

# Role of Mass Communication and Health Care In Promoting Glaucoma Awareness: An Observational Study

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**Purpose:-** Lack of awareness about glaucoma is one of the leading causes of glaucoma. This study was designed to understand possible reasons responsible for lower levels of awareness and discuss the role of media and health agencies.

**Material & Methods:-** This was a year long observational study which closely followed sources of information readily available to common persons. We looked for information intended to improve glaucoma awareness in print media, electronic media and hospital premises.

**Results:-** Between March 2016 and March 2017, we observed 5 newspapers, 2 FM radio channels, 1 TV channel and visited 26 hospitals. There was only one advertisement in one of the Hindi language newspaper. In only 3(11%) hospitals premises, some kind of information on glaucoma awareness was available.

**Conclusion:-** Information on promoting glaucoma awareness through audio-visual media and health agencies is lacking in this part of India.

## Abstract

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**Keywords:** glaucoma awareness, mass media, health care, low level

## Introduction

Glaucoma is the leading cause of irreversible blindness, estimated to affect 111.8 million populations by the year 2040.<sup>1-3</sup> There is an increase of 2.2 percent in global blindness due to glaucoma since 1990.<sup>4</sup> The projections indicate that the prevalence would be disproportionate, more in Asian and African countries.<sup>3</sup> In most cases glaucoma remains undiagnosed or it is diagnosed late in the course of disease; and several reasons may account for this.<sup>5-8</sup> The most important factor is the fact that except few subtypes, glaucoma is largely an asymptomatic disease till late in its course. In many cases glaucoma is diagnosed as late as after suffering unilateral or bilateral blindness, while in others it is diagnosed as an incidental finding during routine eye examination in the clinic.<sup>9,10</sup> Currently there is no acceptable screening tool and the only way for early detection of glaucoma is to improve awareness. The prerequisite for awareness is availability of information. In case of glaucoma sources of awareness available to an individual are- a glaucoma patient or first degree relative of the patient, media and health fraternity.<sup>11,12</sup> It's a decade now since we started dedicated efforts to improve glaucoma awareness.<sup>13,14</sup> But a number of studies have found that the level of awareness is still low in most populations.<sup>11,12,15,16</sup> There is lack of data on why does level of awareness and knowledge about glaucoma continue to be low in India. The present study was designed to know the contribution of media and health agencies in promoting glaucoma awareness or educating individuals about glaucoma.

## Material and Methods

The year-long, observational study was done between glaucoma awareness week (GAW) of two consecutive years (2016 & 2017), starting from the beginning of GAW in the year 2016 (March 6'2016) to a day before the beginning of GAW in year 2017 (March 11'2017). The study was approved

by the institutional ethical committee and adhered to declaration of Helsinki.

We tracked three sources of information-print media (5 national dailies), electronic media (2 FM stations and one TV station) and 26 hospital premises for one year. To track print media, we selected five newspapers, two Hindi dailies (Dainik Bhaskar-Hisar edition, Dainik Jagran-Hisar edition, Dainik Nabhchhor) and two English dailies (Times of India -New Delhi-city edition, The Hindu-New Delhi edition). The selection of newspapers was based on information obtained from newspaper distribution agencies. We selected newspaper with maximum circulation in the city. Data on population of city was used to calculate readership reach of print media. We used urban/metropolitan population data as per 2011 census. (<http://www.census2011.co.in/census/city/41-hisar.html>) During the study period two persons screened selected dailies on a daily basis for publication of an advertisement or article issued in public interest by government or non-government agency or organization to promote awareness about glaucoma. A publication was considered as an awareness promotion if it either intended to motivate an individual for eye examination for detection of glaucoma or gave information about some aspect of glaucoma.

The electronic media sources included city based two FM radio stations (92.7 Big FM, 106.4 Radio Dhamaal) and a relay station of state owned television (Doordarshan). There are five FM stations in city; two of them were randomly selected. We visited offices of these broadcast stations and gathered information on airing any jingle, advertisement or talk on promoting awareness about glaucoma in the beginning and end of the study period.

We enrolled 26 hospitals which included nineteen eye hospitals and six multispecialty/general hospital(s) which have a functional eye department. Each hospital was visited every 3<sup>rd</sup> months between 11 AM and 1PM. Hospital

premises were observed for displaying information through various modes such as print poster, electronic display, and education through TV, display signage or availability of patient information material, brochures or publications for promoting the awareness about glaucoma. We looked for the display materials in waiting area, galleries, outside chamber(s) of physician or in open area of the hospital premises. Any advertisement highlighting the availability of glaucoma services with a particular hospital or physician that appeared in print or electronic media were not included. Similarly placards in hospitals highlighting or enumerating eye care services (including glaucoma) available in the hospital was not considered as glaucoma awareness activity (GAA). During the last visit, we requested hospitals to share information on the average number of patients seeking eye care on outpatient basis.

Descriptive statistics were derived from data using excel sheet MS Office; Microsoft Corp. USA)

### Results

We screened five newspapers on a daily basis for 372 days between March 6<sup>th</sup> 2016 and March 11<sup>th</sup> 2017. The approximate average daily circulation of newspapers in this city is 74,000 copies. The population of the city is 307,024 as per 2011 census. The average readership of newspaper is 240 per 1000 population. During the study period one advertisement was published on behalf of the health department of state government in GAW of the year 2016, in one of the Hindi daily (Table 1). There was no broadcast of any jingle, advertisement or talk on promoting awareness about glaucoma on any of enrolled FM channel or television during this period. However, on one of FM radio channel (92.7 Big FM), there was a talk on the glaucoma awareness during GAW of the year 2014 sponsored by a city based hospital. Among 26 hospitals enrolled for the study, 20 (77%) belonged to the private sector and 6 (23%) were government hospitals. We found glaucoma awareness print poster in the English language, published by the pharmaceutical companies in the public interest, pasted on the wall in the waiting area of 2 (7%, 95% CI 2-24%) hospitals (Table 2). Both hospitals belonged to the private sector, and included one eye hospital and one multi-specialty hospital. Information brochure pertaining to glaucoma awareness was available at the reception of 1(3%, 95%CI: 3-16) hospital. One corporate

**Table 1- Publication of glaucoma awareness information in different media sources during year 2016-17**

Source Agencies (n)	Advertisement (n)	Superior
<b>Print Media</b>		
Hindi National daily(3)	1*	0
English National daily(2)	0	0
<b>Electronic Media</b>		
FM Channels (2)	0	0
Television (1)	0	0

#Year 2016-17 was calculated between beginnings of glaucoma awareness week (GAW) in 2016 to beginning of GAW in 2017

\*Published/broadcasted during glaucoma week

**Table 2- Number And Type of Information Sources Available In Hospital Premises**

Information Source	Availability in numbers (%)
Print Poster	2 (07)
Info. Brochure	1 (03)
Education through TV	0 (0)

eye hospital distributed glaucoma awareness pamphlet during GAW of 2016. Sixteen (61%, 95% CI 42-77) hospitals/clinics had TV sets installed in the patient waiting area. But at the time of the visit none of them was running a patient education program. The mean±SD daily outpatient number per eye care set up was 109±76 (Range 35-275).

### Discussion

This study shows that glaucoma awareness activities in the community are happening at a substantially low rate. Awareness about glaucoma is still low in Asian and African countries.<sup>11,12,15-17</sup> We are in the tenth year, since the beginning of observing dedicated glaucoma day in the year 2008, and later as glaucoma week, with an aim to increase awareness about glaucoma.<sup>13-14</sup> It is perhaps because information is not easily available on mass level. As in this study, we found awareness activities are happening at very low rate as an "event" rather than a regular "ongoing" affair. The information appeared only once in one Hindi language newspaper during the GAW. An impact making health model is based on active engagement of individuals.<sup>18</sup> Previous studies have found that awareness levels are better among close aide of glaucoma patients.<sup>11,12</sup> This is perhaps because regular contact and education leads to better flow of information.

The waiting area of hospitals provides an excellent opportunity for educating patients.<sup>19,20</sup> The time spent in the waiting area can be utilized for health education. The average waiting time spent by a patient and its attendee in the outpatient department of hospitals averages around sixty to ninety minutes.<sup>21,22</sup> Patients in the waiting area are more motivated towards better health and are likely to pay more attention towards health related information.<sup>19,23-25</sup> Posters and brochures available in waiting rooms of hospitals although have limitations as a means of health education, but still offer an effective vehicle for imparting health education.<sup>26,27</sup> TV units installed in waiting areas can be an excellent way for providing health related information. The advantage with TV as a source of information is that the flow of information is passive and both audio-visual modes are available to viewers. In this study, over sixty percent of hospitals had TV units installed in the waiting area, but were not being utilized for health education. Running information about disease, asymptomatic clinical course of glaucoma and irreversible blindness could prompt persons to seek further information and undergo eye examination. The knowledge about these two key factors of glaucoma in the population is very low.<sup>11</sup> Health education improves awareness and health seeking behavior.<sup>28</sup> The limitation of

this mode of awareness is that it offers only to those visiting hospitals. Although, in our study, we found that average daily footfall in an eye care set up is above hundred, which is a good number but information resources in the waiting areas was critically low. Further hospitals and health professionals can use social media as an effective tool for health education though this tool was not evaluated in this study.<sup>29</sup> Different media agencies have a reach towards 64.7 percent of Indian population.<sup>30</sup> The estimated per 1000 population reach of TV, radio, and print media in India is 61.2, 112.6, and 50 respectively.<sup>30,31</sup> The mass media can play an important role in improving awareness.<sup>32</sup> Unfortunately our study result show that this mode of awareness is underutilized so far awareness about glaucoma is concerned. There was no broadcast on enrolled radio or TV channels. In India, spot broadcast/jingles on radio and TV for promoting awareness about eye diseases are part of National Program on Control of Blindness (NPCB).<sup>33</sup> Under NPCB, information, education and communication (ICE) material is published for pasting at government run hospitals and dispensaries. Though, we did not come across ICE material pasted in areas of government run hospitals included in this study. The role of radio in health education is recognized.<sup>34</sup> The electronic media could have the added advantage of penetrating illiterate people. Using electronic media government health agencies should educate people to have regular eye examination for early detection of potentially blinding diseases. Such strategies have been found useful in improving awareness and detecting glaucoma among people.<sup>17</sup>

As glaucoma is a group of disorders with different risk factors and variable clinical course, a single awareness programme or strategy may not work especially in countries like India where both angle closure and open angle glaucoma have significant prevalence.<sup>16</sup> There is need to improve awareness about regular eye examinations, that would not only help in early detection of glaucoma but other important eye diseases like diabetic retinopathy and age related macular degeneration (ARMD), which too have low awareness level among population.<sup>35,36</sup> There are some limitations of the study. We included only two FM channels out of five channels which are broadcast in this city. We also did not include the channel of All India Radio (AIR) which might have more chances of getting advertisement from government departments. But we included state owned TV channel. Similarly, we have circulation of more than 10 Hindi newspapers and 5 English language newspapers. However, we chose Hindi newspapers with largest the circulation in the city. We could have missed educational programs run on TV sets in the waiting area, as we visited hospitals quarterly for a short period. Use of social media, if any, by hospitals and health professionals for spreading glaucoma awareness was not evaluated in this study.

In conclusion, utilization of easily accessible information sources for propagating glaucoma awareness was low in our study. The awareness activity appears only during GAW. We feel glaucoma awareness activities should be a continuous affair, accessible all the time at all levels of health

care through various health care agencies and channels of media. Health fraternity, health care agencies as well media should actively work in spreading glaucoma awareness in an effort to prevent blindness due to glaucoma.

### References

1. Quigley HA, Broman AT. The number of people with glaucoma worldwide in 2010 and 2020. *Br J Ophthalmol* 2006; 90:262-7
2. Resnikoff S, Pascolini D, Etya'ale D, et al. Global data on visual impairment in the year 2002. *Bull World Health Organ* 2004; 82:844-51.
3. Tham YC, Li X, Wong TY, Quigley HA, Aung T, Cheng CY. Global prevalence of glaucoma and projections of glaucoma burden through 2040: A systematic review and meta-analysis. *Ophthalmology* 2014; 121:2081-90.
4. Bourne RR, Taylor HR, Flaxman SR, Keeffe J, Leasher J, Naidoo K, et al. Number of People Blind or Visually Impaired by Glaucoma Worldwide and in World Regions 1990 - 2010: A Meta-Analysis. *PLoS ONE* 2016; 11:e0162229.
5. Chua J, Baskaran M, Ong PG, Zheng Y, Wong TY, Aung T, et al. Prevalence, Risk Factors, and Visual Features of Undiagnosed Glaucoma: The Singapore Epidemiology of Eye Diseases Study. *JAMA Ophthalmol* 2015; 138:938-46.
6. Burr JM, Mowatt G, Hernández R, Siddiqui MA, Cook J, Lourenco T, et al. The clinical effectiveness and cost-effectiveness of screening for open angle glaucoma: a systematic review and economic evaluation. *Health Technol Assess.* 2001;11:41.
7. Prior M, Francis JJ, Azuara-Blanco A, et al. Why do people present late with advanced glaucoma? A qualitative interview study. *Br J Ophthalmol* 2013;0:1-5
8. Prior MI, Francis JJ, Azuara-Blanco A, Anand N, Burr JM; Glaucoma screening Platform Study group. Why do people present late with advanced glaucoma? A qualitative interview study. *Br J Ophthalmol* 2013; 97:1574-8.
9. Rossetti L, Digiuni M, Giovanni M, Centofanti M, Fea AM, Iester M, et al. Blindness and Glaucoma: A Multicenter Data Review from 7 Academic Eye Clinics. *PLoS ONE* 2015; 10:e0136632.
10. Gogate PI, Deshpande R, Chelkerkar V, Deshpande S, Deshpande M. Is glaucoma blindness a disease of deprivation and ignorance? A case-control study for late presentation of glaucoma in India. *Indian J Ophthalmol* 2011;59:29-35.
11. Rewri P, Kakkar M. Awareness, knowledge, and practice: A survey of glaucoma in north Indian rural residents. *Indian J Ophthalmol* 2014; 62:482-6.
12. Maharana PK, Rai VG, Pattebahadur R, Singhi S, Chauhan AK. Awareness and knowledge of glaucoma in Central India: A Hospital-Based Study. *Asia-Pac J Ophthalmol (Phila)* 2017; 6:243-9.
13. George R, Vijaya L. First world glaucoma day. March 6, 2008: Tracking glaucoma challenges in India. *Indian J Ophthalmol* 2008; 56:97-8.
14. Buys Y, Goldberg I, Lambrou GN, Ritch R. World glaucoma day, 6 March 2008: tackling glaucoma internationally. *Eye (Lond)* 2008 Feb 15.
15. Krishnaiah S, Kovai V, Srinivas M, et al. Awareness of glaucoma in the rural population of Southern India. *Indian J Ophthalmol* 2005; 53:205-8.
16. Sathyamangalam RV1, Paul PG, George R, Baskaran M, Hemamalini A, Madan RV, et al. Determinants of glaucoma awareness in urban Chennai. *Indian J Ophthalmol* 2009; 57:355-60.
17. Kizor-Akaraiwe NN, Monye HI, Okeke S. Awareness and knowledge about glaucoma and proportion of people with glaucoma in an urban outreach programme in Southeast Nigeria. *BMJ Open Ophthalmol* 2017;1:e000018.



18. World Health Organization. Health education: theoretical concepts, effective strategies and core competencies: a foundation document to guide capacity development of health educators. Regional office for the Eastern Mediterranean: World Health Organization.2012
19. Green HG, Buchan BJ. The clinic waiting room. Environment for health education via television. *J Biocommun* 1976;3:4-7.
20. Sherwin HN1, McKeown M, Evans MF, Bhattacharyya OK. The waiting room "wait": From annoyance to opportunity. *Can Fam Physician* 2013; 59:479-81.
21. Oche M, Adamu H. Determinants of Patient Waiting Time in the General Outpatient Department of a Tertiary Health Institution in North Western Nigeria. *Ann Med Health Sci Res* 2013;3:588-92.
22. Pandit A,Varma L, Pandit A. Impact of OPD waiting time on patient satisfaction. *International Education and Research Journal* 2016; 2:8.
23. Gignon M, Idris H, Manaouil C, Ganry O. The waiting room: vector for health education? the general practitioner's point of view. *BMC Res Notes* 2012; 5:511.
24. Oermann MH. Effects of educational intervention in waiting room on patient satisfaction. *J Ambul Care Manage* 2003; 26:150-8.
25. Oermann MH, Needham CA, Dobal MT, Sinishtaj L, Lange MP. Filling the waiting time in the clinic with education about glaucoma. *Insight* 2001; 26:77-80.
26. Wicke DM, Lorge RE, Coppin RJ, Jones KP. The effectiveness of waiting room notice boards as a vehicle for health education. *Fam Pract* 1994; 11:292-5.
27. Ward K, Hawthorne K. Do patients read health promotion posters in the waiting room? A study in one general practice. *Br J Gen Pract* 1994; 44:583-5.
28. Adams RJ. Improving health outcomes with better patient understanding and education. *Risk Manag Healthc Policy* 2010; 3:61-72.
29. Bannor R, Asare AK, Bawole JN. Effectiveness of social media for communicating health messages in Ghana. *Health Education* 2017; 117:342-71.
30. <http://www.pressreference.com/Gu-Ku/India.html>. Last assessed on August 23, 2017
31. Indian readership survey. Indian readership survey report. Available at- <http://www.mruc.net/?q=irs-reports>. Last assessed on August 23,2017.
32. Baker H,Murdoch IE. Can a public health intervention improve awareness and health-seeking behavior for glaucoma? *Br J Ophthalmol* 2008; 92:1671-5.
33. Glaucoma: The silent thief of vision. NPCB India. Newsletter January-March 2016. Available at-<http://npcb.nic.in/writereaddata/mainlinkfile/File326.pdf>. Last assessed on November 14, 2017.
34. [http://www.who.int/management/programme/health\\_promotion/RadioBroadcastingHealth.pdf](http://www.who.int/management/programme/health_promotion/RadioBroadcastingHealth.pdf). Assessed on November 09, 2017
35. Hussain R,Rajesh B,Giridhar A,et al.Knowledge and awareness about diabetes mellitus and diabetic retinopathy in suburban population of a South Indian state and its practice among the patients with diabetes mellitus: A population-based study. *Indian J Ophthalmol* 2016; 64:272-6.
36. Kulkarni SR, Aghashe SR, Khandekar RB, Deshpande MD. Prevalence and determinants of age-related macular degeneration in the 50 years and older population: A hospital based study in Maharashtra, India. *Indian J Ophthalmol* 2013; 61:196-201.

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