

Non Compliance Among Topical Glaucoma Medication Users

Dr. Farheen Sana Shakir¹, Dr. Nelly Nazareth², Dr. Dilon Noronha³

¹Post graduate, department of ophthalmology, Father Muller medical college hospital, India

²Associate professor, department of ophthalmology, Father Muller medical college hospital, India

³Post graduate, department of ophthalmology, Father Muller medical college hospital, India

Corresponding Author: Dr. Farheen Sana Shakir

Abstract:

Aim:

- To assess the proportion of non compliance in Primary open angle glaucoma patients on topical glaucoma medication
- To assess the demographic and clinical profile of non compliant patients

Methodology: The study was an Observational study conducted in Ophthalmology OPD at Father Muller Medical College Hospital, Mangalore, from March 2018 to June 2018. The patients were those on topical medication for glaucoma of age ≥ 18 years. 95 patients were selected and interviewed with a questionnaire. The formula used to calculate the sample size was-

Sample size $n = Z\alpha^2 p(1-p) / e^2$. Prevalence of POAG is 3.51%⁽¹⁾ Hence $n=83$. We are including 95 patients in our study. Statistical analysis was done by using percentage, frequency and Chi square test. Approval of the Institutional ethical committee was taken before start of the study. An informed consent was taken. Patients were then requested to answer the questionnaires. A questionnaire regarding the details of glaucoma medication with respect to history of medication, type of ocular medication used, missing of doses, their reasons for missing the medication etc. was provided to the patients.

Results: 95 Patients participated in the study. 45.2% were males and 54.7% female. Missing of any drops in the previous two weeks was considered as non compliant with regimen. The results showed that 29.4% (28 out of the 95 patients) had non compliance to the drugs.

Conclusion: Adherence to topical medication in glaucoma is found to be a major challenge in the treatment of the disease.. It is important to understand how the treatment regimen suits the patient, not just in terms of intraocular pressure control, but also the cost, side effects and dosing frequency. Better understanding of such factors and proper counseling of the patient can help improve the compliance and therefore the treatment success.

Key words: compliance, topical anti glaucoma, eyedrops, questionnaire study

Date of Submission: 14-11-2018

Date of acceptance: 29-11-2018

I. Introduction:

Glaucoma is a chronic progressive disease and is an important cause of non reversible yet treatable visual loss¹. The treatment of glaucoma involves lifelong treatment and careful follow up in terms of periodic Intraocular Pressure (IOP) monitoring, visual field assessment and chronic therapy with topical anti glaucoma medications to prevent worsening of blindness.

As the disease progress is slow and often asymptomatic, the importance of non adherence to prescribed medication is often overlooked.

The purpose of this study is to find the non compliance among topical glaucoma medication users, the profile of such patients and the reasons for non compliance. This can improve the clinician's awareness of the problem and help adopt better counselling and communication with the patient regarding prescribed regimens.

Aim:

- To assess the proportion of non compliance in Primary open angle glaucoma patients on topical glaucoma medication
- To assess the demographic and clinical profile of non compliant patients

II. Methodology

- The study was an Observational study conducted in Ophthalmology OPD at Father Muller Medical College Hospital, Mangalore, from March 2018 to June 2018.
- The patients were those on topical medication for glaucoma of age ≥ 18 years.

- 95 patients were selected and interviewed with a questionnaire.
- The formula used to calculate the sample size was-
 Sample size $n = Z\alpha^2 p(1-p) / e^2$ Where; n=Desired sample size.
 $Z\alpha$ = Standard error of the mean which corresponds to 95% confidence level. (1.96) P= Prevalence of condition being studied. e=allowable error (0.05).
 Prevalence of POAG is 3.51% (6)
 Hence n=83. We are including 95 patients in our study
- Statistical analysis was done by using percentage, frequency and Chi square test.
- Approval of the Institutional ethical committee was taken before start of the study
- All participants were informed about the purpose of the study and that it is voluntary to participate, without any compensation and their medical assistance will not be compromised if they will refuse or will decide to participate in the survey. An informed consent was taken.
- Patients were then requested to answer the questionnaires
- A questionnaire regarding the details of glaucoma medication with respect to history of medication, type of ocular medication used, missing of doses, their reasons for missing the medication etc. was provided to the patients.

III. Results

95 Patients participated in the study, the demographics of whom are tabulated below:

TABLE 1: DEMOGRAPHICS OF THE STUDY POPULATION

VARIABLES		NUMBER	PERCENTAGE
GENDER	MALE	43	45.2
	FEMALE	52	54.7
AGE (IN YEARS)	20-40	18	18.9
	41-60	41	43.1
	61-79	31	32.6
	>79	5	0.05
EDUCATION	No formal education	11	11.6
	Primary	18	18.9
	Secondary	26	27.3
	Graduate/postgraduate	40	42.1
OCCUPATION	MANUAL LABOURER	28	29.4
	PROFESSIONAL	37	38.9
	UNEMPLOYED	30	31.6

TABLE 2: MEDICATIONS USED BY THE PARTICIPANTS IN THE STUDY

NAME	NUMBER	PERCENTAGE	NO. OF DROPS PER DAY
TIMOLOL MALEATE 0.5%	24	25.2	2
Brimonidine tartarate	7	7.3	3
Latanoprost	6	6.3	1
Travoprost	5	5.2	1
Timolol and dorzolamide	5	5.2	3
Dorzolamide	14	14.7	3
Brinzolamide	9	9.4	3
Timolol and Brimonidine	15	15.7	2
Brimonidine and brinzolamide	10	10.5	2

FIG 1: PROPORTION OF COMPLIANT PATIENTS

Missing of any drops in the previous two weeks was considered as non compliant with regimen. The results showed that 29.4% (28 out of the 95 patients) had non compliance to the drugs.

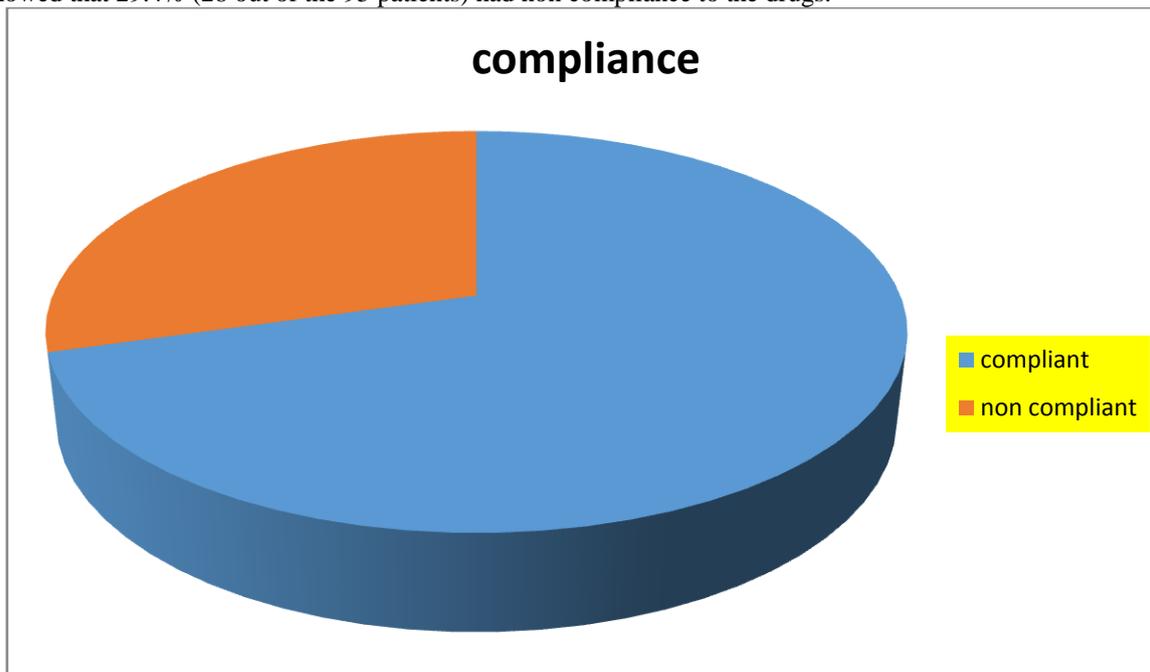


TABLE 3: REASONS FOR MISSING THE DOSE

REASON	Number, (%)
Forgetfulness	10, (35.7)
Medication got over	4, (14.2)
Cost	1, (3.5)
Side effects	5, (17.8)
Ignorance	6, (21.4)
Inability to instil the drops	2, (7.1)

IV. Discussion

Patients with glaucoma are on a long term therapy with topical medication and are often asymptomatic; hence the realization of importance of adhering to prescription is ignored². In our study, 95 patients using topical anti glaucoma medication were interviewed with a questionnaire to examine the lack of adherence to prescribed treatment in a tertiary care hospital in Mangalore. It was found that 29.4% of the patients showed some form of non compliance by missing the medication doses. The older age group of 60-79 years showed more non-compliance compared to the rest.

The most common reason cited by the patients for missing the dose was- forgetfulness (35.7%). Other common reasons that were noted were ignorance (21.4%) and the side effects of the drugs (17.8%). Ignorance becomes a very common issue when dealing with glaucoma patients who require continuous treatment and monitoring, it becomes imperative to look for such patients and explain the nature of the disease and need for treatment to them. The side effects that particularly affect glaucoma patients are redness, burning and symptoms of dry eye, this also can result in skipping the doses. Although the cost of glaucoma medication is usually considered quite high, cost was not found to be a significant factor in affecting the compliance in our study (3.5%). Older patients find it difficult to instill the drops in the absence of a caregiver or due to age related problems; therefore inability to administer the drops was also noted as a reason for non adherence. No significant differences were found in the compliance with regard to gender ($p = 0.88$), level of education ($p = 0.32$) or occupation ($p = 0.12$).

In a study conducted in North India by Rajurkar et al, the level of non compliance was found to be 49%. They also found that forgetfulness and cost were two major factors for non compliance in the study population.⁽²⁾ In a similar study that evaluated the problems in using glaucoma medication in South India, 42% reported with problems in instilling the drops, and 6% showed on compliance.⁽³⁾ A study in Oman by Khandekar et al found 75.2% of non compliance.⁽⁴⁾

In our study the frequency of drops per day was also not found to be a significant factor affecting compliance. Some studies like that by Onyinye et al found that multiple drug therapy and frequency reduces the compliance.

V. Conclusion

Adherence to topical medication in glaucoma is found to be a major challenge in the treatment of the disease. The therapy for glaucoma is chronic and also requires continuous care. Patients need to be made aware of the consequences of missing their medication and the importance of adhering to prescribed regimens. It is important to understand how the treatment regimen suits the patient, not just in terms of intraocular pressure control, but also the cost, side effects and dosing frequency. Better understanding of such factors and proper counseling of the patient can help improve the compliance and therefore the treatment success.

Key words compliance, topical anti glaucoma, eyedrops, questionnaire study

References

- [1]. Garudadri C, Senthil S, Khanna RC, Sannapaneni K, Rao HB. Prevalence and risk factors for primary glaucomas in adult urban and rural populations in the Andhra Pradesh Eye Disease Study. *Ophthalmology*. 2010 Jul 1;117(7):1352-9.
- [2]. Rajurkar K, Dubey S, Gupta PP, John D, Chauhan L. Compliance to topical anti-glaucoma medications among patients at a tertiary hospital in North India. *J Curr Ophthalmol*. 2017;1-5
- [3]. Sleath BL, Krishnadas R, Cho M, et al. Patient reported barriers to glaucoma medication access, use, and adherence in Southern India. *Indian J Ophthalmol*. 2009;57(1):63. 38.
- [4]. Khandekar R, Shama ME, Mohammed AJ. Noncompliance with medical treatment among glaucoma patients in Oman—a cross-sectional descriptive study. *Ophthalmic epidemiology*. 2005 Jan 1;12(5):303-9.
- [5]. Onyinye CI, Ejimadu CS. Compliance to Medical Therapy of Primary Open Angle Glaucoma in Enugu. *Nigerian Health Journal*. 2011;11(3):97-100.

Dr. Farheen Sana Shakir, "Non Compliance Among Topical Glaucoma Medication Users."
IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 11, 2018, pp 70-73.