

## Astigmatism Otherwise Keratoconus

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## Abstract

**Purpose:** To determine demographic characteristic feature of keratoconus, degree of keratoconus which impairment the visual acuity and to explore patient who lives in hot climate suffer from keratoconus symptoms.

**Methods:** This study include 210 patients which diagnosed keratoconus, is liable for our hospital's patient population among 2015 to 2018. Routine ophthalmological examination was performed and autokeratorefractive error, best spectacle corrected visual acuity (BSCVA), demographic features was determined. At the end of the study number of applications and complaint to hospital were considered.

**Results:** 81.4% patients were in the range of 20-30 years. Except 15 patients all of them were male. There were unilateral keratoconus in 66 patients. BSCVA was 4/10 and below with Snellen lines in 21.75% eye; Spherical equivalent was 3 Dioptre and below in 216 eye (61.01%). Keratometric measures were determined 44.00 Dioptre till in 120 eye (33.89%). Purely, 64 patient were performed cross-linking, corneal ring etc.

**Conclusion:** Keratoconus is a degenerative corneal disorder which is occurred more often in young men as it is in our study. Bilateral involvement is frequently determined. BSCVA is 8/10 and below in 68.85%. Spherical equivalent 3.00 Dioptre and below eye is 59.01%, that's why ophthalmologists are alert of early diagnosis of keratoconus. We observed that these patients suffered from subjective complaint constantly because of hot climate of the region we live in.

## Introduction

Keratoconus is a degenerative disease which characterized thinning and steepening of central and paracentral cornea which affects no sex predisposition [1]. Almost all cases are bilaterally, one eye was more affected than the other [2]. The disease is manifests during late adolescence and tends to progress to mid-thirties [2]. Sometimes it marked progression during childhood and puberty that may lead to severe visual loss [3]. Retinal reflection scattering is the earliest findings of keratoconus and corneal reflection on the nasal cornea when a penlight is shone from the temporal side as Rizutti's sign is other early findings [4]. Ocular allergy and itching are play a role in keratoconus etiology [5]. The prevalence of keratoconus in the middle-eastern countries is much higher than in the regions of the world. This may be genetical and environmental risk factors [2]. Hot and humid climate, sun exposure are increased compliant like red-eye, itching, photophobia etc. [6].

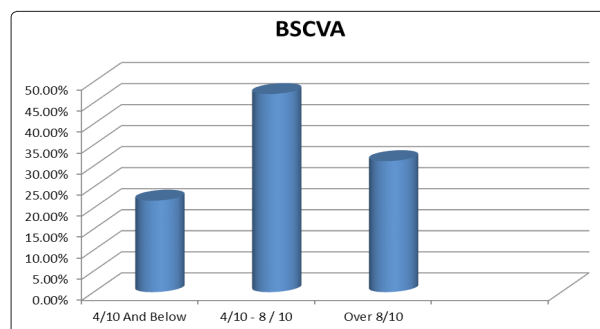
## Methods

This study includes 210 patient's 414 eyes which diagnosed keratoconus is liable for our hospital's patient population among January 2015 to January 2018. Only 6 eyes are excluded from the study due to glaucoma, corneal dystrophy, refractive surgery. Routine ophthalmological examination was performed. Especially autokeratorefractive error, BSCVA (Best Spectacle Corrected Visual Acuity), unilaterally or bilaterally percentage, procedure like cross-linking, corneal ring percentage was determined. Age category,

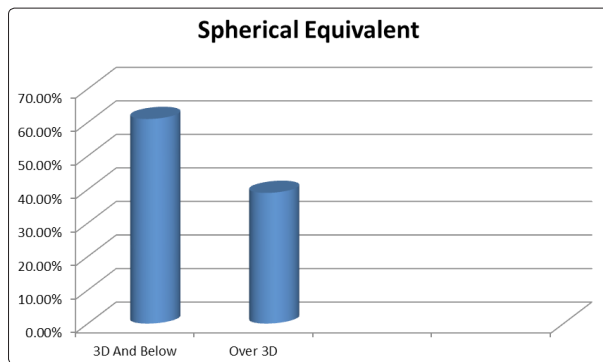
gender as demographic features was determined. At the end of the study number of applications to hospital and complaints were considered.

## Results

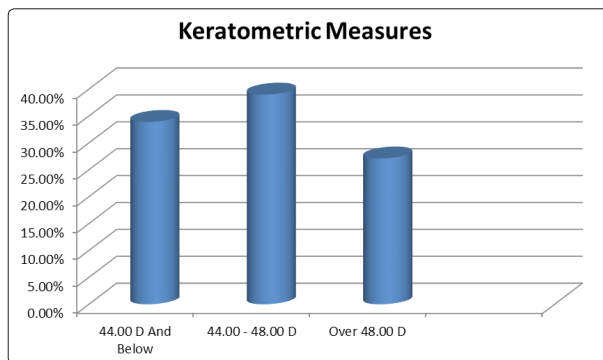
171 (81.4%) of 210 patients were in the range of 20-30 years and 39 (18.6%) patients were in the range of 30-40 years. Except 15 patients all of them were male. 66 (31.4%) patients are unilaterally, 144 (68.6%) patients are bilaterally. BSCVA was 4/10 and below Snellen lines in 21.75% eye, 4/10 to 8/10 in 47.10% eye and over 8/10 in 31.15%.



Spherical equivalent was 3.0 Dioptre and below in 216 eye (61.01%) and over 3.00 Dioptre in 138 eye (38.98%).



Keratometric measures were determined 44.00 Dioptre till in 120 (33.89%) eye. 44.00 to 48.00 Dioptre in 138 eye (38.98%) and over the 48.00 Dioptre in 96 eye (27.11%).



51 patients were performed cross-linking, 9 patients were performed corneal ring and 4 patients were performed both of them. But 146 patients were not aware of the disease or not accepted the these procedure. All of these patients came to eye examination at least 4 times in 3 years period due to subjective complaints (itching, hyperemia, photophobia).

## Discussion

Keratoconus is a degenerative corneal disease which more observed in men [3,5,7,8]. This situation is based on our patient population's majority is men. Only 21.75% of patient's vision proceed 4/10 and below is pointed out the disease is gradually and 68.85% of patients 8/10 and below is important that nowadays life expectancy is long so keratoconus is vision threatening disorder. Spherical equivalent 3.00 Dioptre and below eye's is 59.01% that's why ophthalmologists are alert of early diagnosis keratoconus. Although cross-linking is an effective and safe treatment option the progression of keratoconus only 64 patients which were performed cross-linking etc. procedure is pointed out that patients keep away from these procedure [7].

We constantly observed that itching, red-eye complaint because of hot and humid climate of the region we live in, like vernal conjunctivitis [6]. The prevalence of keratoconus among adolescent patients is considerably higher than numbers reported from earlier studies and similar studies in other countries. This increase might be due to geographical variations such as our study [3].

## Conclusion

Our study is significant that is shown in keratoconus demographic characteristics in the region we live in as a small model. Early diagnosis is important that keratoconus vision threatening feature eliminates especially in adolescent patients eye examination. Itching,

red-eye like complaint is frequent and severe in our region and patients are due to these complaints that consult an ophthalmologist, so is early diagnosed and is chance for the patient.

## References

1. Hwang S, Lim DH, Chung TY (2018) Prevalence and Incidence of Keratoconus in South Korea: A Nationwide Population-based Study. *Am J Ophthalmol* 192: 56-64.
2. Shanti Y, Beshtawi I, Zyoud SH, Abu-Samra A, Abu-Qamar A, et al. (2018) Characteristics of keratoconic patients at two main eye centres in Palestine: a cross-sectional study. *BMC Ophthalmol* 18: 95.
3. Torres Netto EA, Al-Otaibi WM, Hafezi NL, Kling S, Al-Farhan HM, et al. (2018) Prevalence of keratoconus in paediatric patients in Riyadh, Saudi Arabia. *Br J Ophthalmol* 102: 1436-1441.
4. Naderan M, Jahanrad D, Farjadnia M (2018) Clinical biomicroscopy and retinoscopy findings of keratoconus in a Middle Eastern population. *Clin Exp Optom* 101: 46-51.
5. El-Khoury S, Abdelmassih Y, Hamade A, Slim E, Cherfan CG, et al. (2016) Pediatric Keratoconus in a Tertiary Referral Center: Incidence, Presentation, Risk Factors, and Treatment. *J Refract Surg* 32: 534-541.
6. Sofi RA, Mufti A (2016) Vernal Keratoconjunctivitis in Kashmir: A temperate zone. *Int Ophthalmol* 36: 875-879.
7. Khan WA, Zaheer N, Khan S (2015) Corneal collagen cross-linking for keratoconus: results of 3-year follow-up in Pakistani population. *Can J Ophthalmol* 50: 143-150.
8. Godefrooij DA, de Wit GA, Uiterwaal CS (2017) Age-specific incidence and prevalence of keratoconus a nationwide registration study. *Am J Ophthalmol* 175: 169-172.

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