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Original Article

Spectrum of ocular diseases in patients attending eye camps in Andaman and Nicobar

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ABSTRACT

Background: Andaman and Nicobar Island is a group of 572 islands with a population of 3,80,500. The only service hospital as well as govt hospital is situated at its capital, Portblair. The islands are interconnected only by sea passage and to reach the capital by this route it sometimes takes two days.

Methods: The objective of this study is to assess the spectrum of different ocular diseases in remote islands of Andaman and Nicobar. Author had conducted various camps on these remote islands as a community outreach programme over two years.

Results: Top eye diseases found were refractive error (35%), cataract (22%), conjunctival inflammatory disease (15%), glaucoma cases (07%), pterygium (07%), NLDO (02%) and uveitis (02%). Out of total 132 cataract patients screened, 32 patients (approximately 24%) were operated in INHS Dhanvantari at free of cost with help of NPCB (National Programme for Control of Blindness).

Conclusion: This was the first kind of study conducted on these remote islands to know the prevalence of different ocular diseases. The important point to be seen in this study was unawareness of glaucoma and cataract load. No optometrist was posted in the PHCs to provide primary eye care like prescribing glasses, which is also a big concern.

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Introduction

Due to its remoteness and limited connectivity, Andaman and Nicobar Islands remain one of the least known parts even in this country. There are 572 islands in this union territory, of these 34 are presently inhabited. The whole population of Andaman and Nicobar Island is approximately 3, 80,500 (census 2011). Portblair is the capital of this union

territory and it is well connected to Chennai and Kolkata. But connectivity of other islands to main land is poor, due to which medicare facilities remains a big concern. The only govt hospital (GB Pant Hospital) with almost all ophthalmic facilities is in Portblair and has single ophthalmologist. Due to this reason Naval Hospital (INHS Dhanvantari) along with NPCB had launched community outreach programmes on these remote islands in 2009 to provide basic eye care facility.

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Materials and method

To assess the prevalence of different eye diseases on these islands. The study was carried out on people attending eye OPD camps on these remote islands over two years. The basic equipment was carried for screening of patients. A total number of 591 patients were seen on different islands (Carnicobar, Kathcal, Neil, Camorta, Long, Teressa, Chaura, Nancowry) only in the first visit itself. Simple myopic, hypermetropic and presbyopic glasses were provided by camp team with the help of GB Pant Hospital workers. BCVA <6/18 and dilated pupil examinations under torch light were done to diagnose the cataract patient. Glaucoma suspects were screened out by direct ophthalmoscopy and if cup:disc ratio is more than 0.6 with obvious signs of glaucoma (thinning of superior or inferior rim, disc hemorrhages, retinal nerve fibre layer defect) than these patients are subjected to schiotz tonometry. A cut off of 20.6 mm of Hg in schiotz with suspicious disc were labeled as glaucoma suspects.

Results

The total number of patients attending these OPDs in different island is given in Table 1. Age distribution is given in Table 2. The prevalence of various eye diseases is given in Table 3. Percentage of prevalence of cataract is shown in Table 4 on

Table 1 – Total number of patients seen in different islands.

Islands	Total population (census 2011)	Eye OPD
Car nicobar	17,800	112
Katchal	4,670	75
Neil	3,270	79
Camorta	3,151	74
Long	2,185	86
Teressa	1,800	52
Chaura	1,214	62
Nancowry	1,010	51
Total OPD		591

Table 2 – Age distribution (n = 591).

Age in years	Numbers
1-19 years	106 (17.93%)
20-39 years	148 (25%)
>40 years	337 (57%)

Table 3 – Prevalence of top eye diseases.

Refractive error	206 (35%)
Cataract	130 (22%)
Conjunctival inflammatory disease	89 (15%)
Glaucoma suspect	41 (07%)
Pterygium	41 (07%)
NLDO	12 (02%)
Uveitis	12 (02%)

Table 4 – Cataract cases in different islands.

Islands	Total OPD	Total cataract cases
Carnicobar	112	22 (19%)
Katchal	75	12 (16%)
Neil	79	06 (7.5%)
Camorta	74	23 (31%)
Long	86	22 (25%)
Teressa	52	17 (32%)
Chaura	62	18 (29%)
Nancowry	51	12 (23%)

different islands. Out of total 132 cataract patients 32 patients (approximately 24%) were operated in INHS Dhanvantari at free of cost under NPCB in approximately more than two years.

Discussion

The remote islands in Andaman and Nicobar has a high humid level and has direct exposure to UV rays are high. Although ground reflection of UV rays are negligible, it is markedly increased in sand and snow level.¹ In the studied population prevalence of cataract is highest on Teressa and Chaura Island. (Table 4). It is important to note that as distance from Portblair increases, prevalence of cataract also increases. The author also observed increased incidence of mature and hyper mature cataract in these areas. Another important point is to see the prevalence of glaucoma (7%). The majority of these patients are probably glaucoma cases probably because of lack of awareness and inability to access eye care facilities. However these are suspected as only on the basis of direct ophthalmoscopy findings and schiotz tonometry with values more than 20.6 mm of Hg. Further evaluation is required for these patients to establish the diagnosis of glaucoma. Harper et al.² has reported the sensitivity of 81% and specificity of 90% by direct ophthalmoscope in detecting glaucoma. In one study from rural south Indian population prevalence of glaucoma is shown as 1.62% and 98.5% were not aware of the disease. However in this south Indian study suprathreshold visual fields and pachymetry are also done.³ Limbal allergic conjunctivitis is seen (15%) more commonly on these islands, whereas one study from south India had shown prevalence of a more of mixed pattern in Indian population.⁴ Incidence of pterygium was found to be 7%, which is quite low than main land. A study from south India shows the prevalence of pterygium was 11.7%.⁵ Author has noted these figures only in eye camps (small sample size) so it may not be true reflection of pterygium prevalence of Island. However author is not able to find reasons for lower prevalence of pterygium than main land. Other miscellaneous eye diseases diagnosed are Congenital NLDO (age less than 5 years with long history of watering/discharge), iridocyclitis, pinguecula and disorders of ocular motility.

Conclusion

This is the study of its first kind on different islands of Andaman and Nicobar to see the spectrum of different eye

diseases. The majority of patients had uncorrected refractive error and cataract constituted second most common eye disease in OPD attendance. Good proportion of case is conjunctival inflammatory diseases. Glaucoma remains a concern in these populations. Another concern in these remote islands is lack of connectivity, they are interconnected with sea passage only and to get a simple pair of glasses sometime have to travel for two days in ship/ferry to reach Port Blair! To conclude, frequent eye camps should be conducted on these islands and optometrist should be provided by govt for primary eye care. Better transport facilities are also needed for patients to access good ophthalmic facilities in higher centres.

Conflicts of interest

All authors have none to declare.

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