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RESEARCH ARTICLE

Determinants of patient satisfaction with outpatient care in Indonesia: A conjoint analysis approach

Hui-Peng Liew[a,*], Sheena Gardner[b]

[a]Delta State University, Division of Social Sciences and History, 1003 W. Sunflower Road, Box 3264, Cleveland, MS 38733, USA
[b]Mississippi State University, USA
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Abstract
Objective: The purpose of this study is to examine Indonesian men and women's satisfaction rating of the different attributes associated with location, convenience, accessibility, and affordability outpatient care. A secondary goal of this study is to assess whether attributes associated with location, convenience, accessibility, and affordability outpatient care differs among different segments of individuals.
Methods: A conjoint analysis of attributes associated with access to and utilization of outpatient care was conducted using the 2007 Indonesian Family and Life Survey.
Results: Results from the conjoint analysis revealed that *type of facility* was the most important determinant of preference, while *one-way travel time* was the least important determinant. Other attributes of considerable importance include the waiting time, the cost of treatment, and province where the facility is located.
Conclusion: Indonesians who utilizes the outpatient care are responsive to the type, cost, quality, and location of the outpatient care. The findings of this study also suggest that priority should be given to patients who visited facilities located in Sumatera and other provinces like Sunda, Kalimantan, Sulawesi, Maluku, and Papua.
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Introduction and review of relevant literature

Outpatient care is an essential component of the primary care system; effective outpatient care has important benefits beyond cost-effectiveness and convenience. Evidence in both developed and developing countries continually shows heavy reliance by low income individuals on outpatient care [2]. In addition to diagnosis, referrals, and treatment, outpatient services can include post-discharge care and ongoing management for patients with chronic disease or complex health problems, as well as other wellness, prevention, and rehabilitation programs.

*Corresponding author. Tel.: +1 304 777 7345.
E-mail address: hpliew104@gmail.com (H.-P. Liew).

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Efforts to reorganize and revolutionize its unevenly distributed healthcare system began shortly after Indonesia achieved its independence during the 1950s. During its early years of independence, the existing health facilities mainly focused on curative health and consisted mainly of public and private hospitals, government-owned treatment clinics (*balai pengobatan*) for adults, and government owned maternal and infant health clinics [10]. In the early 1950s, the Indonesian government has embarked on rigorous efforts to expand its network of public health facilities. More than 20,000 health sub-centers has been added at the sub-district level throughout the country in order to locate them closer to the people. These efforts were hastened during the mid-1980s and continued even during the Asian Economic Crisis in the late 1990s. During the 1980s, the government initiated a program to locate midwives in villages. The government also took initiatives to improve universal access to basic care and vaccines and improving the links between community health centers and district hospitals, with centers and hospitals distributed according to population-based criteria [1]. As a result, the average population per health center had fallen from 96,000 in 1968 to under 30,000 in 1995 [7]. In response to the Asian economic crisis in 1997, the Indonesian government implemented the Social Safety Net health card program to preserve healthcare access to the general public and to provide subsidized care to the poor [18].

According to a recent UK government documents have stated that, within the National Health Service, consumers should be more involved in decision-making [19]. International literature on patient-centered care and importance of determinants of patient satisfaction are concentrated mainly in United States, Europe, and Africa [6,9,11,13,14,20,21,23]. Researchers in the United States and United Kingdom have identified reducing waiting times as one of the top priorities for service improvement in outpatient cancer treatment facilities [20,23,9]. Evidence in Ethiopia suggests that travel time to healthcare providers appeared to be a barrier to the delivery of infant vaccines in remote communities [14]. Other recent studies conducted in Burkina Faso and Tanzania also revealed that geographical accessibility to healthcare facilities is a major determinant of childhood mortality [11,21]. Researchers in Mozambique identified the lack of adequate transportation, long waiting times, lack of physical examinations, and failure to receive prescribed medications as the most common complaints about the outpatient clinic visits [13].

Most existing studies in Indonesia have used the availability, type, number and training of health workers, and the adherence of clinical protocols as the measure of the quality of an outpatient care facility [2,24]. These studies are conducted on either the health providers or women of reproductive age [1-3]. Previous Indonesian studies have identified maternal education, household wealth, ethnicity, and insurance as the major determinants of outpatient care utilization [1-3]. To my knowledge, the waiting time and travel time has not been examined in Indonesia. Additionally, we know very little about how existing users of outpatient care rate and identify the importance of a number of attributes associated with health seeking and healthcare utilization. We also know almost nothing about which attributes are the most and the least important to existing users of outpatient care when making a decision to seek and utilize outpatient care.

Knowing how existing users of outpatient care rate and identify the importance of a number of attributes and their associated levels associated with health seeking and healthcare utilization will serve as a guide to health policymakers and practitioners in Indonesia when they attempt to improve the convenience, accessibility, and affordability of outpatient care facilities. This will also help policymakers and practitioners gauge the success and failure of the outpatient care delivery system in Indonesia.

In order to fill this research void, this study has two objectives: (1) to examine Indonesian men and women's satisfaction rating of the different attributes are associated with location, convenience, accessibility, and affordability outpatient care, and (2) to assess whether attributes associated with location, convenience, accessibility, and affordability outpatient care differs among different segments of individuals.

Methods

Data

The 2007 Indonesian Family Life Survey (IFLS4) is a collaborative effort between RAND, the center for Population and Policy Studies (CPPS) of the University of Gadjah Mada and Survey METRE. It is an on-going longitudinal (cohort) survey in Indonesia. It was designed between February and September 2007 and funded by grants from the National Institute on Aging (NIA), the National Institute for Child Health and Human Development (NICHD), and the World Bank. In the first wave of data (IFLS1), 7224 households were interviewed, and detailed individual-level data were collected from over 22,000 individuals. The re-interview rates of IFLS1 households were about 94 percent, 95 percent, and 90 percent in ILFS2, IFLS3, and IFLS4 respectively.

IFLS4 offers several strengths for the purposes of an analytical framework. In addition to collecting current information on most topics and a high re-interview rate, individuals were interviewed in-depth about their life histories on a number of life course domains, including migration, marriage, contraceptive use, childbearing patterns, occupational and job changes, educational attainment, health behaviors, health care utilization, health conditions and so forth. This study used data from Indonesian men and women (aged 15 and up at the time of the survey) who participated in the survey on outpatient care. The analysis is limited to individuals whose information on age, education, gender, marital status, migration history, satisfaction rating, type of facility, location of facility, cost of treatment, one-way travel time, and waiting time is available. The final analysis sample consists of 3106 individuals. Only coefficients with $p \leq 0.05$ are regarded as significant.

Measures

Satisfaction rating is assessed by the survey question: “What do you think about the services that were provided by this