Patterns of referral from health centres to hospitals in Riyadh region

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أنماط الإحالة من المراكز الصحية إلى المستشفيات في منطقة الرياض

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خلاصة : تبين من دراسة أنماط مراجعة المرضى وإحالاتهم في المستشفيات والمراكز الصحية في منطقة الرياض بالمملكة العربية السعودية قبل تنفيذ نظام للإحالات وبعده حدوث انخفاض بنسبة 40.6% في عدد المرضى المترددين على العيادات الخارجية بالمستشفيات ، وزيادة بنسبة 11.9% في عدد المرضى المترددين على المراكز الصحية الأولية ، وزيادة بنسبة 19.2% في عدد الإحالات ، وزيادة بنسبة 33.2% في عدد المرضى المترددين على أقسام الحالات الطارئة ، وزيادة بنسبة 17.3% في مرضى الأقسام الداخلية . ومن الواضح أن نظام الإحالات قد أثر بالفعل ، وسوف يؤثر مستقبلا ، على خدمات الرعاية الصحية الأولية والثانوية . وإذا أردنا تعظيم الجوانب الإيجابية لهذا التأثير مع ضغط الجوانب السلبية إلى أدنى حد ممكن ، ينبغي الحفاظ على مستوى عال من التواصل بين المراكز الصحية الأولية وبين المستشفيات . وتوصي الدراسة بإجراء مراجعات ودراسات منتظمة لأنظمة الإحالة .

ABSTRACT Patterns of attendance and referrals in hospitals and health centres in Riyadh region, Saudi Arabia, studied before and after implementing a referral system showed a 40.6% total decrease in patients attending hospital outpatient clinics, an 11.9% increase in patients attending primary health centres; a 19.2% increase in referrals; a 33.2% increase in patients attending emergency departments; and a 17.3% increase in inpatients. It is clear that the referral system has, and will have, an impact on primary and secondary health care services. In order to optimize positive and minimize negative aspects of this impact, communication between primary health centres and hospitals should be of high standard. Regular reviews and studies of referral systems are recommended.

L'orientation des patients des centres de santé vers les hôpitaux dans la Région de Riyad
RESUME Les caractéristiques de la fréquentation des services et de l'orientation des patients etudiées dans des hôpitaux et centres de santé dans la région de Riyad (Arabie saoudite) avant et après la mise en place d'un système d'orientation-recours ont montré une diminution de 40,6% du nombre des patients fréquentant les services de consultation externe des hôpitaux; une augmentation de 11,9% du nombre des patients fréquentant les centres de soins de santé primaires; une augmentation totale de 19,2% des cas d'orientation-recours; une augmentation de 33,2% des patients admis aux services des urgences; et une augmentation de 17,3% du nombre des malades hospitalisés. Il est clair que le système d'orientation-recours a un impact sur les services de soins de santé primaires et secondaires, et qu'il continuera d'avoir cet impact à l'avenir. Afin d'optimiser les aspects positifs et de minimiser les aspects négatifs de cet impact, il devrait y avoir une bonne communication entre les centres de soins de santé primaires et les hôpitaux. Des études et des examens réguliers des systèmes d'orientation-recours sont recommandés.

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Introduction

In order to provide a comprehensive and integrated health service for the people of Saudi Arabia, the Ministry of Health has introduced a referral system as one of its strategies to make the best use of hospitals and primary health care services [1]. In this system, all patients should first be seen by primary health care physicians who decide whether a referral to secondary care is necessary. In other words, access to hospital care is through primary health care centres, except for emergency cases where patients can access the hospital directly through the accident and emergency departments [2]. It was thought that implementing such a referral system would lead to better cost-effective utilization of the health services.

The concept of a referral system was initiated in Riyadh region in 1986 but it was not fully implemented until the second half of 1989. Thus, at the time of this study in 1992 the referral system had been in place for more than three years. However, there is little published data about its effect on the health services [3].

The present study was carried out to examine patterns of referral from health centres to hospitals, changes in the patient attendance at outpatient clinics and emergency departments, and changes in the number of inpatients in the hospitals after implementation of the referral system.

Method

Framework of the referral system

Family health records in 6 general hospitals and 59 primary health care centres in Riyadh region (Figure 1) were examined retrospectively to determine the number and nationalities of patients attending these hospitals and health care centres, as well as the referrals, before and after the establishment of the referral system. Other characteristics of patients such as age and sex were not included. Data obtained from the first three months of 1989 were used to represent the period prior to the implementation of the referral system and were compared to the same data obtained during the first three months of 1992. Due to geographic distribution, and the availability of facilities regarding referrals to the outside city hospitals, the referral system is based on the concept of a district health system.

Definition of referral

Referral was defined as a process in which the treating physician at a lower level of the health service, who has inadequate skills by virtue of his qualification and/or fewer facilities to manage a clinical condition, seeks the assistance of a better equipped and/or specially trained person, with better resources at a higher level, to guide him in managing or to take over the management of a particular episode of a clinical condition in a beneficiary [1].

Types of referral

In health centre practice, a referral was requested in two main situations: a) emergency and b) routine.

Emergency referral was made in emergency cases which could not be totally managed at the health centre. Emergencies were defined and classified according to *Principles and practice of primary health care*, which is used as a manual at the health centres [1].

Routine referral was usually made to:

- seek expert opinion regarding a patient
- seek admission and management of a patient
- seek facilities for investigation.

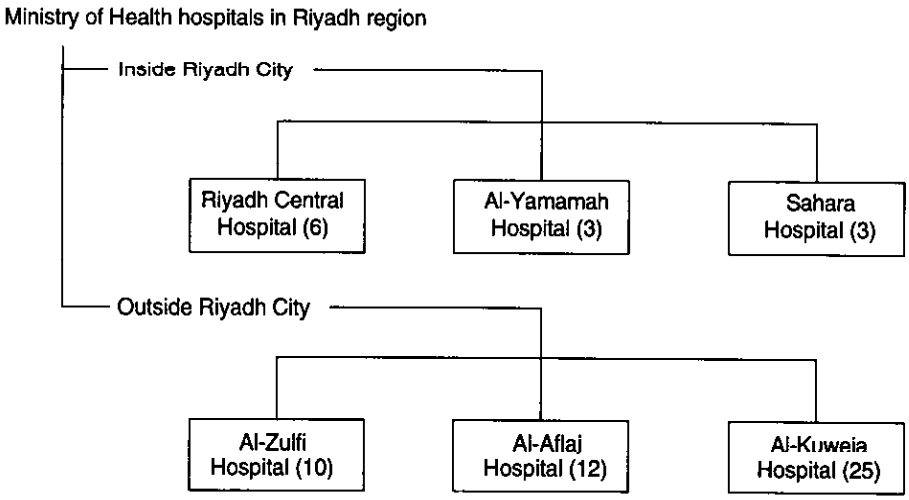
Details of the strategies and referral procedures are described in the above mentioned manual [1], and these guidelines were adhered to by the physicians. Standards for the referral procedure included results of clinical examination, social history, current treatment (if any) and reasons(s) for referral. These standards are part of a quality assurance manual [4] which is followed by all health centre staff. However, there were no set clinical criteria for referral for each clinical condition.

Selection of sample

Systematic random sampling was used to select hospitals and primary health care centres for the study. Hospitals selected included three inside Riyadh City (Riyadh Central Hospital, Al-Yamama and Sahara) and three outside the city (Al-Zulfi, Al-Aflaj and Al-Kuweia). As regards the primary health care centres, the study included centres from Riyadh City and its vicinity, and 47 centres from distant areas outside the city (Figure 1). All the referrals were made from health centres within the catchment area of the respective hospital, whether inside or outside the city.

Results

The numbers and nationalities of the patients attending hospitals and primary health care centres before and after the implementation of the referral system are shown in Table 1. The load of patients on hospital outpatient clinics inside and outside Riyadh was reduced by 46.5% and 32.4%, respectively, relatively more among Saudis. At the same time, the load of patients on primary health care centres inside and outside Riyadh increased by 15.9% and 7.5%, respectively.



Note Numbers in brackets represent the number of selected health centres referring patients to that hospital

Figure 1 **Ministry of Health hospitals in the Riyadh region receiving referrals from the selected health centres**

Table 1 **Attendance, by nationality, at hospital outpatient clinics and at primary health care centres in Riyadh region before and after implementation of the referral system**

Location of of service	Before implementation		After implementation		Percentage change*
	Total number	Of which Saudi (%)	Total number	Of which Saudi (%)	
Attendance at hospital outpatient clinics					
Inside Riyadh	313 922	73.7	168 100	71.9	(46.5)
Outside Riyadh	219 906	79.5	148 731	74.5	(32.4)
Total	533 828	76.1	316 831	73.1	(40.6)
Attendance at primary health care centres					
Inside Riyadh	1 034 739	74.4	1 199 193	75.0	15.9
Outside Riyadh	927 627	74.7	997 229	69.0	7.5
Total	1 962 366	74.5	2 196 422	72.3	11.9

**Increase or (decrease)*

Table 2 **Number and percentage of referrals from primary health care centres in Riyadh region before and after implementation of the referral system**

Location of health centres	Before implementation		After implementation		Percentage increase
	Number	Referral rate (%)	Number	Referral rate (%)	
Inside Riyadh	26 831	2.6	32 532	2.7	21.2
Outside Riyadh	32 656	3.5	38 372	3.8	17.5
Total	59 487	3.0	70 904	3.2	19.2

After the establishment of the referral system. there was an increase in the number of referrals, particularly in centres in Riyadh (Table 2). In addition, the attendance at emergency departments inside Riyadh increased markedly (74.1%) after the implementation of the referral system (Table 3).

In comparing periods before and after the establishment of the referral system the following results were obtained. There was total decrease of 40.6% in patients attending hospital clinics, an11.9% total increase in patients attending primary health care centres (Table 1), a 19.2% total increase in referrals (Table 2), a 33.2% total increase in attendance of emergency departments of hospitals and a 17.3% total increase in admissions to hospitals (Table 3). Interestingly, the percentage of non-Saudis attending emergency departments and those admitted to hospital became higher after the establishment of the referral system.

Table 3 **Attendance at hospital emergency departments and number of inpatients by nationality in Riyadh region, before and after implementation of the referral system**

Location of of hospital	Before implementation		After implementation		Percentage increase
	Total number	Of which Saudi (%)	Total number	Of which Saudi (%)	
	Attendance at hospital emergency departments				
Inside Riyadh	96 198	71.4	167 469	71.9	74.1
Outside Riyadh	132 276	79.5	136 905	74.6	3.5
Total	228 474	76.1	304 374	73.1	33.2
	Number of inpatients				
Inside Riyadh	26 117	76.6	30 279	69.4	15.9
Outside Riyadh	17 225	72.9	20 547	77.0	19.3
Total	43 342	75.2	50 826	72.5	17.3

Discussion

Although the findings are similar to a previous study [*3*], certain limitations need to be considered. Since there was no control for confounding factors it is difficult to attribute all changes reported here to the implementation of the referral system. For example, increase in admissions cannot be attributed only to the referral system and, therefore, some of the data should be interpreted carefully. However, it can be argued that the referral system may have contributed immensely to this increase through referred patients in need for special investigations, inpatient services, or, by giving the specialists more differentiated cases [*3*].

Some of the findings may be considered self-evident, e.g. the reduction in attendance at hospital outpatient clinics. Although the referral system is the major, if not the only, factor responsible for reducing patients attending hospital outpatient clinics, it is important to quantify this reduction for future reference and monitoring. Indeed, it has been reported that such reductions vary from hospital to hospital [*3*]. Thus, the findings from this study may contribute to a better understanding of this variation and provide useful information for health service planning.

A marked reduction in patients attending hospital outpatient clinics means that the load on specialist services is reduced and, hopefully, differentiated so that more time is devoted to patients who need specialist care; consequently, standards of care should rise [*3*]. Unfortunately, data in this study do not provide objective evidence that such a reduction has resulted in a better quality of care provided by specialists. Nevertheless, it has been reported that hospital staff perceive referral systems as important and beneficial [*3*]. Moreover, it is logical to assume that the more is the time given to patients, the better is the outcome.

The above assumptions, however, may raise some concern about care provided in primary health care centres and emergency departments, because the study shows that

attendance of patients at these services increased after the referral system was implemented. Such concern may be allayed for the following reasons. First, it is expected that implementing referral systems will shift patients to primary health care centres and emergency departments. Second, it has been shown that less than ten minutes per patient is sufficient in primary care settings [5]. Third, the majority of problems presented to emergency departments are nonurgent [2] and, consequently, should not take a long time to manage. However, one may argue that the increase in patients attending emergency departments inside Riyadh is greater than expected. Furthermore, shifts to primary care will strain a system which is already stretched. These arguments need to be seriously considered.

For nonemergency cases to be seen in emergency settings is a poor utilization of services [2]. This phenomenon needs to be explored further to determine what makes patients go to emergency departments rather than primary health care centres. One explanation for this tendency is the absence of out-of-hours services in primary health care [2]. On the other hand, it can be hypothesized that, in our environment, the main reason is people's misconception of hospitals and primary health care services. Hospitals are considered to provide high quality care, whereas primary health care may be seen as primitive care [6]. Such a perception is not only wrong, but also costly and hazardous. "High tech" medicine does not necessarily mean a high quality of care [7]. Patients attending hospitals inappropriately are more likely to be exposed to unnecessary investigations. Moreover, it has been reported that only 10% or less of the patients are in need of specialist care, whereas 90% or more could be looked after by general practitioners in the primary health care setting [7]. This fact means that the better the primary health care is, the better the health of the population. Good primary health care has a positive impact not only on individuals, but also on the community as a whole. In Saudi Arabia we have, perhaps rightly, invested heavily in specialist services by building the most sophisticated hospitals which are equipped with highly qualified personnel capable of undertaking the most complicated procedures such as heart and kidney transplants. Such an investment has made health care inside hospitals comparable to that in industrialized countries. However, our ambition is to achieve the highest standards. Now it is necessary to make primary health care one of the most effective and efficient systems in the world.

It is envisaged that cost–effective, accessible and acceptable care for our population can be provided by establishing a sound primary health care system [8]. It is, therefore, important to recognize and foster factors leading to the achievement of this goal and to eliminate hindering factors. Unless people are reassured that primary health care is capable of providing high quality care, they will continue to turn to hospitals via emergency departments or will demand referrals. Such reassurance cannot be provided simply by educating the public about the role of primary health care. It is necessary to mobilize resources for primary health care in order to convince people of the quality of the service available.

Primary health care requires many inputs: appropriate qualified personnel who know their tasks well and carry them out competently; efficient management systems so that work inside and outside the centres is accomplished successfully; high recognition to boost the morale of workers and increase their commitment; and effective continuing education programmes so

that primary care teams are kept up-to-date in their fields [*9*]. These issues are beyond the scope of this paper. What is relevant, however, is the communication between primary health care and hospitals.

Referral letters are the main, if not the only, means of communication between general practitioners and specialists. There is much to be done to improve this means of communication [*10*]. Proper communication is vital for the success of the referral system. There must be a clear understanding that the hospital support for the health centres in its catchment area is within the formal Ministry of Health structure and therefore mandatory. This structure should clearly define the bidirectional communication between health centres and the hospitals, at both managerial and technical levels, which means comprehensive vertical and horizontal communication. For example, the doctor in the hospital who has examined a referred patient, ordered laboratory investigations, radiography and other diagnostic measures should have a clear-cut operative procedure to ensure feedback of the results of tests, diagnosis and treatment to the health centre concerned. Facilities for bidirectional communication should include transportation, telephone, fax and computer floppy disc exchange (in the absence of a computer network). The linkage between the health centre, first referral hospital and subsequent referral hospitals should be properly administered through an appropriate managerial system, and monitoring, evaluation and quality assurance system. Other means of communication (e.g. meetings, telephone conversations) between specialists and general practitioners should be encouraged so that they can develop a better understanding of their roles.

In our study the referral rate increased after the application of the referral system. However, this increase is still lower than that in industrialized countries [*11*]. Therefore, for the time being it is clear that the referral system needs to be audited frequently to ensure its efficiency and to get an idea about its pattern. The results reported in the present study may help in this regard. A study carried out at the Kings' College Hospital, London, showed that a nurse trial assessment in the accident and emergency department modified patients' presentations into two categories: primary care and accident and emergency [*12*]. The result of the study showed 41% of the new attenders presented with primary health care problems [*12*]. Studies following the lines of recommendation of Dale et al. may offer ways of reducing rates of referrals, investigations and treatment [*13*].

Recommendations

We recommend that the referral system in all primary health care settings ensure the utilization of the health care system equally by all members of the community, including the socially vulnerable groups, and through this system achieve equitable accessibility to the secondary and tertiary health care network. Raising public awareness of the referral system, and training health professionals and managers, are recommended to gain public trust and help achieve effective and efficient handling of referral tasks.

The private sector's role in the provision of referral services within the national health policies should be clearly defined. Operational research on multiple fronts of the referral system, such as functions and indicators, quality of referral service, cost–effectiveness, adequacy and efficiency of the system itself, consumer satisfaction and qualitative improvement in health service

need to be undertaken. Researchers in universities, medical colleges, research institutes and agencies should be encouraged to participate and cooperate in such research.

We recommend that detailed clinical criteria of referrals be made for objective justification of referrals. We also recommend that a qualitative study be undertaken in order to illustrate the effect of referrals on health service provision and to include the other pathway of the referral system from the hospitals to the health centres.

In conclusion, the effect of the referral system on both primary and secondary care deserves full attention, not the least from researchers. Our findings, despite their limitations, may prove useful as a preliminary basis for future research in this area. A recent literature search did not provide similar comparative data; therefore, operational research, such as this study, could be useful for planning purposes.

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