

PATTERN OF EYE CARE USE AND EXPENDITURES AMONG CHILDREN WITH DIAGNOSED EYE CONDITIONS

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ABSTRACT

OBJECTIVES: Purpose of this study was to calculate the direct cost for treatment and medication and indirect cost for food, transport and accommodation pattern of disease of children less than 18 years.

METHOD: Sample size of 60 children aged less than 18 was selected for this study. History was taken from only follow up patients of cataract, glaucoma, dacryocystitis and retinoblastoma at Eye Ward Mayo Hospital Lahore. This comparative cross sectional (analytical) study was conducted in the month of November and December 2019. All the data was entered and analyzed by using statistical package for social science (SPSS version 23.00) and formula used was Wilcoxon signed-rank test with P value of 0.001. Direct cost on treatment and medications and indirect cost on food and transport depending on children's follow ups was asked from patient guardians.

RESULTS: Direct and indirect costs of dacryocystitis, cataract, glaucoma, retinoblastoma and trauma were 15%, 20%; 16.7%, 21.7%; 20%, 23.3%; 5%, 13.3% and 11.7%, 21.7% respectively (Wilcoxon signed-rank test, p-value <0.001). As shown from above data direct cost on medication was less than indirect cost on transport, food and accommodation because most of the treatment in Eye ward of Mayo hospital was free of cost. Patients only had to pay for food, transport and accommodation and to some extent on their medications.

CONCLUSION: This study concluded all the treatment provided to follow up patients who visited at Eye ward of Mayo Hospital was free and direct cost was less than indirect cost e.g. cost on transport, accommodation.

INTRODUCTION

Health care is the maintenance of health by the prevention, diagnosis, cure of disease, treatment and recovery. Health care is expensive, universally used service which also affects economies. Health care is delivered by health professionals. Eye care is a part of health care. Primary eye care (PEC) is basic eye care, including prevention and treatment of eye diseases.¹

Eyes are an important part of health. The topic of research is about children under 18 years with diagnosed eye conditions because normally very little is known about distribution of eye and vision conditions among children and about possible disparities in the distribution of disease.²

The most common causes of visual impairment include ocular allergies, eye injuries, refractive errors and eyelid infections. Most of the ocular problems are preventable.³ Refractive errors affect the child's

learning.⁷ Ocular infections in children can lead to blindness although these are preventable. 80% of learning is sight-dependent in children.

In the middle income countries of Europe, glaucoma, congenital cataract and mainly, retinopathy of prematurity are high.⁵ Cataracts were identified as congenital if they were identified in the first six months of life.⁶ Cataract is the most important cause of childhood blindness. There is an estimation of 200,000 children blindness from cataract worldwide; 20,000 to 40,000 are born with developmental cataract each year. Increase in prevalence of cataract require surgery to improve vision.⁷ Other include squint, retinal detachment, retinoblastoma, developmental abnormalities etc. So, there are different methods to treat the different eye diseases. From the last record, diagnosis of a visual defect is relatively easily⁸

Unfortunately, in low income countries, preferring traditional remedies, lack of services, long distance to and from hospital, delayed time of detection and the cost are the major factors.⁹ We need to estimate the cost incurred on different eye diseases in children and, it differs from disease to disease. The chances for visual recovery depends on early cataract removal.¹⁰ All of them include different direct and indirect costs and our study will give an idea the costs involving different eye care procedures in children.

Direct cost for different surgical procedures and indirect cost by patient include transportation, food and medicine.¹¹ Then 2 types of costs include direct cost and indirect cost. Direct cost means the total expenditures on treatment or medication. Indirect cost means the expenditures other than the treatment like fare, accommodation and food.

Pakistan is an underdeveloped country, and commonly it is considered that public sector hospitals provide free medical care in Pakistan but around 78 percent of the population pays for healthcare out of its own pocket due to the increased population demand. People who used a private provider had to borrow money.¹² People should understand the importance of cost sharing.¹³

RESULTS

Table 1: Direct Cost

Sr.#	Disease	500-1000	1000-1500	1500-2000	Above2000
1	Dacryocystitis	9 (15.0%)	3(5.0%)	0(0.0%)	0(0.0%)
2	Cataract	7 (11.7%)	6(10.0%)	0(0.0%)	0(0.0%)
3	Glaucoma	0 (0.0%)	0(0.0%)	5(8.3%)	8(13.3%)
4	Retinoblastoma	0 (0.0%)	0(0.0%)	5(8.3%)	3(5.0%)
5	Trauma	6 (10.0%)	6(10.0%)	0(0.0%)	1(1.7%)
	Total	22 (36.7%)	15(25.0%)	10(16.7%)	12(20.0%)

Table 2: Indirect Cost

Sr.#	Disease	Less Than 5000	5000-10,000	10,000-20000	Above 20000
1	Dacryocystitis	4 (6.7 %)	3(5.0%)	1 (1.7%)	3(5.0%)
2	Cataract	3 (5.0 %)	7(11.7%)	3(5.0%)	0(0.0%)
3	Glaucoma	0 (0.0 %)	2(3.3%)	3(5.0%)	1(1.7%)
4	Retinoblastoma	1 (1.7 %)	1(1.7%)	1 (1.7 %)	2 (3.3%)
5	Trauma	0 (0.0 %)	5(8.3%)	2 (3.3 %)	5 (8.3%)
	Total	8 (13.3 %)	18(30.0%)	10 (16.7%)	11(18.3%)

These tables indicate the number of patients with different diagnosed diseases and percentage of direct and indirect costs.

DISCUSSION

The pattern of eye care use means the type of different treatment used by patients for different diseases and the term diagnosed eye conditions means any type of clinically diagnosed and treated condition. Eyes are an important part of health.¹⁴

Eyes are important part of our body. 80% of the learning is sight dependent. So it is important to keep eyes healthy. Some eye diseases can affect the vision e. g. cataract, glaucoma, retinal detachment, ocular infections, retinoblastoma and squint. It is important to take eye care services if symptom of any eye disease appears. There are some factors which affect the utilization of eye care service. Unfortunately, in low income countries, preferring traditional remedies, lack of services, long distance to and from hospital and delayed time of detection are the major factors. So, it's important to estimate the cost incurred on different diseases in children and, it differs from disease to disease. Commonly, it is considered that public sector hospitals provide free medical care in Pakistan but around 78% of the population pay for health care out of its own pocket due to the increased population demand.

A sample size of 60 children with retinoblastoma and glaucoma, cataract and trauma are selected. The study explains the direct and indirect cost paid by patients. Different no. of patients paid different direct and indirect cost. Direct cost means the expenditures on surgery or medications. Indirect cost means the expenditures on food, accommodation and transport. Out of 60 guardians ,8 paid minimum indirect cost of less than 5000 PKR. Eleven of them paid indirect cost of above PKR 20,000. 22 patients paid 500-1000 direct cost in hospital for treatment and this direct cost include surgery or medications. Table no 3 shows that out of 60 patients, 9(15.0%) patients with dacryocystitis paid direct cost between 500-1000 PKR and 3(5%) of them paid 1000-1500 PKR. 7(11.7%) patients for cataract treatment paid 500-1000 PKR and 6 (10.0%) paid 1000-1500 PKR. Parents with children of glaucoma and retinoblastoma has high direct cost on medication. 36.7% is the most common direct cost ranging from 500-1000 PKR is paid for treatment of different eye diseases in Mayo Hospital.

Dacryocystitis have direct cost 15% and indirect cost

20%. Cataract has direct cost of 16.7% and indirect cost 21.7%. Glaucoma has direct cost of 20% and indirect 23.3%. Retinoblastoma has direct cost of 5% and indirect cost 13.3% and Trauma has direct cost of 11.7% and indirect cost of 21.7%. As shown from above data direct cost on medication was less than indirect cost on transport etc. Thus, most of the treatment in Eye ward of Mayo hospital was free of cost and patients only had to pay for food, transport and accommodation and to some extent on medications.

Similarly, 6.7% parents suffered indirect cost of less than 5000 for treatment of dacryocystitis and 5.0% paid 5000-10000 rupees. 13.3% paid less than 5000, 30.0% paid indirect cost between 5000-10000, 16.7% paid 10000-20000 rupees and 18.3% paid above 20000 rupees. 20% with dacryocystitis, 21.7% with cataract, 23.3% with glaucoma, 13.3% with retinoblastoma and 21.7% with trauma. 30% patients paid indirect cost of 5000-10000PKR. Highest indirect cost paid by 21% persons was 40,000 PKR. 36.7% paid 5000-10000 PKR of minimum cost. This study shows that indirect costs for food, accommodation and transport are higher than direct cost for medications because all the treatment in eye ward mayo hospital is free.

CONCLUSION

This study concluded that direct cost is less than indirect cost because the treatment provided to follow up patients under 18 years who visited at Eye Ward of Mayo hospital was free.

RECOMMENDATIONS

This study concluded that both direct and indirect cost have effect on patients. Indirect cost is more significant than direct cost. After this study, it is recommended that Although direct cost sharing less than indirect cost. Government hospitals should arrange free medication for patients. Health care providers should arrange more free medical camps in patients' nearby areas, so their economic issues should be reduced, and patients will be free to cost for transport, food and accommodation.

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Literature Review, Proof Reading

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