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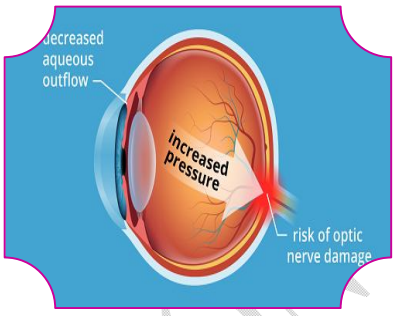
IMPACT OF HYPERTENSION AND DIABETICS ON OPEN ANGLE GLAUCOMA SEVERITY – AN EMPIRICAL STUDY



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ABSTRACT

Open angle glaucoma is one of the leading causes of blindness in the Indian context. Though there are a lot of awareness being created among the people in the recent years, there is still a lack of understanding among the people regarding open angle glaucoma. The present paper focuses on the reasons behind the occurrence and severity of open angle glaucoma and how does it affect either gender. The number of samples for the present research is 200 and they are selected non-randomly from the patients of eye Hospital, Tirunelveli. The data has been analysed using AMoS software. The findings and suggested provided in the present paper can be utilised in the prevention and cure of open angle glaucoma.

KEYWORDS: *Open angle glaucoma, Severity, Blindness and prevention.*

INTRODUCTION :

Glaucoma is a disease that damages your eye's optic nerve. It usually happens when fluid builds up in the front part of your eye. That extra fluid increases the pressure in your eye, damaging the optic nerve Glaucoma is a leading cause of blindness for people over 60 years old. But blindness from glaucoma can often be prevented with early treatment. There are two major types of glaucoma.1. Primary open-angle glaucoma: This is the most common type of glaucoma. It happens gradually; where the eye does not drain fluid as well as it should (like a clogged drain). As a result, eye pressure builds and starts to damage the optic nerve. This type of glaucoma is painless and causes no vision changes at first. Some people can have optic nerves that are sensitive to normal eye pressure. This means their risk of getting glaucoma is higher than normal. Regular eye exams are important to find early signs of damage to their optic nerve.2. Angle-closure glaucoma (also called "closed-angle glaucoma" or "narrow-angle glaucoma").This type happens when someone's iris is very close to the drainage angle in their eye. The iris can end up blocking the drainage angle. You can think of it like a piece of paper sliding over a sink drain. When the drainage angle gets completely blocked, eye pressure rises very quickly. This is called an acute attack. It is a true eye emergency, and you should call your ophthalmologist right away or you might go blind.

Here are the signs of an acute angle-closure glaucoma attack:

- vision is suddenly blurry
- have severe eye pain
- have a headache
- feel sick to your stomach (nausea)
- throw up (vomit)
- see rainbow-colored rings or halos around lights

Many people with angle-closure glaucoma develop it slowly. This is called chronic angle-closure glaucoma. There are no symptoms at first, so they don't know they have it until the damage is severe or they have an attack. Angle-closure glaucoma can cause blindness if not treated right away.

STATEMENT OF THE PROBLEM

Open angle Glaucoma is considered to be the most common type of all glaucoma cases. Almost 90% of the glaucoma patients have open angle type and in India it accounts for almost 2% of the population. The exact reason for the cause of open angle glaucoma, particularly in the Indian context is yet to be determined and the current paper is an attempt to determine the cause. Some of the major factors suspected to be the reason for causing open angle glaucoma are age, consumption of alcohol, smoking tobacco, hypertension, diabetics, glucose level, steroids, regular usage of medicines, high stress, etc. The present paper also tries to suggest some of the preventive measures that can be followed to prevent open angle glaucoma and also the gender predisposition.

OBJECTIVES OF THE STUDY

To find out:

- the major factors leading to open angle glaucoma
- the impact of smoking and drinking on its severity
- the impact of hypertension and diabetics on its incidence
- the impact of regular exercise on open angle glaucoma

SCOPE OF THE STUDY

As mentioned in the introduction, open angle glaucoma is increasingly becoming a major issue in the Indian context. By analysing the major reason that leads to the disease, the present research can provide valuable inputs in the prevention of the disease. By focusing on the difference in incidence of the disease among the two genders and the previously mentioned aetiologies, the present paper might provide additional insights onto the various dimensions of their effect on the eye.

ANALYSIS AND DISCUSSION

Ho – There is no mediation (Regular Exercise) effect between independent variables (Alcohol consume , Blood pressure, Glucose level and Stress) and Dependent variable (*Interior Chamber angle*)

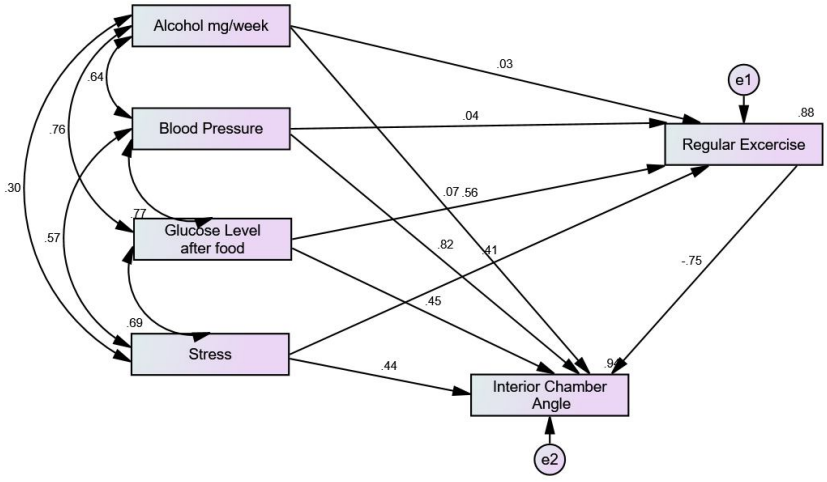

Fig. 1 - Standardized estimates of impact of IVs to DV with the mediation effect

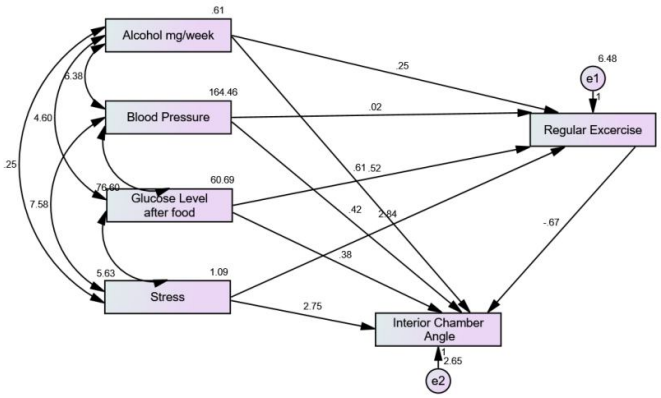

Fig. 2 - Unstandardized estimates of impact of IVs to DV with the mediation effect

Table -1

Standardized Regression Weights

Dependent Variable		Independent variable	Estimates
exercise	<---	Alcohol mg/week	.027
exercise	<---	Blood	.040
exercise	<---	Glucose	.558
exercise	<---	Stress	.408
Interior Chamber angle	<---	Alcohol mg/week	.072
Interior Chamber angle	<---	Blood	.815
Interior Chamber angle	<---	Glucose	.454
Interior Chamber angle	<---	Stress	.440
Interior Chamber angle	<---	Exercise	-.748

Table - 2

Standardized Total Effects

	Stress	Glucose	Blood	Alcohol mg/week	exercise
Exercise	.408	.558	.040	.027	.000
Interior Chamber angle	.134	.037	.786	.052	-.748

Table - 3

Standardized Direct Effects

	Stress	Glucose	Blood	Alcohol mg/week	exercise
exercise	.408	.558	.040	.027	.000
Interior Chamber angle	.440	.454	.815	.072	-.748

Table - 4

Standardized Indirect Effects

	Stress	Glucose	Blood	Alcohol mg/week	exercise
exercise	.000	.000	.000	.000	.000
Interior Chamber angle	-.305	-.417	-.030	-.020	.000

FINDINGS

- Major finding of the present research is that consuming more than 2 litres per week, increased the chances of open angle glaucoma manifold.
- The present research also has identified that uncontrolled hypertension and glucose level leads to increased severity of glaucoma.

- Occupational and family stress also leads to open angle glaucoma.
- Regular exercise helps to reduce severity of glaucoma through normalizing blood pressure and Glucose level.

SUGGESTIONS

- Male who are more than 30 years of age are more prone to open angle glaucoma. In order to prevent this, male needs to include more green vegetables, spinach, corn, carrot, etc. in their diet. Incorporating regular physical exercise as their daily habit can inhibit the inception of open angle glaucoma.
- In the case of male, the leading cause of open angle glaucoma is the consumption of high volumes of alcohol and smoking tobacco. Preventing the usage of these two items can have a great effect over glaucoma. Proper food habit can also prevent it.
- Occupation and family stress are another major factor that leads to open angle glaucoma. Therefore, individuals and organisations need to incorporate proper stress busting activities in their routine so that glaucoma is kept in check. Proper training in controlling the stress can also be provided for people in order to prevent the occurrence of open angle glaucoma.
- Above all, regular screening of the eye above the age 30 years will help in early recognition and treatment, thereby reducing its incidence, prevalence and severity, finally preventing blindness.

CONCLUSION

Blindness is a huge problem, particularly in the developing countries where the common people are suffering from lack or resources and money. Earning a good income and surviving in this world itself is a difficult task for many in the developing world, but for the blind people, it is doubly difficult. Moreover, once a human becomes blind, it is almost impossible to reverse the damage and get the vision back. Therefore, it is always safe in the case of eyes to take preventive action before the damage is irreversible. The present paper provided one such suggestion regarding the disease of open angle glaucoma. The paper mentioned that if it is checked properly along with proper preventive mechanisms, open angle glaucoma and its severity can be prevented and treated.

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