

Barriers to availing refractive error services among an urban slum population in Mumbai, India

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Received: November 18, 2015|Revised: December 24, 2015|Accepted: February 05, 2016

Published online: April 04, 2016

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Abstract Barriers to availing refractive error services among an urban slum population in Mumbai, India.

Background: A refractive error project for management of refractive errors in adults was undertaken in the urban slums of Mumbai, India. The project looked at the burden of refractive errors in the predominantly lower socio economic status groups as well as what common barriers prevent access to refractive services amongst this population. This presentation highlights the barriers that were elicited for availing and accessing refractive error services among the urban slum population in Mumbai, India.

AIM: The study aimed to identify the common barriers to availing & accessing refractive error services among an urban slum population in Mumbai, India.

Methods: A situation analysis of the community, with respect to availability of services was done as a part of the service delivery planning. The analysis revealed that services were available but the community was not accessing the same. Based on the situation analysis report a questionnaire with all perceived barriers was developed and the same was validated. Service delivery was done by establishing vision centers within the community. Trained health workers performed a door to door vision screening, identified and referred the needy population to the vision centre. Here the questionnaire was run by trained social workers on the people visiting the centers for eye examinations, who were referred by the social workers.

Results: Data analysis was carried out to know the reasons for not availing the services within the community. Of the 4070 subjects who visited the vision centre, 4039 case records were complete and analyzed. The demographic

Journal of
Multidisciplinary
Research in Healthcare
Vol-2, No-2,
April 2016
pp. 113–123

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associations of the use of spectacles and reasons for not availing services were assessed with age, gender, education, socioeconomic status. On further analyses it was revealed, that, 3373 (83.5%) were aware of their poor vision, of these 2000 people did not visit an eye doctor. When the questions were analyzed as economic reasons and lack of awareness, lack of awareness superseded economic reasons, as lack of awareness was 54.5% Vs economic was 53.70%.

Conclusion: When refractive error service delivery was planned for this population, besides providing free spectacles, emphasis on generating awareness for need for refractive errors was also considered.

INTRODUCTION

Dharavi is one such slum pocket of located in the heart of Mumbai city, India's business capital. It is known to be Asia's largest slum, with informal settlements that bustle with economic activities. Today, due to Mumbai's rapid northward expansion, it finds itself strategically located between the city's two main suburban railway lines and a stone's throw away from the Bandra-Kurla Complex. These geographic advantages and Mumbai's relative shortage of developable land combine to make Dharavi a prime piece of real estate potentially worth billions of dollars. Spanning an area of about 223 hectares (550 acres), Dharavi is bordered by the Sion, Mahim and Matunga railway stations and two major roads (Sion and Mahim Link Roads) that connect the eastern and western parts of the city.⁷

Dharavi is home to between half a million and one million people. Due to its migrating population, the numbers of population living in slums of Dharavi is very difficult to estimate. Dharavi is not only a residential place but also an industrial hub which serves whole of Mumbai with its economic activities carried out in these slums such as recycling industries, leather tanneries, heavy metal work, woodwork, and manufactured goods like garments, shoes, luggage, and jewellery

METHODOLOGY

Having given the background for need for eyecare services the Eye Care community has taken up this Challenge to identify clusters and render services thereby working towards improving the quality of life.

Considering that Dharavi has a large underprivileged population and need for eye care services was identified. A situation analysis was done to understand the availability of services within the community. The situation

analysis revealed that there were 11 opticians within the community and the nearest tertiary eye care service was provided by the Lok maniya Tilak Municipal Hospital and Medical College, Sion. This is a large multi special public hospital where services are rendered either free of cost or at nominal charges.

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Despite of services available the people did not avail them for several reasons. Based on the census 2000, 30% of this population is estimated to be above the age of 40 years, indicating that they are presbyopic. However during the situation analysis, when door to door screening was done by trained health workers, it revealed that only 5% of them had correction. Hence a pilot project was designed to render refractive error services to this community. The learning of this project would be used to develop a mega project of Mumbai Eye Care Campaign, that would be replicated in other slum pockets of Mumbai.

To study the barriers to availing refractive error services, a questionnaire was developed with all perceived barriers. The questionnaire contained 20 items, with most of them being closed ended questions. This was later validated and administered by trained project managers on the people visiting our vision centres to avail services. The responses were recorded as “YES” or “NO”

Demographic data was collected as part of the questionnaire as well as other details like income status, literacy levels etc. and these associations of this information to the barriers was also studied.

From the period of about 10 months starting from April 2008 –January 2009, data was collected at the vision centres. Data from 4070 patients was analysed and 4039 questionnaires were included in this study. These were analysed using SPSS software.

RESULTS

The demographic associations of the use of spectacles and reasons for not availing services were assessed with age, gender, education, socioeconomic status. Gender distribution revealed that 71% of the people visiting the centres were women and 29% were men. This is because the focus of the project was women. The distribution of subjects 34.1% were between the age group of 30-45 years and 30.4 % were in the age group of 45-60 years.

82% of these subjects had less vision. The presenting vision table reveals that majority were between 6/18 -6/6 category and near vision was N8 or less.

Gender Distribution

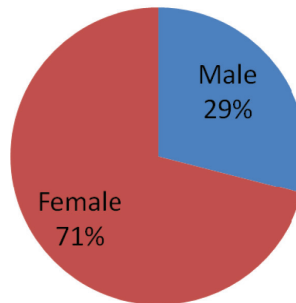


Figure 1:

Presenting Vision Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6/6 to 6/18	2919	72.3	82.0	82.0
	<6/18 to 6/60	498	12.3	14.0	96.0
	<6/60	143	3.5	4.0	100.0
	Total	3560	88.1	100.0	
Missing	System	479	11.9		
Total		4039	100.0		

The questionnaire item one, asks the subject if they were aware that they had less vision. 82% of them revealed that they were aware of it.

On asking them in the next item if they visited an eye doctor. Of 3664 people with less vision 1664 revealed that they had visited an eye doctor and 2000 of them had not visited and eye doctor.

Of the 1664, who visited an eye doctor, 1383, i.e. 83.11% were prescribed glasses. This indicated that majority of them had less vision due to uncorrected refractive errors.

Pearson Chi-square ratio was used to compare the income levels with presenting vision and reasons for visiting an eye doctor.

The income levels of the people when compared presenting vision, it revealed that 52.1% were within Rs.1000-3000/- income category and 27% in the Rs.3000-5000/- per month category.

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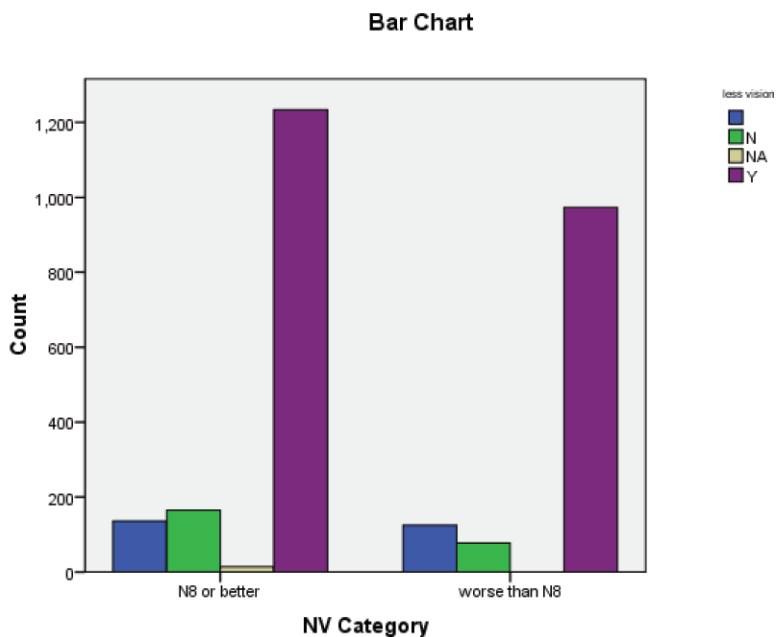
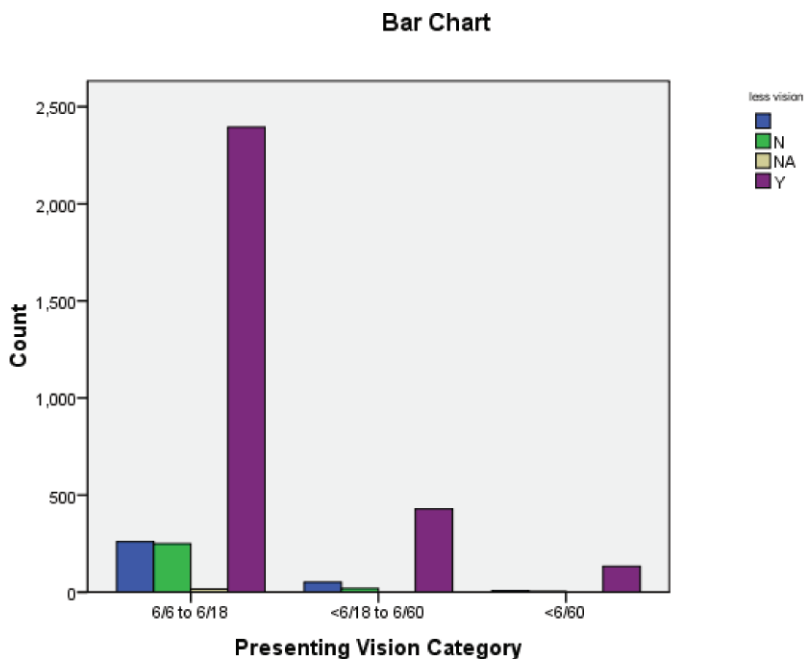


Figure 2: Visual Acuity for distance and Near, and patients awareness level that they had less vision.

Bar Chart

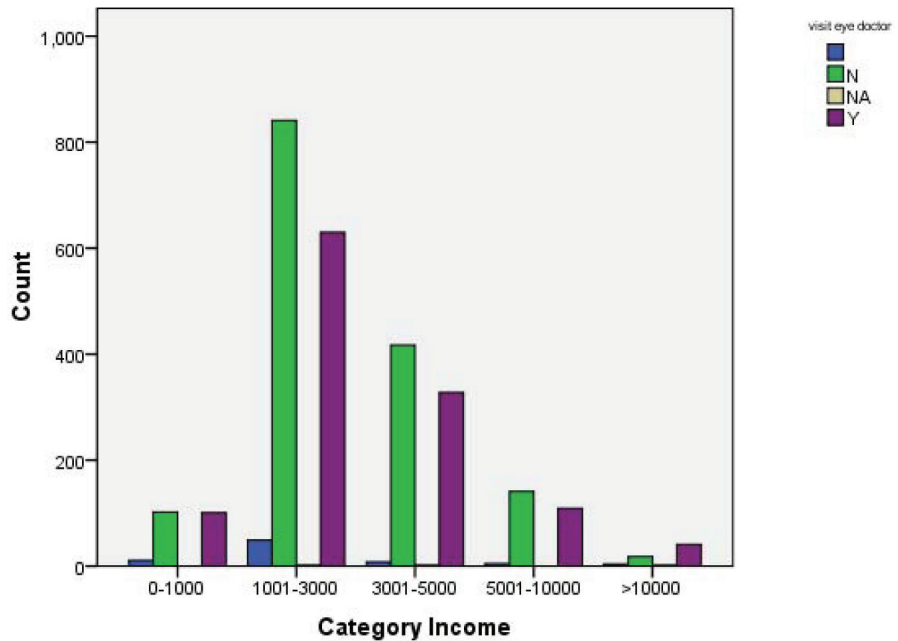


Figure 3: Income Category and Visit to the Eye Doctor.

When income levels categories were compared to visiting an eye doctor 55% of them who did not visit and eye doctor were within the income group of Rs.1000-3000 per month.

Of 2000 who did not visit an eye doctor, the barriers items of the questionnaire were administered.

The , reasons for not visiting an eye doctor showed that 54.55% revealed that they perceived that reduced vision was not serious and 32.85% felt that they were able see adequately 13.3% believed that decreased vision is natural with growing age and does not require treatment and 7.95% revealed that they were afraid of surgery. 6.35% revealed that they had no family member to accompany them for an eye examination and 2.6% said that they were afraid to reveal their visual loss to others.

14.5% found that they had to travel far for an eye examination, due to which they had gone for an eye examination and 16.8% believed that they would get addicted to the spectacles once they wear them.

The various items are grouped as economic and time barriers and myths and lack of perceived need for eye care services

Economic factor and time: 1074 (53.7%) reported that they wanted to go for eye exam but didn't find time, 854 (42.7%) reported Eye examination is very expensive, 290 (14.5%) of 2000 reported Have to travel far for eye checkup. Economic and time were combined as, most of these subjects are workers on daily wages, and loss of time is equated to one days wages lost.

The most unexpected result of this study was that lack of perceived need for eye examinations and myths, superseded the economic reasons are a barrier for not availing eye care services.

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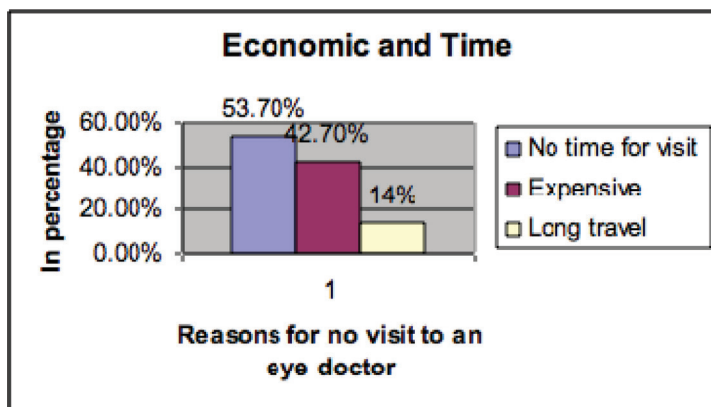


Figure 4: Economic and Time Reasons for not visiting an Eye Doctor.

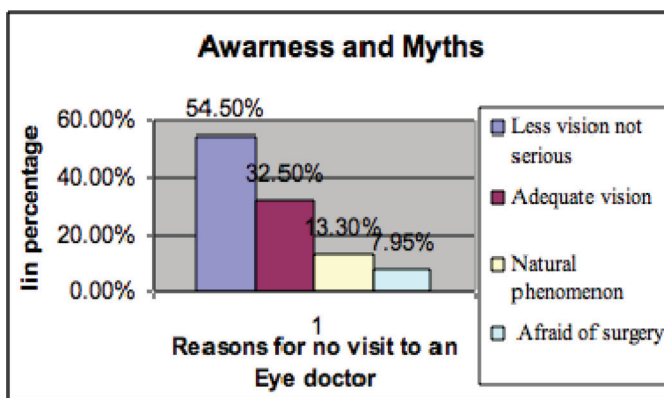


Figure 5: Lack of Awareness and Myths for not visiting an eye doctor

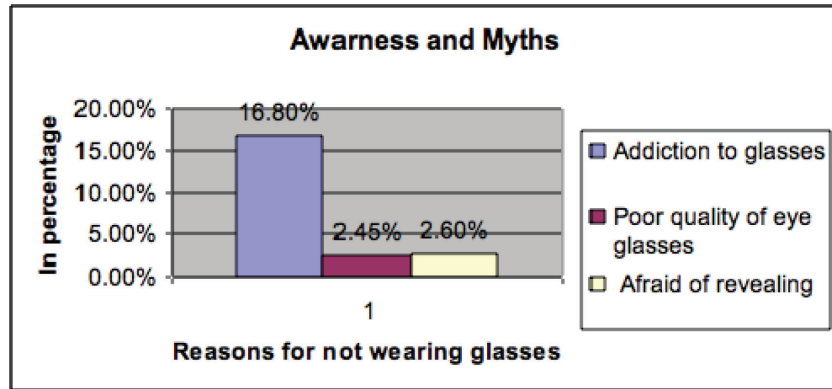


Figure 6: Other Barriers for not wearing spectacles.

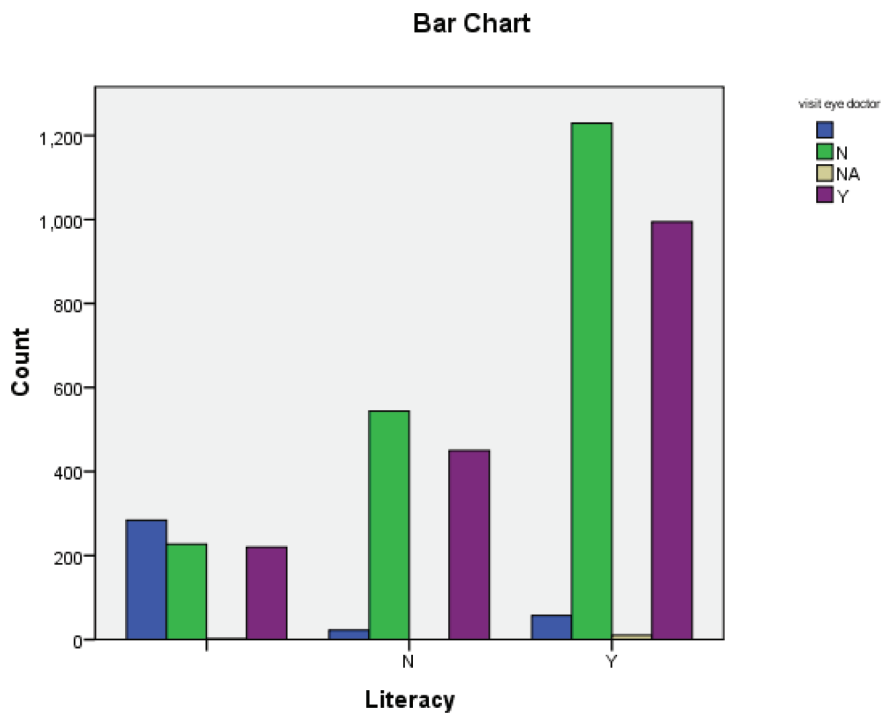


Figure 7: Comparison of Literacy levels among the subjects were aware that they had less vision.

Pearson Chi-square ratio comparing the literacy levels to visiting an eye doctor showed, that statistically no significant difference between literate and illiterate subjects to availing services

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DISCUSSION

The above study showed that majority of the people was aware that they had less vision, despite of which they did not seek eye care services. For those who visited an eye doctor, 82% of them were prescribed spectacles. This shows that majority of them required primary refractive error services.

A significant association between presenting vision and income category was present, as more that 50% of them were in the income category of Rs.1000-3000/- per month.

Similar studies on Barriers for seeking services done in slums of Kibera, Nairobi, Rural Andhra Pradesh, India and Rochester, Minnesota have all reported that economic barriers in among the most common one among the underprivileged population.^{9,10,11}

However in the study by Dr.Shamanna et al from rural Andhra Pradesh,¹¹, perceived need for eye care services was lower than this study, as more than half the subjects showed a lack of perceived need in our study.

It was also interesting to note that almost 17% of them believed that once they were spectacles, they would get addicted to them and then would not be able to function without them, hence it is better not to use one.

Social barriers like fear and lack of support from family members to accompany them were also some barriers which need to be considered while planning for services.

The study however had limitations like, when subjects were asked about their priorities for living, health care appeared to be the least, however as this question was not answered by majority of the subjects, statistical data could not be obtained for the same.

The Kibera slum study⁹ showed a strong association of literacy and seeking services, however our deferred from this, showing no statistical significance.

Our analysis cleared showed the need for setting up centres within the community as time and travel distance also features among the common barriers.

CONCLUSION

While planning for eye care services, it is important to assess the needs of the population and consider all aspects of seeking services. The learning of

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this study in the pilot project of Mumbai Eye care Campaign, were utilized to plan a Mega project of Mumbai Comprehensive Eye Care Campaign, across the city. This model was replicated in various slum pockets. As our analysis showed various barriers, each was overcome in the service delivery aspect, like economic barrier was overcome by providing free spectacles. The time and distance barrier was overcome by setting up vision centres within the community. For social barrier were lack of family support, trained community health workers accompanied the patients to vision centres.

For lack of awareness, IEC material on need for eye care services was displayed in the vision centres. As a part of the community health workers training, counselling was a part of it, thereby during the door to door screening these health worker counseled the patients and motivated them to come to the vision centres.

Besides traditional methods to generate awareness, street plays are also used. And as it showed no association to literacy levels, plan to generate awareness among the general population was also planned as a part of the eye care campaign.

Barriers Questionnaire

Did you know that you had less vision?	Yes / No
Did you visit Eye Doctor?	Yes / No
Were any Glasses prescribed to you?	Yes / No
If yes, did you purchase them?	Yes / No
Did you wear glasses after purchasing?	Yes / No
Why didn't you go to eye doctor? Do you feel.....	Yes / No
Reduced vision is not very serious	Yes / No
You are able to see adequately	Yes / No
Decrease in vision is natural with the growing age and doesn't require treatment	Yes / No
Afraid of surgery	Yes / No
Wanted to go for eye exam but didn't find time	Yes / No
Eye examination is very expensive	Yes / No
No family member is free to accompany for eye exam	Yes / No
Afraid of revealing vision loss problem	Yes / No
Have to travel far for eye checkup	Yes / No
Was not happy with the quality of eye care provided earlier	Yes / No

Was not happy with the quality of eyewear provided earlier	Yes / No	Barriers to availing refractive error services among an urban slum population in Mumbai, India
Spectacle wear will make me addictive to wear them always	Yes / No	
Any other reason.....	Yes / No	
If you are given free glasses will you wear it?	Yes / No	

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