen model. This study has significance in that it can empirically verify whether the Andersen model can be applied to outpatients and inpatients as in overseas studies, and can clarify the predictors for health-services-utilization experiences in Korea that are measured objectively. The specific research questions are as follows: (1) What are the general characteristics related to health-services-utilization experiences of outpatients and inpatients? and (2) How do predisposing, enabling, and need factors affect the health-services-utilization experiences of outpatients and inpatients?

2. Materials and methods

2.1. Research model

This study examined the predisposing, enabling, and need factors that determine the overall health-services-utilization experiences of outpatients and inpatients with the aforementioned Andersen model as the theoretical framework. The research model for analysis is shown in Figure 1.

2.2. Data source

This study used the source data of the Korea Health Panel jointly collected by the consortium of the National Health Insurance Service and the Korea Institute for Health and Social Affairs. The Korea Health Panel included information, such as health-services-utilization behaviors and health-care expenditures. Moreover, national representativeness was secured by extracting samples from 90% complete enumeration data of the 2006 Population and Housing Census. Sampling was done by stratified cluster sampling; the first step consisted of extracting sampling enumeration districts (clusters) based on the stratification variables (such as 16 cities, provinces, *dongs*, *eups*, *myeons*, and *gus*). The second step consisted of extracting sample households within the enumeration districts. The data were provided after completing the "Data Use Agreement" on the Korea Health Panel website. The 3 years' worth of data used for this study were panel data from 2010 to 2012. This study verified the accessibility to health services in the entire population group. Therefore, it included 13,734 participants from all household members surveyed in the Korea Health Panel.

2.3. Measurement

2.3.1. Dependent variable

The dependent variable in this study was health services utilization. In the analysis, it was divided into outpatient and inpatient services. Whether one utilized health services was calculated by the experiences of using outpatient and inpatient services at least once in the past year. Table 1 explains the dependent variable used in this study.

2.3.2. Independent variables

This study adopted Andersen's behavioral model widely known for verifying the accessibility to health services. The Andersen model consisted of predisposing, enabling, and need factors [17]. Predisposing factors refer to basic characteristics of the population; in this study, they included sex, age, and marital status. Enabling factors refer to conditions that may be changed by an individual and social efforts; in this study, they included education and income level, economic activities, form of medical security, and private-insurance status [18,19]. Need factors were the most directly associated with the accessibility to health services and reflect disease characteristics [20]. In this study, they