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**Determinants of Health Services Utilization  
by Rural and Urban Residents in Riyadh Region,  
Saudi Arabia: A Field Study**

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# **Determinants of Health Services Utilization by Rural and Urban Residents in Riyadh Region, Saudi Arabia: A Field Study**

*Saad A. Alghanim, PhD*

## **ABSTRACT**

**Objective:** To explore the utilization of health services by rural and urban residents in Riyadh Region, Saudi Arabia.

**Methods:** One thousand questionnaires were distributed to collect data randomly from adult patients in rural and urban areas during January - March 2008. The data were collected on sets of variables which were thought to have an influence on the utilization of health services. Descriptive statistics (frequencies and percentages) were used for presenting the results. Chi-square test was used to determine differences in the utilization of health services between respondents in rural and urban areas according to the selected independent variables.

**Results:** The results indicated that 646 (64.6%) of respondents used some sort of health services during the past twelve months. Respondents in urban areas were more likely to use health services than respondents in rural areas (63.2% and 36.8% respectively). Respondents in rural areas made a significantly higher percentage of use of primary health care services than respondents in urban areas. On the contrary, respondents in urban areas made significantly higher percentages of visits to emergency departments and specialty clinics than their counterparts in rural areas.

### **Conclusion:**

The study highlighted some of the significant differences between rural and urban residents in the utilization of health facilities according to the variables employed in the study. Understanding these factors by health practitioners, policy makers and researchers should precede any intervention which attempts to provide the population in rural and urban areas with equitable and necessary health services.

**Keywords:** Utilization, Health Services, Rural, Urban, Saudi Arabia.





## **Introduction**

The recent official health reports from Saudi Arabia showed that there were more than 126 million visits to health care facilities (Ministry of Health, 2008) and indicated that there was a variation in the utilization of health services among health regions. The increased utilization of health services, in both rural and urban areas, and the factors associated with this utilization is a matter of major importance to health practitioners, policy makers and researchers.

### **Research problem**

Understanding the extent of the utilization of health services by the general population according to their geographical location and the factors associated with such use is an important step in the assessment of needs and priorities of the population. Previous research has indicated that the ability to provide accessible and cost-effective health services to the population depends on a thorough understanding of the factors associated with the use of health services, particularly those factors which can be manipulated to improve the provision of care (Benson, 2001; Jordan et al, 2004).

### **Research questions**

The current study attempts to answer the following questions:

- 1) What is the extent of the utilization of health services made by rural and urban residents?
- 2) What is the general profile of patients who *used* health services in rural and urban areas?
- 3) What types of health services are being *used* by residents in both rural and urban areas?
- 4) Are there differences in the characteristics of patients who *used* health services in both rural and urban areas?

### **Significance of the study**

Health care planners and providers are interested in providing all people, regardless of their place of residence, with relevant and high quality of health care. However, previous research identified that place of residence may influence the utilization of health services (Arcury et al, 2005). Since health care resources are limited, it is important to have an accurate and up-to-date information about the utilization of health services in rural and urban areas and the factors associated with such utilization.

In Saudi Arabia, the rapid growth of the population may have a significant impact on the social, financial and resources required to

meet physical, emotional and social needs of the people. Accordingly, the need for medical and social health care services is likely to increase. Therefore, improvement in the provision of health services depends on a better understanding of factors associated with the utilization of health facilities. Gupta et al (2003) indicated that the analysis of the utilization of health services will help in exploring a variety of issues that improve the health care system performance.

It is anticipated that the findings of the present study will be of value for the decision-makers in understanding the extent of use of health services in Saudi Arabia by the general population in rural and urban areas and, therefore, will be of importance in developing meaningful measures and interventions for the provision of health care to the population. Moreover, rational planning and allocation of scarce resources to the general population require data on the utilization of health care facilities. Therefore, the present study is expected to generate a significant amount of information to those who are responsible for providing and planning health services.

### **Objectives of the study**

The main goal of this study is to explore the utilization of health services by the general population in rural and urban areas in Riyadh region. Therefore, the study addresses the following objectives:

1. To determine the extent of the utilization of health services by the general population according to their place of residence (rural vs. urban areas) in Riyadh region.
2. To identify the characteristics of respondents who *used* health services in both rural and urban areas.
3. To identify types of facilities used by the population in both rural and urban areas.
4. To add value to the current knowledge about the utilization of health services which may help for better planning and provision of health services in rural and urban areas.

## **LITERATURE REVIEW**

This section reviews the literature on aspects central to the work of this study. Specifically, this section will shed some light on the concept of the utilization of health services by the general population in rural and urban areas, together with the factors associated with the utilization of these services.

### **Utilization of health services by rural and urban residents**

Utilization is defined as obtaining the health care provided by health facilities in the form of health care contact (Fernandez-Olano et al, 2006). In the literature, there were several studies which assessed

the utilization of health services by the population according to the geographical location. Most of these studies were conducted in countries with different cultures, values and health care systems such as the United States (Briggs et al, 1985), the United Kingdom (Watt and Sheldon, 1994), Australia (Dempsey et al, 2003), South Africa (Tanser et al, 2001), Canada (Fobes and Janzen, 2004), Korea (Ahn and Kim, 2004), China (Li et al, 2006) and New Zealand (Brabyn and Barnett, 2004). In these countries, there are different levels of accessibility to, and the availability of, health resources.

The question whether the utilization of health services varies according to the geographical location was addressed in the literature. Some studies revealed that geography is considered as a determinant of health services utilization and that health of the community appears to be inversely related to the remoteness of the location (Field and Briggs, 2001; Ramsey, 2002). This may indicate that people living in rural or remote areas have poorer health status due to difficulty in accessing health care facilities. Forbes and Janzen (2004) indicated that rural residents, compared to urban residents, have a shorter life expectancy, lower income, less education, shortage of formal health services and greater distances to travel in order to access health care facilities.

In Saudi Arabia, reports showed that the majority of the population is concentrated in few major cities (Ministry of Health, 2007), indicating that people move to urban areas where more social services such as education and health services are more available and accessible. This change in the density of the Saudi population makes providing services for the Saudi society, in both rural and urban areas, a major challenge to health care providers and health policy makers.

Data on the utilization of health services and facilities according to geographical location from Saudi Arabia were scares which makes comparison with other countries difficult. Although useful, most studies on the utilization of health services in Saudi Arabia were restricted to urban areas (For example, Al-Shehri, 1992; Mahfouz and Hamid, 1993; Al-Sharif et al, 2000; Saeed and Mohamed, 2002; Al-Qahtani and Al-Qahtani, 2004).

A study from Netherlands by Kulu-Glasgow et al (1998) on the utilization of health services reported that patients' place of residence may encourage or discourage the use of health resources. The authors noted that patients living in highly urbanized areas have more specialist services and; thus have an advantage in terms of accessibility to specialists compared to those living in smaller settlements or rural areas.

Researchers highlighted the importance of geographic information systems (GIS) in providing the population in rural and urban areas with health services. For example, some authors (Phillips et al, 2000; Richards et al, 1999) reported that geographic information could be used to increase the understanding of the complex relationship between socio-economic factors and the health status of the population and help in the distribution of health resources facilities among the population in different places of residence.

### **Factors associated with health services utilization**

Factors associated with the utilization of health facilities have been widely studied (Wan and Soifer, 1974). Some researchers are concerned with the relationship of socio-demographic factors and medical orientation to medical care use (Suchman, 1965). Other authors even consider that health service use can be explained solely by socio-psychological models encompassing health-related motivation, perception and learning (Rosenstock, 1966). Other researchers use a social systems model relating the internal or psychological system with external (social, environmental and organizational) connections to explain the use of health facilities (Purola, 1972).

Studies investigating the factors which determine the use of health services are receiving increasing attention. Andersen and

Newman (1973) reported that this awareness seems to result from the emergence of a number of related societal values and perceptions, including: a) the growing consensus that all people have a right to medical care, b) the general belief that certain population groups such as the poor and rural residents are not receiving medical care which is comparable in terms of quality and quantity to that available to the rest of the population, c) the high expectations concerning the extent to which medical care can contribute to the general health level of the population and public consternation over the “crisis in medical care” stimulated by rapidly rising prices and d) the growing dissatisfaction about the availability of services.

Research on the utilization of health care services is associated with medical, social and behavioral sciences and also with health economics (Purola, 1972). The use of health services has been explained in relation to the patients’ personal factors (health or illness, symptoms, knowledge and understanding, beliefs, etc.), social factors (socio-demographic factors, family factors, etc.) and factors related to the health care system (distribution, availability, accessibility, costs, etc.) (Mechanic, 1979). The levels of use of health services, however, are far from equal, either socially or geographically (Andersen, 1995). These variations are highly important and may directly affect people's health, both in terms of morbidity and perceived health status. In their article, Field and Briggs (2001) reported that understanding



differences in health services utilization are important for epidemiological research and also equally important for health policy and planning of health services.

Findings of studies, reporting on the use of health facilities are inconsistent and the contributing factors vary from one study to another, perhaps because of the varying methodologies used, differing medical care systems, different time periods and the rhetoric of interpretation.

## **METHODOLOGY**

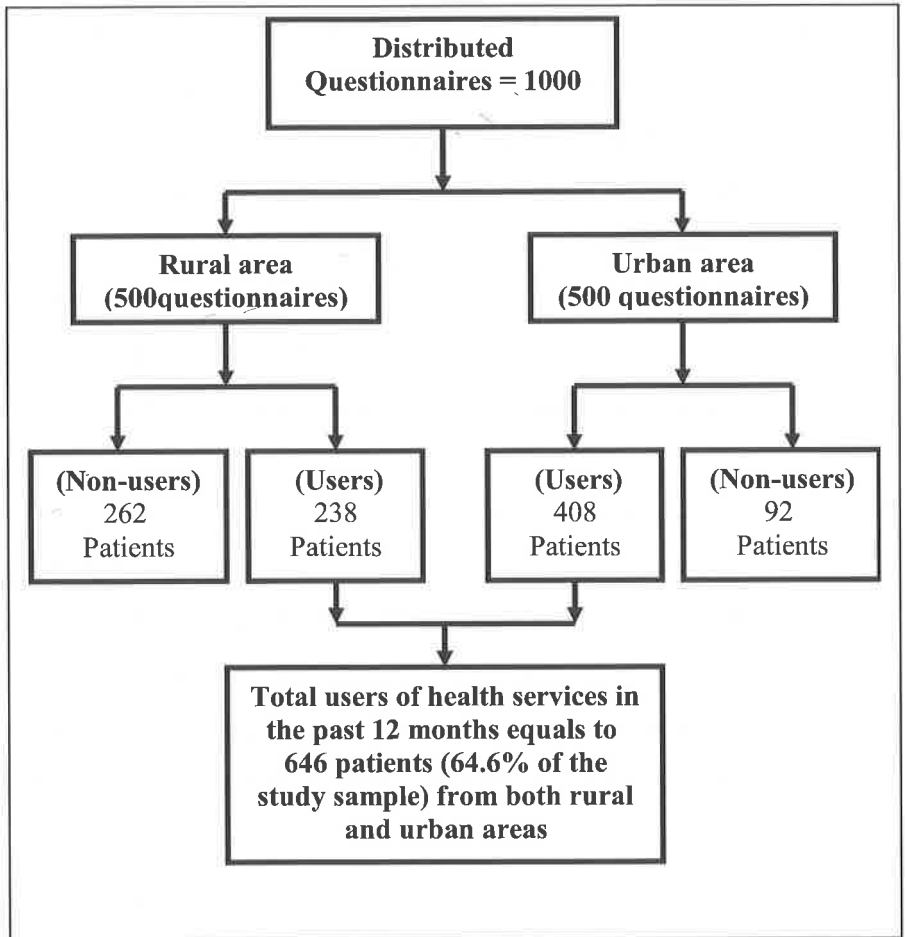
This section describes the methodology employed in this study, including the study population and sample, methods of data collection, variables employed in the study and methods of data analyses.

### **The population and sample**

The population of this study consists of all patients aged 18 years and above who attended primary health care centers in Riyadh Region during the study period (January - March, 2008). A stratified random sampling technique was used in order to represent both rural and urban areas' respondents. In this study, urban dwelling was defined as residence within the geographical bounds of Riyadh City (The capital of Saudi Arabia). Rural dwelling was defined as residing

outside Riyadh City but within Riyadh Region. Riyadh city was divided into five areas, East, West, North, South and Central. From each area one primary health care (PHC) center was selected by simple random sampling. Similarly, areas outside Riyadh City were divided into five areas and one PHC centers was selected from each area using simple random sampling technique.

In every PHC center, 100 patients (50 men and 50 women) were selected using systematic random sampling. Patients who refused to participate and those in severe cognitive impairment or having difficulty in communicating with the researcher or his assistants were excluded from the study and replaced by other participants. Those who had difficulty in understanding the questions were assisted by the author and/or his assistants. By using this methodology, 1000 patients participated in the study, of which 646 (64.6%) patients reported that they have *used* some sort of health care services during the past twelve months (Figure 1).



### Setting of the study

Primary health care centers were selected as sites for conducting this research because of a number of reasons. First, PHC centers are considered the first level of contact in the Saudi health care system and accordingly, it was assumed that people with different characteristics will present to these facilities for their normal health

care. Second, the Saudi Ministry of Health statistics showed that PHC centers were the most extensively used by the general population compared to other health care facilities; therefore, it was anticipated that conducting the study in PHC centers will help in obtaining a more representative sample. Finally, unlike hospitals, PHC centers are usually drop-in facilities where patients may attend with common and "non-severe" illnesses. Therefore, it is more convenient for obtaining information from patients attending these health facilities.

### **Data collection instrument**

The data for this study were collected using a self-administered questionnaire from adult patients who attended the selected primary health care centers (See the appendix). The questionnaire was designed to capture information on a set of variables relevant to the study which were thought to influence the utilization of health services in rural and urban locations.

In order to increase the content validity of the questionnaire, a number of steps were taken into consideration. First, a review of the relevant literature was carried out in order to explore variables related to the utilization of health services. Second, the questionnaire was pre-tested in a pilot survey of 50 respondents to ensure that the clarity of the wording, the format and the length of questions are appropriate. Finally, an academic panel of four staff (including two physicians)

reviewed the questionnaire and made comments and suggestions. In accordance with their feedback and the outcome of the pilot study, few questions were rephrased and some were added or excluded. The pilot survey questionnaires were not included in the main study. The covering letter of the questionnaire outlined the title and the purpose of the study. Patients were informed about the importance of the study and a guarantee about the confidentiality of the information obtained was mentioned both verbally and in the covering letter of the questionnaire.

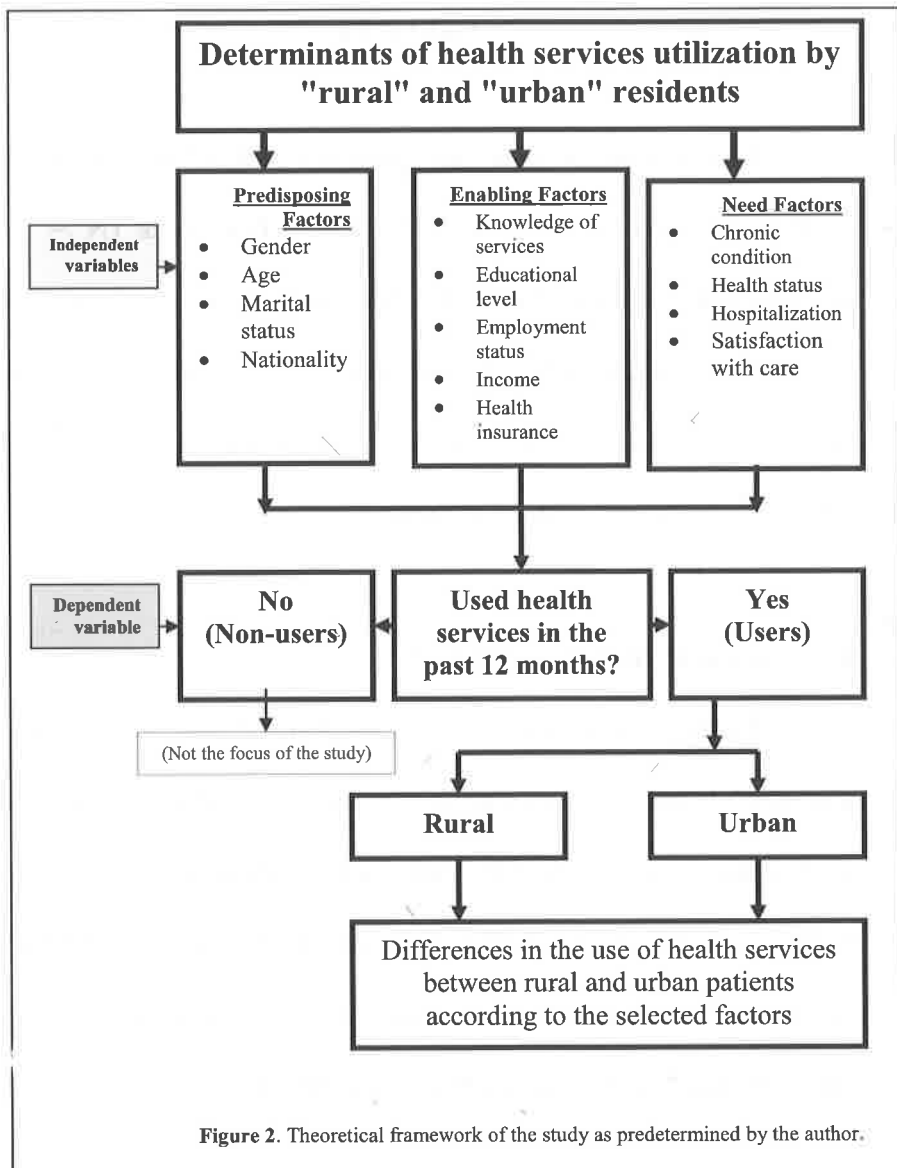
### **Variables of the study and the conceptual framework**

This study was set to describe respondents' who used health services in both rural and urban areas during the past 12 months. The *dependent* variable is the utilization of health services. The *independent* variables are composed of three sets: *Predisposing* variables included age, gender, marital status and nationality. *Enabling* variables included educational level, employment status, monthly income, presence of health insurance and whether access to health services and facilities is convenient. *Need* variables included self-rated health status, presence of chronic illness and whether the patient needs help with his or her personal care. The Andersen health services utilization model (Andersen, 1995) was used as a guideline to examine variables associated with health services use.

The inclusion of these variables has been used in similar studies which examine the influence of various predisposing, enabling and need factors on the utilization of health services (Andersen and Newman, 1973; Wolinsky, 1978; Evashwick et al, 1984; Phillips et al, 1988; Shah et al, 1996; De Boer et al, 1997; Hassell et al, 2000; Fernandez-Olano et al, 2006; Forbes and Janzen, 2004). Figure 2 illustrates the factors employed in this study as predetermined by the author.

### **Data analysis**

This study is an exploratory in nature. Accordingly, the collected data were analyzed and presented in a descriptive fashion. Descriptive statistics (frequencies and percentages) were used for presenting the results. Chi-square test was used to determine differences in the utilization of health services between respondents in rural and urban areas according to the selected variables. Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) for Windows.



**Figure 2.** Theoretical framework of the study as predetermined by the author.

## RESULTS

This section identifies the general profile of respondents who *used* health services in both rural and urban areas (N = 646). Moreover, the types of health facilities used by respondents will be presented. Furthermore, this section will identify predisposing, enabling and need characteristics of respondents who used health services in both rural and urban areas.

### **The general profile of respondents**

**Table 1** shows the *predisposing* characteristics of respondents who used health services during the past 12 months. Respondents were similar with respect to their gender. Respondents were aged between 18 and 89 years with a mean age of 48.7 years and 16.9 years of standard deviation. The vast majority of respondents were Saudis and more than half of respondents were married.



<b>Table 1. Characteristics of respondents who used health services according to their predisposing factors (N = 646)</b>		
<b>Characteristics</b>	<b>N</b>	<b>%</b>
<b>Gender</b>		
Male	327	50.6
Female	319	49.4
<b>Age (M±SD)</b>		
	(M=48.7, SD=16.9)	
< 45 years	287	44.4
≥ 45 years	359	55.6
<b>Nationality</b>		
Saudi	568	87.9
Non-Saudi	78	12.1
<b>Marital status</b>		
Married	353	54.6
Unmarried	293	45.4

**Table 2** shows the *enabling* characteristics of respondents who used health services during the past 12 months. The vast majority of respondents had an educational level of less than a secondary school, in employment and had a monthly income of more than SR 3,000. More than 90% of respondents who used health services reported convenient access to health care and did not have health insurance.

**Table 2.** Characteristics of respondents who used health services according to their **enabling** factors (N = 646)

Characteristics		N	%
<b>Level of education</b>			
	< secondary	388	60.1
	≥ Secondary	258	39.9
<b>Employment status</b>			
	Employed	390	60.4
	Unemployed	256	39.6
<b>Monthly income<sup>a</sup></b>			
	< SR 3,000	246	38.1
	≥ SR 3,000	400	61.9
<b>Having health insurance</b>			
	Yes	55	8.5
	No	591	91.5
<b>Access to health care</b>			
	Convenient	589	91.2
	Inconvenient	57	8.8

**Table 3** shows the *need* characteristics of respondents who used health services during the past 12 months. The table indicates that more than one-third of respondents (36.5%) who used health services perceived their health status as poor and 42.3% indicated that they needed help with personal care. About 40% of respondents reported having chronic illnesses and 6.8% of respondents who used the health services reported that they were admitted to hospitals in the past 12 months.

<b>Table 3. Characteristics of respondents who used health services according to their need factors (N = 646)</b>			
<b>Characteristics</b>		<b>N</b>	<b>%</b>
<b>Perceived health status</b>			
	Poor	236	36.5
	Good	410	63.5
<b>Having chronic illness</b>			
	Yes	254	39.3
	No	392	60.7
<b>Overnight hospitalization</b>			
	Yes	44	6.8
	No	602	93.2
<b>Needs help with personal care</b>			
	Yes	273	42.3
	No	373	57.7

### **Differences between rural and urban health services' users**

This section will examine the differences between rural and urban respondents who *used* health services (N = 646) according to the selected predisposing, enabling and need variables employed in the study.

### **Predisposing variables**

**Table 4** shows the difference in the utilization of health services between respondents in rural and urban areas according to the selected *predisposing* variables. In rural areas, males made a significantly higher percentage of visits than male respondents in

urban areas. In rural areas, patients aged 45 years and older made a significantly higher percentage of visits than their counterparts in urban areas.

**Table 4.** Differences in the use of health services between rural and urban patients according to their **predisposing** characteristics\*

Predisposing Characteristics	Geographical location		$\chi^2$	P-value
	Rural (N=238)	Urban (N=408)		
	%	%		
<b>Gender</b>				
Male	57.1	46.8	6.009	0.014
Female	42.9	53.2		
<b>Age</b>				
< 45 years	34.5	50.2	14.549	0.000
≥ 45 years	65.5	49.8		
<b>Nationality</b>				
Saudi	89.9	86.8	1.125	0.289
Non-Saudi	10.1	13.2		
<b>Marital status</b>				
Married	55.0	54.4	0.005	0.942
Unmarried	45.0	45.6		
*Only those patients who used health services in the past 12 months (N=646)				

### Enabling variables

**Table 5** shows the difference in the utilization of health services between respondents in rural and urban areas according to the *enabling* variables employed in the study. In rural areas, respondents

with lower educational level made a significantly higher percentage of visits than their counterparts in urban areas. Respondents in urban areas who had health insurance made a significantly higher percentage of visits than their counterparts in rural areas. Residents in urban areas who reported convenient access to health services made a significantly higher percentage of visits than their counterparts in rural areas.

**Table 5.** Differences in the use of health services between rural and urban patients according to their **enabling** characteristics\*

Enabling Characteristics	Geographical location		$\chi^2$	P-value
	Rural (N=238)	Urban (N=408)		
	%	%		
<b>Level of education</b>				
< secondary	70.6	53.9	16.719	0.000
≥ Secondary	29.4	46.1		
<b>Employment status</b>				
Employed	59.2	61.0	0.133	0.716
Unemployed	40.8	39.0		
<b>Monthly income</b>				
< SR 3000	41.6	36.0	1.747	0.186
≥ SR 3000	58.4	64.0		
<b>Having health insurance</b>				
Yes	3.8	11.3	9.894	0.002
No	96.2	88.7		
<b>Access to health care</b>				
Convenient	87.4	93.4	5.97	0.015
Inconvenient	12.6	6.6		

\*Only for patients who used health services in the past 12 months (N=646)

## Need variables

**Table 6** shows the difference in the utilization of health services between respondents in rural and urban areas according to need variables. In rural areas, patients who needed help with personal care made a significantly higher parentage of visits than their counterparts in urban areas.

<b>Table 6. Differences in the use of health services between rural and urban areas according to their need characteristics *</b>					
<b>Need Characteristics</b>		<b>Geographical location</b>		$\chi^2$	<b>P-value</b>
		<b>Rural (N=238)</b>	<b>Urban (N=408)</b>		
		<b>(%)</b>	<b>(%)</b>		
<b>Perceived health status</b>					
	Poor	33.2	38.5	1.591	0.207
	Good	66.8	61.5		
<b>Having chronic illness</b>					
	Yes	37.0	40.7	0.719	0.396
	No	63.0	59.3		
<b>Needs help with personal care</b>					
	Yes	56.7	33.8	31.371	0.000
	No	43.3	66.2		

\*Only for those patients who used health services in the past 12 months (N=646)

## **Types of health services used**

**Table 7** shows the types of health services or resources used by respondents in rural and urban areas. While respondents in urban areas made a significantly higher percentage of visits to specialists and emergency departments than respondents in rural areas, respondents in the rural areas made a significantly higher percentage of visits to primary health care services. Similarly, a significantly higher percentage of respondents in urban areas obtained treatment from the private pharmacies than their counterparts in rural areas. A significantly higher percentage of respondents in urban areas used inpatient services and were hospitalized at least an over night in the past 12 months than respondents in rural areas.

## **DISCUSSION**

The results of this study demonstrated that patients in rural areas were more likely to use primary health care centers than their counterparts in urban areas. Urban residents used disproportionately more health services than rural residents did, particularly hospital services such as emergency departments, specialist clinics and inpatient services. These findings are consistent with previous research which has found that urban residents have greater use of health facilities which have more sophisticated resources such as emergency departments and specialist clinics (Shah et al, 1996).

**Table 7.** Types of health resources used by rural and urban respondents  
(N = 646)

Services (or resources)		Rural	Urban	$\chi^2$	P-value
		n (%)	n (%)		
<b>Primary care centers</b>					
	Yes	224 (94.1)	264 (64.7)	68.795	0.000
	No	14 (5.9)	144 (35.3)		
<b>Specialist clinics</b>					
	Yes	165 (69.3)	287 (70.3)	0.033	0.855
	No	73 (30.7)	121 (29.7)		
<b>Emergency departments</b>					
	Yes	91 (38.2)	212 (52.0)	10.826	0.001
	No	147 (61.8)	196 (48.0)		
<b>Private clinic/hospital</b>					
	Yes	129 (54.2)	253 (62.0)	3.476	0.062
	No	109 (45.8)	155 (38.0)		
<b>Private pharmacy (self-referral without formal prescription)</b>					
	Yes	40 (16.8)	298 (73.0)	188.288	0.000
	No	198 (83.2)	110 (27.0)		
<b>Inpatient services (overnight)</b>					
	Yes	9 (3.8)	35 (8.6)	4.720	0.030
	No	229 (96.2)	373 (91.4)		



The results of this study indicated that residents in urban areas were more likely to refer themselves to private pharmacies for self treatment than residents in rural areas. This finding is consistent with previous studies which reported that people in urban areas have more access to private health resources such as private pharmacies and diagnostic services (Kulu-Glasgow et al, 1998; Andaleeb, 2000; Kennedy and Moody, 2000). Moreover, recipients of health services in urban areas reported greater use of inpatient services than residents in rural areas. The previous work conducted by Knox (1979) and Fosu (1989) demonstrated that those who live in metropolitan areas have more access to hospital beds and services compared to those living in remote areas.

The bivariate analysis revealed that users of health services in rural areas were more likely to be men, while the reverse held true for users in urban areas where the majority of health services users were women. This finding is expected, given the nature and norms of the Saudi culture. Women in Saudi Arabia are not permitted to drive or many not leave home without a male escort. This suggests that such values and norms may place women at a disadvantage and potentially at high risk. Previous research indicates, however, that men are more mobile than women (Mao and Wu, 2007). Consistent with previous research (Field and Briggs, 2001; Fernandez-Olano et al, 2006), the

results revealed that the majority of health services users in rural areas were more likely to be older than their counterparts in urban areas.

There were other important differences between rural and urban patients in the utilization of health services according to *enabling* factors. In rural areas, users of health services were more likely to have lower educational level than users in urban areas. Respondents in urban areas reported more convenient access to health care services than their counterparts in rural areas. This finding corroborates results from previous studies showing that access to health care had an impact on the use of health services (Andersen and Newman, 1973; Andersen, 1995). Previous research indicated that access to health care is influenced by a number of factors such distance, transportation, waiting times, availability of health personnel (Yawen et al, 2006) and presence of health insurance (Meer and Rosen, 2004) which has been left for further research in Saudi Arabia to explore.

Health needs are continuously found to be significantly related to health service utilization as other studies have found (Andersen, 1995; Yawen et al, 2006). However, in this study, respondents who needed help with their personal care in rural areas were more likely to be users of health services than respondents in urban areas.

Respondents in urban areas who were admitted in the past 12 months were more likely to use health services than those who were not.

## **CONCLUSION**

In this exploratory study, two distinctive populations, rural and urban, in Riyadh region were compared with regard to the types of health services used and the factors associated with the utilization of health services. Overall, a far higher percentage of visits were made by urban areas' residents than visits made by their counterparts in rural areas. The higher percentage of use of health services might be a reflection of the differences between residents in the two locations in terms of their socio-demographic characteristics (or predisposing factors), enabling factors and need factors. Further, the results emerged from the present study could be a reflection of the resources available to the population in both locations. However, the urban-rural differences in the utilization of health services cannot be explained by the factors employed in the study alone. It is possible that additional factors might have influenced the utilization of health services other than the factors reported in this study.

Saudi Arabia covers a wide geographical area, with some very remote locations, and many rural areas still have a shortage of health

facilities and services. It has been reported that in developing countries the health resources are unevenly distributed between rural and urban areas (Sebai, 1987). Further, in rural areas, there are fewer private doctors, pharmacies and clinics, together with a shortage of other alternative specialized health services which can create a very real obstacle to health care access. Thus, the less use of health services by the rural respondents might be a reflection of the poor availability of and accessibility to health services in these areas.

In order to achieve a balance in the utilization of health services between rural and urban areas, an effective planning of health services is needed. This should prompt policy makers in Saudi Arabia to propose health plans that take into account the equity in the distribution of health services and resources in the various geographical locations according to the need of the population.

### **Limitations of the study and future research**

The utilization of health services is complex and a multi-dimensional issue and any attempt to explore such issues has its limitation. Therefore, this study has its own limitations which deserve mention: First, the study classified respondents into "users" and "non-users" of health services. This classification was not based on any objective criteria. Probably using more objective classification will give clearer picture about the utilization of health services in both

geographical areas. Second, the study took place in the central region of Saudi Arabia only (Riyadh region) and accordingly the results may have limited generalizability to other regions in Saudi Arabia. Further research should include other geographical regions. Third, the results reported here were based on the data gathered by questionnaires and were subjected to the problems of the disadvantages of the questionnaire as a data collection tool. The use of the questionnaire is not the best data collection method to gather health information (Rees, 1990). Probably using other data collection instruments such as interviews with patients or retrieving patients' medical records will give more information about the utilization of health services. Finally, the study design, the available data and the few variables included in the study may have influenced the results. Probably including additional variables (such as the accessibility and the availability variables) and types of health problems, which residents in both geographical locations suffer from, will explain the differences in the utilization of health services between rural and urban residents.

Despite these limitations, the results of this study provide a valuable insight into the utilization of health services by the general population in rural and urban areas in Saudi Arabia. The findings reported here indicate the importance of enabling and need variables in accessing and using health services in both rural and urban areas. It is anticipated that the findings of this study will provide health

practitioners, policy makers and researchers with useful information about the utilization of health services by the general population in rural and urban regions and, therefore, will be of importance in developing meaningful measures and interventions to promote the health and welfare of the Saudi populations.

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## Appendix

(The Questionnaire)



## A Questionnaire

### **Determinants of Health Services Utilization by Rural and Urban Residents in Riyadh Region, Saudi Arabia: A Field Study**

**Dear**

I am a researcher from King Saud University. I am conducting research about the determinants of the utilization of health services in rural and urban areas in Riyadh Region, Saudi Arabia. Your cooperation by filling-in this questionnaire would be highly appreciated. All the information you provide here will remain confidential and will be used for the research purpose only.

Thank you in advance for filling this questionnaire and I hope that the results of this research will contribute to the improvement of our health care system as a whole.

If you have any enquiry about any of the contents of the questionnaire, please do not hesitate to ask me.

Yours faithfully,

The researcher

Please place a tick ( ✓ ) where appropriate:

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**PART I: Predisposing factors (Socio-demographic characteristics)**

**1. Are you?**

(  ) Male                      (  ) Female

**2. How old are you (in years)? :** \_\_\_\_\_ **Years**

**3. What is your Nationality?**

(  ) Saudi                      (  ) Non-Saudi

**4. What is your current marital status?**

(  ) Married                      (  ) Unmarried

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**PART II: Enabling factors**

**5. What is your level of education?**

(  ) Less than secondary (high) school                      (  ) Secondary (high) school or above

**6. Are employed?**

(  ) Yes                      (  ) No

**7. What is your monthly income?**

(  ) Less than SR 3000                      (  ) SR 3000 or more

**8. Do you have health insurance?**

(  ) Yes                      (  ) No

**9. How do you describe your access to health services?**

(  ) Convenient                      (  ) Inconvenient

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**PART III: Need factors**

**10. How do you perceive your health status?**

Poor                       Good

**11. Do you have chronic condition?**

Yes                       No

**12. Have you been hospitalized in the past 12 months (at least overnight)?**

Yes                       No

**13. Do you need help with your personal care?**

Yes                       No

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**PART IV: Utilization of health services and facilities**

**14. Have you visited/used any health care facility in the past 12 months as a patient (other than today's visit)?**

Yes                       No

**If yes, please indicate which of the following health facilities were used/visited:**

**(you may select as many as applicable):**

A primary health care facility

An outpatient (or specialist) clinic

An accident and emergency department

Private pharmacy

Other (Please specify): \_\_\_\_\_

**PART V: Comments (please use the space provided below for comments (if any):**

.....  
.....  
.....  
..... Thank you.

## محددات استخدام الخدمات الصحية والاستفادة منها في المناطق الريفية والمناطق الحضرية بمنطقة الرياض بالمملكة العربية السعودية: دراسة ميدانية

الملخص:

**الأهداف:** تهدف هذه الدراسة إلى التعرف على استخدام الخدمات الصحية والاستفادة منها بواسطة سكان المناطق الريفية والمناطق الحضرية في منطقة الرياض بالمملكة العربية السعودية.

**الطريقة:** تم توزيع ١٠٠٠ استبانة وذلك لجمع بيانات من عينة عشوائية من المرضى البالغين الذين راجعوا مراكز الرعاية الصحية الأولية في مناطق ريفية وأخرى حضرية بمنطقة الرياض في المملكة العربية السعودية وذلك خلال الفترة من يناير إلى مارس ٢٠٠٨م. تم جمع بيانات عن مجموعة من المتغيرات التي يعتقد أن لها تأثيراً في درجة استخدام المرافق الصحية، وقد تم استخدام التحليل الوصفي في عرض النتائج. كما تم استخدام اختبار مربع كاي ( $\chi^2$ ) للتعرف على الفروق في استخدام الخدمات الصحية بين السكان في كل من المناطق الريفية والمناطق الحضرية بناء على مجموعة العوامل التي تضمنتها الدراسة.

**النتائج:** أوضحت نتائج الدراسة أن هناك ٦٤٦ شخص (٦٤,٤%) من عينة الدراسة قد استخدموا المرافق الصحية خلال السنة الماضية. كما أوضحت النتائج أن سكان المناطق الحضرية - بشكل عام - هم أكثر استخداماً للمرافق الصحية مقارنة بسكان المناطق الريفية وأن سكان المناطق الريفية هم أكثر استخداماً لمراكز الرعاية الصحية الأولية مقارنة بسكان المناطق الحضرية، في حين أن سكان المناطق الحضرية هم أكثر استخداماً لأقسام الطوارئ والعيادات التخصصية بشكل أكبر من نظرائهم في المناطق الريفية.

**الختامة:** أوضحت هذه الدراسة بعض الفروق الجوهرية في استخدام المرافق الصحية بواسطة المراجعين في كل من المناطق الريفية والمناطق الحضرية، وأن هذه الفروق تعزى إلى مجموعة من المتغيرات التي اشتملت الدراسة على بعضها منها، ولذلك فإنه يجدر بالممارسين الصحيين ومتخذي القرار والباحثين في القطاع الصحي التعرف على هذه العوامل قبل إجراء أي تدخلات ترمي إلى توزيع أو توفير الخدمات الصحية في المناطق المختلفة في المملكة.

**الكلمات المرجعية:** استخدام الخدمات الصحية، المناطق الريفية والحضرية، المملكة العربية السعودية.



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