

Prevalence of Trachoma in Upper Sindh

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Purpose: To determine the prevalence of trachoma in upper Sindh.

Material and Methods: We did cross sectional study simultaneously at Ghulam Muhammad Mahar Medical College Sukkur, Chandka medical college Larkana and Civil Hospital Jacobabad from 1st Jan 2007 to 20th April 2009. Patients suffering from clinical features of active trachoma and trachomatous trichiasis were examined. We diagnosed patients on clinical grounds using W.H.O simplified Grading system.

Result: Nine Thousand and six patients with trachoma were diagnosed, Eight thousand seven hundred (96.6%) with active trachoma and 306 (3.40%) with trichiasis. Active trachoma was highly prevalent in female children (48.97%) while trachomatous trichiasis was predominantly seen in adult females (6.7%).

Conclusion: Active trachoma is still an avoidable vision threatening challenge in upper Sindh. A Collaborated wide ranging integrated community based approach must be implicated to reach elimination of trachoma by the year 2020.

Trachoma has been known to mankind since the 27th century BC¹. It is caused by Chlamydia Trachomatous serotypes A,B Ba and C that leads to chronic bilateral follicular kerato conjunctivitis². It is highly infectious disease and its sources of infection and re infection are flies, fingers and faces with dirty secretions^{3,4}.

Infection occurs generally in early childhood peaking around 5-7 years of age and in adulthood leads to conjunctival scarring, trichiasis and ultimately Blindness due to corneal opacification⁵.

Trachoma is associated with poverty, poor personal and community hygiene, poor healthcare and lack of clean water facilities³⁻⁵. Trachoma is prevalent all over world particularly Africa, South East Asia and Middle East⁶. Globally about 40 million people are suffering from active trachoma and are in need of treatment⁷.

The knowledge of updated estimate of prevalence in a community is mandatory for management of this preventable blinding disease^{6,7}. The purpose of our study is to establish the prevalence of trachoma in upper Sindh.

MATERIAL AND METHODS

The cross sectional study was carried out simultaneously at Ghulam Muhammad Mahar Medical College Sukkur, Chandka Medical Collage Larkana and Civil Hospital Jacobabad. Patients were registered at Eye OPD of these hospitals from 1st January 2007 to April 2009.

A team of two doctors one each at Ghulam Muhammad Mahar Medical College Sukkur and Chandka Medical Collage Larkana and one Ophthalmologist with an assistant at Civil Hospital Jacobabad examined the patients.

Detailed History and complete eye examination of anterior and posterior segments were performed. Patients suffering from clinical features of trachoma were examined thoroughly using a printed proforma provided by Prevention and Control of Blindness Cell, Dow medical college and Civil Hospital Karachi. The diagnosis of trachoma was made on clinical grounds using W.H.O. simplified Grading system^{1,2,5}.

Patients with active trachoma and trachomatous trichiasis were included in the study while patients with trachomatous corneal opacity were excluded.

WHO simplified grading system of trachoma 2 (FISTO)

Grading	Clinical findings	Remarks
Trachomatous follicle (TF)	Trachomatous inflammation with 5 or more follicles of at least 0.5 mm diameter on the upper central tarsal conjunctiva. A few follicles at limbos	Implies active trachoma, needs treatment. Recovers with no or minimal scarring
Trachoma intense (TI)	Trachoma inflammation intense with numerous follicles and papillae. Thickening of the upper tarsal conjunctiva obscures more than 50% of the deep conjunctival vessels. Pannus formation	Stage of severe disease needs urgent treatment but with high risk of complications
Trachomatous scarring or cicatricial trachoma (TS)	Upper tarsal conjunctival linear, band shaped or star shaped scarring arts line. Limbal follicles heal with pits Hebert's pits	Old, now inactive infection
Trachomatous trichiasis (TT)	Presence of at least one misdirected eye lash rubbing the eye ball	Needs corrective surgery
Trachomatous opacities (TO)	Presence of a corneal opacity covering part of the pupillary margin	Implies permanent damage caused by trachomatous trichiasis

RESULTS

A total number of 9006 patients with trachoma were examined. Eight thousand seven hundred (96.6%) cases of active trachoma were seen. Trachomatous trichiasis was reported in three hundred six (3.40%) patients. Female patients were 5566 (61.80%). Demographic characteristics of the patients have been shown in the (Table 1). Age and gender distribution of active trachoma has been shown in the (Table 2).

Active trachoma was present mainly in female children under the age of 10 years, (33.2%), almost double than the male children (15.75). The prevalence of active trachoma decreased as the age increased. Patients with age more than 30 years had relatively very low prevalence of active trachoma 625 (7.1%).

Trachomatous trichiasis was highly prevalent in adulthood especially after 30 years of age (81.37%). Only four cases (1.31%) were noted between 10-14 years of age. Female patients with trichiasis predominated in all age strata (67.9%). Over all prevalence of Trichiasis was (3.39%) (Table 3).

DISCUSSION

Trachoma is the disease of poverty and poor sanitation¹⁻⁴. Globally about 400 million people have trachoma⁶⁻⁷. In 2003 WHO estimated 84 million cases of active trachoma world wide^{7,6}. SP Mariotti⁶ reported 40

million cases of active trachoma in the world. About 8.2 million cases of trachomatous trichiasis have been estimated⁸. Six million people have trachoma induced blindness or severe visual loss world wide^{7,8}. This accounts for 2.9% of worlds blind people (Resnikoft 2008)⁷.

Trachoma is prevalent in Pakistan⁹. About 0.806 million people had active trachoma and 71700 people were suffering from trichiasis^{6,9}.

We carried out our study in upper sindh where about 70% of the population lives in rural areas¹⁰. We examined eight thousand seven hundred cases of active trachoma and three hundred six patients of trichiasis. Our study showed trachoma was highly prevalent in children less than ten years of age (48.97%). This is relatively low prevalence rate as compared to other investigators. Anthony et al⁵ reported 81% of prevalence of active trachoma in children less than 10 years of age. In a study in central Tanzania¹¹ higher prevalence rate was probably due to the fact that those studies were done in hyperendemic areas.

Our study showed increased prevalence in female patients (67.47%) almost double than the male patients. This is comparable to those reported by other investigators who reported 53% to 80% prevalence in female patients and 25%-45% prevalence in male patient^{6-8,11-14}.

Table 1: Demographic characteristics of patients
n=9006

Age years	Male n=(%)	Female n=(%)	Total n=(%)
1-4	960 (10.64)	1475 (16.37)	2435 (27.04)
5-9	1105 (12.27)	2160 (24.00)	3265 (36.25)
10-15	655 (7.27)	995 (11.05)	1650 (18.32)
16-30	565 (6.27)	670 (7.44)	1235 (13.71)
>30	164 (1.82)	265 (2.95)	429 (4.76)
Total	3449 (38.32)	5566 (61.80)	9006 (100)

Table 2: Active trachoma n=8700

Age years	Male n=(%)	Female n=(%)	Total n=(%)
1-9	1370 (15.75)	2890 (33.21)	4260 (48.97)
10-15	1030 (11.84)	1660 (19.1)	2690 (30.92)
16-30	300 (3.45)	825 (9.48)	1125 (12.93)
>30	130 (1.49)	495 (5.69)	625 (7.18)
Total	2830 (32.53)	5870 (67.47)	8700 (100)

Table 3: Trachomatous trichiasis n=306

Age years	Male n=(%)	Female n=(%)	Total n=(%)
>30	162 (52.94)	87 (28.43)	249 (81.37)
15-29	43 (14.05)	10 (3.27)	53 (17.32)
10-14	3 (0.98)	1 (0.33)	4 (1.31)
Total	208 (76.97)	98 (32.03)	306 (100)

The prevalence of trachomatous trichiasis was (3.39%) with female predominance (67.97%) in all age strata. This is in contrast to other studies that reported showing >80% prevalence in females^{8,13}.

Our study showed that the trachoma was primarily a disease of childhood, infection started in early life and complications began to appear in adulthood. In our study only four cases (1.31%) of children with trichiasis were seen in 10-14 years of age while (98.70%) cases of trichiasis were seen in adults mainly after 30 years of age (81.37%), this is comparable to those reported by other investigators,¹³⁻¹⁶.

In upper Sindh relatively low rate of prevalence of active trachoma and trachomatous trichiasis was mainly due to efforts taken by WHO in collaboration with prevention and control of blindness ministry of health Pakistan in 2002^{6,9,17}. The author was then district focal person of that programme in District Jacobabad. The credit of this monumental achievement obviously goes to the WHO Safe (s=surgery, A=Antibiotic, F=Face washing E=Environmental cleanliness) strategy and plan of Global Elimination of Blinding trachoma (GET) by the year 2020¹⁷.

On the other hand, active trachoma and trichiasis is still prevalent in rural areas of upper Sindh and adjacent Balochistan, where people from Afghanistan have been migrating. The need of the hour is that Trachoma Control Plan must be started in the country to eliminate Trachoma from the country and achieve the targets of GET 2020.

CONCLUSION

Prevalence of trachoma in upper Sindh and adjacent Balochistan is an avoidable sight threatening challenge. SAFE strategy and GET 2020 plan of WHO in collaboration with health ministry of Pakistan should be implemented effectively. The co-operation of local NGO, community health workers, mass media, local political leaders and workers and keeping in view the local cultural traditions help from elders of rural areas should be sought for patients' education regarding trachoma awareness, personal hygiene and environmental cleanliness.

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Target IOP

Target pressure is that range of IOP attained with treatment which is expected to prevent further glaucomatous damage.

In general for all high tension glaucoma cases aim for IOP to be in the range of

- -low twenties if the damage already is mild
- -high teens if the damage already is moderate
- -low teens if the damage already is severe

In normal tension glaucoma the rationale to treat is based on the risk and evidence of progressive visual field loss, neuropathy and functional visual deterioration while the target IOP required is much lower than in high tension glaucoma and there is proven evidence of stoppage of further field loss and neuropathy deterioration in majority of the properly treated group.

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