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Distribution and utilization of curative primary healthcare services in Lahej, Yemen

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ABSTRACT

Objective: No evidence-based data exist on the availability, accessibility and utilization of healthcare services in Lahej Governorate, Yemen. The aim of this study was to assess the distribution and utilization of curative services in primary healthcare units and centres in Lahej.
Study design: Cross-sectional study (clustering sample).
Method: This study was conducted in three of the 15 districts in Lahej between December 2009 and August 2010. Household members were interviewed using a questionnaire to determine sociodemographic characteristics and types of healthcare services available in the area.
Results: The distribution of health centres, health units and hospitals did not match the size of the populations or areas of the districts included in this study. Geographical accessibility was the main obstacle to utilization. Factors associated with the utilization of curative services were significantly related to the time required to reach the nearest facility, seeking curative services during illness and awareness of the availability of health facilities ($P < 0.01$).
Conclusion: There is an urgent need to look critically and scientifically at the distribution of healthcare services in the region in order to ensure accessibility and quality of services.

Introduction

Health resource allocation and proper planning require evidence-based data on availability, accessibility and utilization of existing healthcare services. It has been shown that geographical accessibility to healthcare facilities and perceived quality of available care play a major role in the utilization of services.[1] However, other factors such as financial and social status, gender roles, patterns of diseases and health systems may also determine the accessibility and utilization of health services.[2] The inverse care law[3] seems to be in operation, and this is particularly true in developing countries where people in greater need of health care receive less care, while people in less need of health care get more care.[4] Al-Taiar et al. reported that 'Yemen is the most populous and poorest country in the Arabian Peninsula' with problems of geographical accessibility and distribution of health services.[5] However, their study was based on children with malaria in Taiz Province. To the authors' knowledge, there have been no publications in relation to other provinces/governorates or on the distribution and utilization of primary healthcare (PHC) services in Yemen.

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Yemen is one of the least developed countries in the world, ranking 151 out of 175 countries on the United Nations Development Programme Human Development Index 2005.[6] The population of Yemen was expected to reach 24 million in 2012, and 75% of these people live in rural areas.[7] As in most low-income countries, families in Yemen are generally extended, and socialization of children is seldom left solely to one or both biological parents. Approximately 46% of the population are aged <15 years and 38% of the population live below the lower poverty line.[8]

Yemen adopted a PHC system following the Declaration of Alma Ata in 1978. The aim was to cover the entire population by 2000. Like all other governorates in Yemen, Lahej Governorate adopted the PHC system in its health planning and policy.[9] There are two main types of PHC in Yemen: health units and health centres. Health units usually serve populations of up to 5000 and are run by experienced medical staff who are involved in clinical practice. Health centres serve populations of more than 5000 and are run by medical doctors. (Health centres undertake medical examination of patients, diagnosis, prescription of medicines, minor operations and treatment of various injuries and diseases, but usually have no beds). In 2007, the total number of health units in the country was 2609 and the total number of health centres was 761.[10] It has been estimated that PHC coverage only reaches approximately 30% of the population in rural areas and 45% of the population overall.[9] Lack of reliable data on healthcare coverage and factors influencing utilization of available services makes it difficult for interested organizations and professionals to gain a better understanding on the distribution and utilization of healthcare services.

This study was undertaken to provide evidence-based data on the distribution and utilization of PHC services, and the characteristics of consumers in Lahej, Yemen. The hypothesis was that misdistribution of healthcare centres, sociodemographic characteristics of the population and geographical accessibility influence the utilization of curative services at the level of health units and health centres.

Methods

Study area and health facilities

Lahej has 157 health units, 22 health centres, 13 district hospitals, two general hospitals and one main referral hospital[11] serving 709,000 inhabitants living in 15 districts.[9]

Data from the Central Statistics Department of the Ministry of Public Health and Population showed that the rate of visits to the existing PHC facilities per person per year was higher in Lahej compared with the other governorates of Yemen.[10]

Study population and sample size

A cross-sectional descriptive study using a cluster sampling technique was undertaken to ensure representation of the target population. The study period was December 2009 to August 2010. Three of the 15 districts in Lahej were chosen at random, with a total of 35 villages. Eighteen (51%) of these villages were located within Tuban, 11 (32%) in Al-Muqatra and six (17%) in Al-Melah. Three villages from each district were selected at random to cover the sample size of households for each district. Assuming 95% confidence intervals, 3.1% margin of error and 60% expected response rate resulted in a sample size of 1015 households. Households were enrolled to ensure proportional distribution of the sample units over the three selected districts. Therefore, 518 households were selected randomly from Tuban, 325 from Al-Muqatra and 172 from Al-Melah.

House visits, interviews and data collection

All interviewees had been living in the area for ≥2 years and were aged >18 years. Households where all family members were aged <18 years, those who had lived in the study area for <2 years and those who were unable to recall the information to answer the questions were excluded from the study. Nine data collectors and a supervisor were trained to collect data through house-to-house visits and interviews. The study tool was a closed–open questionnaire consisting of six main groups of questions related to utilization of PHC units and centres. Information regarding the number of visits to health units and centres per person per year, reasons for seeking curative services, and means of reaching such facilities was gathered, in addition to sociodemographic characteristics of participants and service provision. Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) was used for data entry and analysis with 95% confidence intervals (CI) and multiple regression tests. $P < 0.05$ was considered to indicate statistical significance.

Results

Table 1 shows the sociodemographic characteristics of the study population. The mean age was 37.7 years (standard deviation 12 years) and 84.9% were female. Most participants were married (79%), unemployed (73.4%), illiterate (45.7%) and of low income (70.5% with income <30,000 Yemeni Riyals; 1US$ = 204 Yemeni Riyals in 2009). The median number of household members was approximately seven.

Almost all (98.9%) participants were aware of the availability of a health station in their communities, either under the coverage of a health unit (80.8%) or a health centre (19.2%). The majority (74%) of participants walked to the nearest health facility, and 35% reported that they had to walk for >20 min to reach the nearest health facility. Twenty-five percent of respondents had to use a car to reach the nearest clinic.

Analysis of factors associated with the use of curative primary care services found that time required to reach the nearest facility by car (≥8 km driving distance defined for low access to health services)[5] or foot, seeking curative services (see Table 2) during illness and awareness of the availability of health units/centres were significantly associated with the use of curative services ($P = 0.001$). Also, the availability of diagnostic laboratory services and drugs in the health facility was significantly associated with utilization of curative services ($P = 0.001$). Approximately 46% of participants said that they had been ill more than four times in the last six months, and only 18% of the participants had sought curative PHC services. Seasonal disease (such as diarrhoea in summer and flu in