

Cataract surgery rate in Mosul city

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ABSTRACT

Objective: To compare the number of cataract surgery rate in Mosul to other part of the world and determine the factors that influence this rate.

Methods: case series study from public and private hospitals in Mosul, on patients who had cataract operations during 2001.

Results: Cataract surgery rate was 1098 per 1 million. Only 15.2% were associated with intraocular lens implant.

Conclusion: Cataract surgery rate in Mosul was the same as in other Middle East Countries, but was very low compared to developed countries.

الخلاصة:

الهدف: لمعرفة عدد عمليات الساد التي تجرى في محافظة نينوى خلال عام واحد والعوامل المؤثرة عليها
التصميم: دراسة الحالات المتتالية.

مكان إجراء الدراسة والإطار الزمني لها: جميع مستشفيات محافظة نينوى الرسمية والخاصة خلال عام ٢٠٠١.
المشاركون: جميع المرضى الذين أجريت لهم عملية رفع الساد في عام ٢٠٠١.

النتيجة: تبين أن عدد العمليات التي أجريت في محافظة نينوى خلال عام ٢٠٠١ هي ١٠٩٨ لكل مليون نسمة.
الاستنتاج: هذا العدد من العمليات يشبه ما يجرى في بلدان شرق البحر الأبيض المتوسط ولكنه قليل بالنسبة لما يجرى في الدول المتقدمة.

There are three factors that influence the amount of cataract surgery that is performed in a community; the age structure of the community, the indications or thresholds that are used for surgery, and the proportion of those who need or are eligible for surgery and actually have surgery⁽¹⁾.

These three factors combine to give the overall "cataract surgery rate" (CSR) that has been defined by world health organization (WHO) as the number of cataract operations performed per one million population per year⁽¹⁾. The volume of cataract surgery already had increased dramatically around the world over the past 20 years⁽²⁾. It increased approximately four folds in just ten years in both the United states and Sweden through the 1980's⁽³⁾, and increased three folds in United kingdom over this time⁽⁴⁾.

Economically, developed countries usually perform between 4000-6000 cataract operations per million populations per year. India had dramatically increased its CSR in the last ten years from less than 1500 to a figure of around 3000 today⁽⁵⁾. In the middle income countries of Latin America and part of Asia as Middle East, the CSR is between 500-2000 per million per year. In most of Africa, China and the poorer countries of Asia the rate was often less than 500⁽⁶⁾. The major reasons for low CSR includes: low demand because of fear of surgery, low demand from poverty because of high cost of surgery, low

demand because of poor visual results and lack of ophthalmologists particularly in Africa⁽⁶⁾.

The aim of this study is to assess the number of cataract operations done in Mosul province, compare it to other parts of the world and to determine the factors, which influence this CSR.

Patients and methods:

The study was conducted during the period from Jan. 2001 to Jan. 2002. The patients who underwent an operation for cataract at the public as well as the private hospitals were recorded and the data were calculated in relation to age and sex and type of operation.

Results:

The number of operations done in Mosul hospitals was 2440 (table 1). Mosul population at 2001 was 2222042 (according to health authorities). Therefore, the CSR is 1098 per one million per year. Table 2 shows the distribution of age and sex of patients who had cataract operations. There is three folds increase, from ages 40's (5.2%) to 50's (18.2%), and 2.5 folds from ages of 50's (18.2%) to ages of 60's (42.6%) but it is very low at ages of 80's (3.7%). Two thirds of operations were done in private hospitals.

Table (1): The numbers of cataract operations done in each hospital during Jan. 1st. Dec. 31st. 2001.

Hospital clinic	Total
Public: Al-Salam	563
Al-Jumhori	224
Talafar	92
Private: Al-Zahrawi	100
Al-Rahma	120
Ibn-Biatar	141
Al-Sabah	450
Al-Rabee	750
Total	2440

Table (2): Age and sex distributions of cataract surgery during 2001 in Mosul.

Age	Male no. & %	Female no. & %	Total
<40	120 (4.9%)	45 (1.8%)	165 (6.7%)
40-49	51 (2.1%)	76 (3.1%)	127 (5.2%)
50-59	105 (4.3%)	345 (14.1%)	450 (18.4%)
60-69	370 (15.2%)	668 (27.4%)	1037 (42.6%)
70-79	247 (10.1%)	323 (13.2%)	570 (23.3%)
80--	53 (2.2%)	37 (1.6%)	91 (3.9%)
Total	946 (39%)	1494 (61%)	2440 (100%)

Table (3): The number of operations done in public and private hospitals during 2001

Hospitals and clinics	Number of operations
Public hospitals	870 (35.7%)
Private hospitals	1570 (64.3%)
Total	2440 (100%)

Table (4) : The type of cataract operations done.

Type of cataract operations	The number of operations
ICCE and ECCE	2070 (84.8%)
ECCE and IOL implant	370 (15.2%)
Total	2440 (100%)

ICCE= Intra-capsular cataract extraction. ECCE=Extra-capsular cataract extraction. IOL=Intra-ocular lens

Discussion:

The volume of cataract surgery already has increased dramatically around the world over the past 20 years, especially in USA, Sweden and UK^(2, 3, 4). While it remained low in Eastern Mediterranean countries⁽⁷⁾, which is around 1000 as estimated by Allen Foster in 1997⁽⁶⁾. In our study the CSR was 1098 which is similar to countries in Middle East but very low compared to developed countries as in Australia 6800, USA 5700 and UK 2700⁽⁸⁾ while in India 3100, South-east Asia 2400, Africa 300 and China 280⁽⁶⁾. This low rate was due to many causes. Age is one important factor in increasing surgery rate in developed countries, which was doubled with each decade until every second person in their 90s would have cataract surgery⁽⁹⁾. This is due to the increase in life expectancy in the last few decades in most countries⁽⁶⁾. Nevertheless, this is not the case in our study, because we did not find patients in their 90s and few in their 80s (3.8%), who rarely visit ophthalmologist, or due to neglect, as in Africa⁽⁵⁾.

Threshold or indication of surgery was the other reason which lowers the CSR in our study because for generation till now the threshold was set as bilateral blindness due to low health education of community and not good quality of our surgery. As shown in this current study, only 15% of cataract surgery was with IOL implantation and the rest was ICCE or ECCE in which the quality of vision with aphakic correction did not justify earlier

surgery⁽³⁾. While modern intraocular lens provide excellent visual rehabilitation in almost every instance and the acuity thresholds has tumbled from 6/60 to 6/24 then 6/18 and is now often 6/9 or less⁽¹⁰⁾. The number of cataract operations increased 2.5 time as the visual acuity criterion changed from less than 6/60 to less than 6/24 and five folds if it goes to less than 6/12⁽¹¹⁾.

Surgical coverage was the most important factor in lowering CSR in our hospitals due poor services, especially in public hospitals (only 35.7% of the work), but even where such facilities are available there was often lack of instruments and other equipments exacerbated by poor maintenance, with medication and other consumables in short supply.

Conclusion:

CSR was the same as in the surrounding Middle Eastern countries but was lower than other developed countries due to neglect in old patients. The indication of operation is still for blind eye and, due to lack of surgical resources.

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