



## PROFILE OF PATIENTS VISITING A TERTIARY EYE HOSPITAL AND THEIR PERCEPTION REGARDING BARRIER FOR EYE CARE SERVICES IN THE WESTERN SAUDI ARABIA

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### ABSTRACT

*Introduction: King Abdullah Medical City (KAMC) is a tertiary health care hospital in western Saudi Arabia. We present the profile of eye patients visiting this institution and their perceived barriers for the access to eye care. Methodology: This case series type of study was conducted between January and June 2014. Close-ended questions were used to collect the responses of patients. Results: Our series had 165 eye patients. The proportion of male and female population in the study area was 57:43. The sex ratio of eye patient was 59:41. Sixty patients (37%) needed more than one-hour car-drive to reach hospital. Majority of eye patients were referred from Al-Noor specialist hospital 53(32%) and Hira General Hospital 40 (24%) of Makkah. Conclusion: Eye patients of KAMC reside mainly in Makkah. Female gender was not while distance was a barrier for accessing tertiary eye care. The workload in eye unit of KAMC was low.*

**Keywords:** Barriers, Perception, Access to eye care, Ophthalmic services, Tertiary eye hospital, Western Saudi Arabia.

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### Contribution/ Originality

This study documents that there are barriers to access Tertiary Eye care in Western Saudi Arabia.

### 1. INTRODUCTION

In many health systems, specialized tertiary care services are organized on a regional basis so that patients can easily access facilities and prompt care for their illness or injury, [Institute of Medicine \[1\]](#) this also establishes good coordination between hospitals and specialized centers [\[2\]](#). With such initiative, clinical resources and services are improved [\[3\]](#). Health care providers in specialized eye care centers are more adherent to the best practices with fewer practice variations [\[2\]](#). Regionalization may also be a cost-effective way to provide specialist public health services [\[4\]](#). King Abdullah Medical City (KAMC) a medical city in in Makkah, western Saudi Arabia. Ophthalmology Centre at KAMC receives referrals since last four years from the Ministry of Health (MOH) hospitals, National Guard Hospital, King Faisal Specialist Hospital and Research Center and King Abdul-Aziz University Hospital and Jeddah Eye Hospital. Seven million people reside in 10 cities of western SA. [Asharaf \[5\]](#). We conducted a study to review the profile of eye patients attending ophthalmic services of KAMS and their perceptions regarding barriers for accessing eye care.

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## 2. METHODOLOGY

This case series was conducted in 2014 at KAMC, Makkah. The Institutional Review Board (IRB) of KAMC approved this study. Informed verbal consent for participation was obtained. Those agreeing to participate were included in this study. Two medical students were our field staff. Demographic information like age, sex, area of residence, referring eye institute and subspecialty unit were collected from case records. The field staff interviewed all participants. They obtained responses without prompting. A close-ended questionnaire in Arabic language was used. The questions were in Arabic language and were related to known barriers for a health care service like female gender, far distances, lack of transport, lack of escort, older ages, lack of awareness, delayed referrals and presence of other systemic comorbidities incapacitating to travel.

Researchers developed the questionnaire and subsequently scrutinized by a panel of experts to establish content validity. The questionnaire was pretested for questionnaire comprehension. To assess reliability of the questionnaire, 20 patients completed the questionnaire again within one week. Test-retest reliability was reviewed. The data was entered using the spreadsheet of Statistical Package for Social Studies (SPSS 17) (IBM, Chicago, USA). Univariate analysis was carried out using parametric method to calculate the frequencies and percentage proportion of responses. To compare the coverage of eye patients by cities, we referred population of Makkah administrative area.

## 3. RESULTS

Our series had 165 eye patients [Female; 68 (41%)] with the mean age of  $55 \pm 16$  years [Range 3 to 90 years]. Of them, 161 (98%) were Saudi nationals. Based on the location of residence, they were grouped by the cities and were compared to their population estimates. Figure: 1. Marked variation was observed in eye patients to population of different cities. The proportion of male and female population in the study area was 57:43. The sex ratio of eye patient was 59:41. Thus, female sex does not seem to be a barrier for access to tertiary level of eye care.

The distance was noted in time required to drive from home to KAMC. 104 eye patients (64%) came by driving for less than one hour, 49 patients (30%) needed 1-2 hours car driving to reach eye unit of KAMC. Eleven (7%) patients spend more than two hours to drive car from home to hospital. Thus, distance was perceived as barrier for tertiary eye care.

Ninety-nine (60%) patients were referred for tertiary care to Retina sub-specialty, 42 (25%) to anterior segment sub-specialty, 20 (12%) to glaucoma sub-specialty and four (2%) to pediatric ophthalmology sub-specialty of KAMC.

Majority of eye patients were referred to KAMC from Al-Noor specialist hospital 53(32%) and Hera General Hospital 40 (24%) of Makkah. As many as 35 (21%) eye patients were managed first at hospitals other than KAMC and then referred to KAMC for specialized eye care. Ophthalmologists of private hospitals managed 51 (31%) eye patients first and then referred. Similarly from King Abdul-Aziz National Guard Hospital and King Abdul-Aziz University Hospital in Jeddah 28 (17%) and 18 (11%) patients were treated first and then referred. Patients from cities other than Makkah, Jeddah and Taif were not getting specialized ophthalmological care prior to visiting KAMC.

## 4. DISCUSSION

The study suggested that eye patients visiting KAMC reside mainly in Makkah. Female gender was not a barrier for seeking tertiary eye care. Distance seems to be a barrier for accessing tertiary eye care in western Saudi Arabia. The workload in eye unit of KAMC was low.

This exercise was crucial to review the workload and reference pattern at eye unit of KAMC in the first three years of its inception. Awareness campaign targeting family physicians and ophthalmologists outside Makkah highlighting available services at eye unit of KAMC is recommended. In this study, we evaluated the perception of barriers among only those who had visited KAMC. Eye patients who did not avail this service could have different

sets of barrier. Hence, further studies are recommended to identify barriers among general population of western Saudi Arabia. More than half of participants in our study were females. This suggests that gender barrier does not exist in our study area, although female gender is a known barrier for accessing eye care in some countries [6].

Distance was a distinct barrier for eye care services in our study. This was noted as a distinct barrier for cataract services in developing countries [7].

As health services are available free of cost to Saudi nationals, cost is not a barrier to the majority of eye patients in our study. But, indirect cost has been found to be a barrier and this could influence in less attendance of eye patients from far places [8].

Less awareness among referring agency about available eye services in KAMC could be logical explanation of limited institutions referring complex eye care to KAMC [2]. Better communication and coordination among referring and KAMC could improve the situation. Only referred eye patients are examined in eye unit at present. Review of internal reference from other specialty of KAMC for eye care and if required walk in eye patients could improve workload at eye unit of KAMC.

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