

Abstract

BACKGROUND: The aging rate in Japan is the highest in the world; clarifying the medical needs of older people is very important for medical policy. Therefore the objective of this study is to clarify the medical needs of Japanese older people by using the concept of ecology of medical care. **METHODS:** We collected the data of people aged 65 years and older based on a prospective health diary recorded for a month in 2013 using a population-weighted random sample from a nationally representative panel. We performed descriptive analysis to estimate the number of different healthcare-seeking behaviors of Japanese older people per 1000 people in one-month period (the ecology of medical care) and compared it with the data of all ages, and multivariate logistic regression analysis was done for examining the determinants of each healthcare-seeking behavior. **RESULTS:** The data were available on 1065 participants aged 65 years and older. During a one-month period, per 1000 older people living in Japan, we estimated that 783 reported at least one symptom; the number was almost the same as all ages. Yet, 392 visited a physician's office, 279 visited a primary care physician, 132 visited a hospital outpatient clinic; these numbers were larger than in all ages. In addition, 373 used an over the counter drug, 230 sought help from a professional provider of complementary or alternative medicine, 17 were hospitalized, and five visited a hospital emergency department. After adjusting for socio-demographic variables, we found that healthcare seeking behaviors of older participants were influenced by age, health literacy, household income, family structure and place of residence. While older people with high communicative and critical health literacy frequently used complementary or alternative medicine and over the counter drugs, there was a negative correlation between functional health literacy and over the counter drug use in older population. **CONCLUSIONS:** The number of people visiting medical institutions in Japanese

older population was larger than in all ages. Health literacy was significantly related to self-medication. Older people with higher household incomes tended to avoid visiting primary care physicians. This finding provides baseline information for medical policy in Japan.

Keywords: ecology of medical care, Japanese older people, health literacy, socioeconomic status, functional differentiation of medical institutions, self-medication

Introduction

Japan has become an unprecedented super-aged society. The aging rate (the proportion of the population aged 65 or over to the total population) in Japan is expected to reach about 30% in 2025 and about 40% in 2060 (Fig 1) (Organization for Economic Co-operation and Development [OECD], 2016). In terms of medical policy, it is very important to clarify the medical needs of older people.

White and colleagues proposed the theory of ‘The Ecology of Medical Care in 1961’ (White, Williams, & Greenberg, 1961). They clarified medical care needs by aggregating and comparing the number of people who had health problems and the number of users of medical services per one month for 1000 people in a specific population. This method can visually confirm the breakdown of medical needs in that population by showing the number of healthcare seeking behaviors taken by people when having health problems. Therefore this method has been repeatedly investigated in various countries to use the results for planning medical policy and determining future directions of research (Fryer, 2003; Green, Fryer, Yawn, Lanier, & Dovey, 2001; Kim & Choi, 2016; Shao, Chang, Chou, Chen, & Hwang, 2011; Shao et al., 2013). In