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Applying the Health Belief Model to Predict Preference for Surgical Intervention Versus Medical Therapy Among Patients with Open Angle Glaucoma

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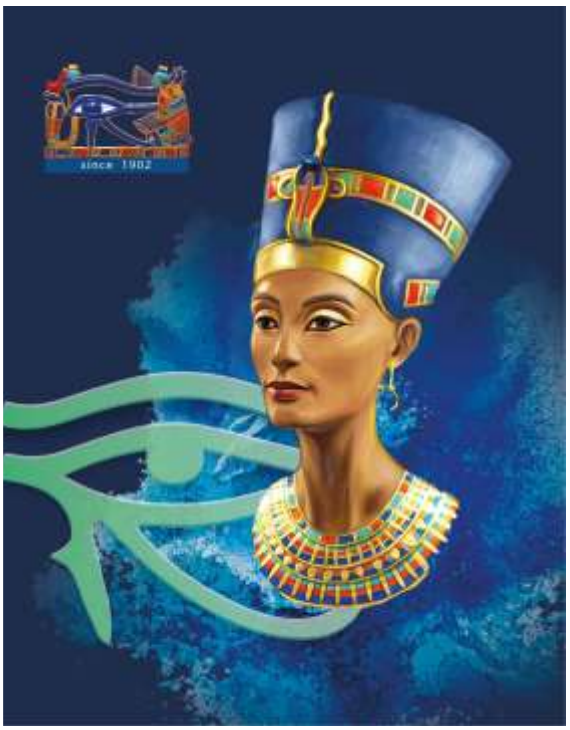

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Introduction

Introduction

Control of IOP can be either by:

1 **Hypotensive medication**

2 **Laser treatment**

3 **Surgical Intervention**

Introduction

Is it an Option


Ophthalmology

The Collaborative Initial Glaucoma Treatment Study: Interim quality of life findings after initial medical or surgical treatment of glaucoma [1] ☆,

CIGTS (*)

compared medical & surgical treatment as regard efficacy and life style;

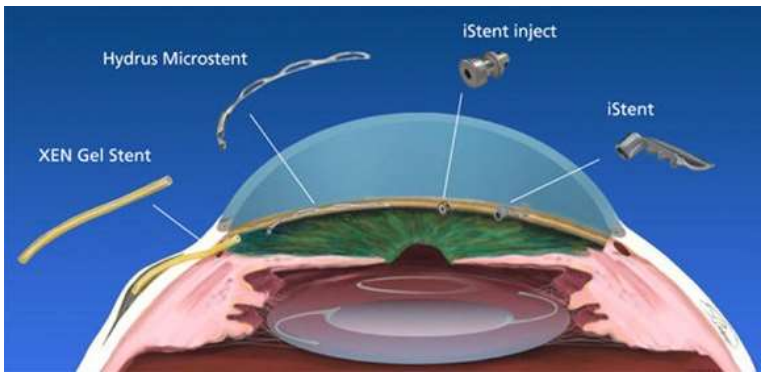
at 5 years: - Both groups showed similar **visual field outcomes**,

- also the impact on **quality of life** was similar in both groups.

*JanzNK, et al. The Collaborative Initial Glaucoma Treatment Study: interim quality of life findings after initial medical or surgical treatment of glaucoma. Ophthalmology. 2001;108:1954–1965.

Introduction

The introduction of MIGS has started to change the face of glaucoma management **decreasing the dependence** on medications with **little complications** and variable degree of IOP reduction. (*)



**Lusthaus J, et al. Current management of glaucoma. Medical Journal of Australia. 2019 Mar;210:180-7.

Introduction

- Patient-Centred care should remain the **cornerstone of any model** (novel or traditional) or system of service delivery (public or private). This has been shown to enhance safety, quality and provide greater clinician and patient satisfaction

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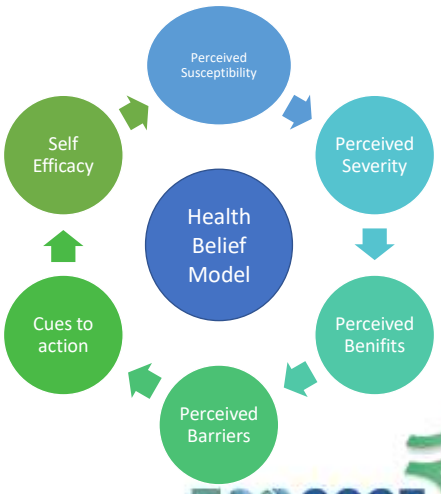
Introduction

Health Belief Model has been used as a generalized conceptual framework to understand and predict health behaviors across a spectrum of medical conditions in a variety of subjects.



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Materials and methods

Materials & Methods

Study design: Cross sectional study

Setting: Glaucoma clinic of Alexandria Ophthalmology Hospital

Timing: Between Nov. 2021 and Mar. 2022

Target Population: Consecutive patients who were scheduled for their routine glaucoma medical visit

Materials & Methods

Inclusion criteria:

- Age 18 or older,
- Confirmed diagnosis of OAG,
- Using one or more topical hypotensive medications for glaucoma.

Exclusion criteria:

- Patients underwent previous glaucoma surgery,
- Patients with one or both eyes lost,
- Those who refused to participate.

Materials & Methods

Questionnaire:

- was prepared and presented to the patients through interviewing with the clinic-based research assistant.
- The questionnaire comprises 4 sections;
  - Section A: Demographic data & Ocular history


Questionnaire

Section A: Demographic and associated variables

1- Age

2- Sex:
- Male
- Female

3- Education:
- University graduate
- High school graduate
- Primary school
- Illiterate

4- Residence:
- Urban
- Rural

5- Job:
- Employed
- Unemployed
- Retired
- House wife

6- Years of treatment

7- Number of drugs

8- IOP (current reading)

9- Payment:
- Full
- Partial
- None

10- Other co-morbidities

Materials & Methods

- Section B:

- Patients' knowledge about glaucoma
- It consists of 10 multiple choice questions.

Materials & Methods

- Section C: Single item that inquired about patient's treatment preference

Section C: Patient preference

1. Do you prefer surgical treatment over continuation on medical therapy even if surgical treatment will result in just decreasing number of used medications?
   - o Yes
   - o No

Materials & Methods

- Section D: Scale measuring HBM constructs
- Glaucoma Health Belief Questionnaire: including 6 domains of health belief model namely:

Perceived Seriousness	3 Items
Perceived Susceptibility	3 Items
Perceived Benefits	4 Items
Perceived barriers	5 Items
Cues to action	4 Items
Self efficacy	3 Items

Materials & Methods

Constructing Questionnaire:

- There was no existing standard questionnaire available, so the questionnaire was developed by the research team based on available databases and results of other studies.

Materials & Methods

Reliability & Validity

- Reliability of the questionnaire was assessed by calculating Cronbach's α coefficient
- Validity was confirmed through recruiting at least 5 respondents to each item in the questionnaire
- Content validity was determined through panel of experts
- Construct validity was evaluated through conducting confirmatory factor analysis for HBM questionnaire

Results

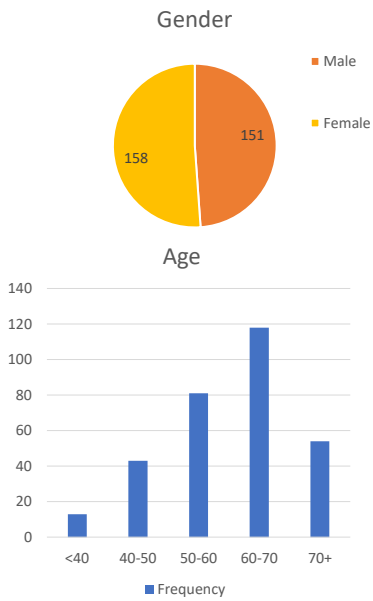
Results

Distribution of the studied cases according to patient preference (n = 309)

Patient preference	Yes No. (%)	No No. (%)
Do you prefer surgical treatment over continuation on medical therapy	142 (46.0%)	167 (54.0%)

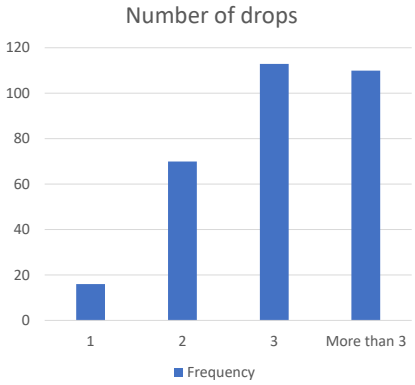
Overall, 46% of patients showed preference towards surgical management of glaucoma

Results



	Distribution of sample according to patient preference				
Demographic data	Total (n =309)	Yes (n = 142)	No (n = 167)	χ^2	p
	No. (%)	No. (%)	No. (%)		
Sex					
Male	151 (48.9%)	80 (56.3%)	71 (42.5%)	5.869*	0.015*
Female	158 (51.1%)	62 (43.7%)	96 (57.5%)		
Age					
<40	13 (4.2%)	9 (6.3%)	4 (2.4%)		
41 – 50	43 (13.9%)	14 (9.9%)	29 (17.4%)		
51 - 60	81 (26.2%)	38 (26.8%)	43 (25.7%)	6.083	0.193
60+	118 (38.2%)	56 (39.4%)	62 (37.1%)		
70+	54 (17.5%)	25 (17.6%)	29 (17.4%)		

Results



No of drugs					
1	16 (5.2%)	8 (5.6%)	8 (4.8%)		
2	70 (22.7%)	30 (21.1%)	40 (24.0%)	13.974*	0.003*
3	113 (36.6%)	39 (27.5%)	74 (44.3%)		
> 3	110 (35.6%)	65 (45.8%)	45 (26.9%)		

Number of eye drops used by patients significantly affect their preference

Results

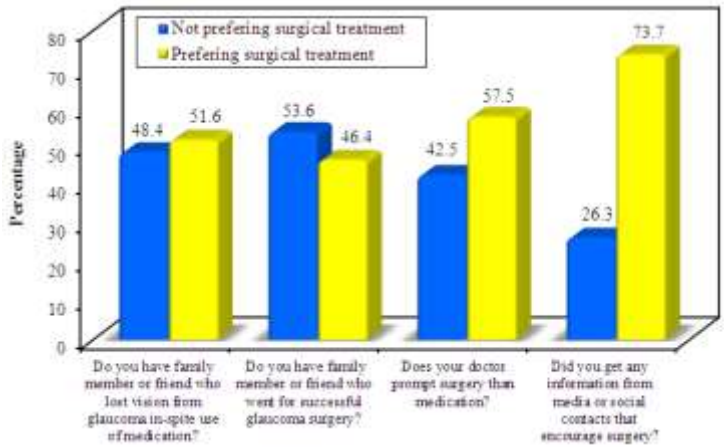
	Q1. Do you prefer surgical treatment over continuation on medical therapy			
	Yes (n = 142)	No (n = 167)	U	p
	No. (%)	No. (%)		
Patient's knowledge				
Total Score				
Mean ± SD.	4.25 ± 1.64	3.74 ± 1.68		
Median (Min. – Max.)	4.0 (1.0 – 8.0)	4.0 (1.0 – 7.0)		
% Score			9985.50*	0.015*
Mean ± SD.	42.46 ± 16.42	37.37 ± 16.76		
Median (Min. – Max.)	40.0 (10.0 – 80.0)	40.0 (10.0 – 70.0)		

Patients having preference for surgical intervention had significantly higher knowledge scores than those preferring medical therapy

Results

	Preference of surgical treatment over continuation on medical therapy		
	Yes (n = 142)	No (n = 167)	p
Health belief model	No. (%)	No. (%)	
I) Perceived Seriousness			
% Score (Mean ± SD).	68.62 ± 22.89	52.83 ± 20.39	<0.001*
II) Perceived Susceptibility			
% Score (Mean ± SD).	72.61 ± 23.02	54.62 ± 22.70	<0.001*
III) Perceived benefits			
% Score (Mean ± SD).	92.90 ± 11.82	43.96 ± 17.47	<0.001*
IV) Perceived barriers			
% Score (Mean ± SD).	53.43 ± 12.78	86.07 ± 11.66	<0.001*
VI) Self-efficacy			
% Score (Mean ± SD).	97.18 ± 9.40	50.37 ± 23.55	<0.001*

Results



The most reported cues for surgical intervention were information obtained from media or social contacts and physician's recommendations

Results

	Univariate		Multivariate	
	p	OR (95%C.I)	P	OR (95%C.I)
I) Perceived Seriousness	<0.001*	1.433 (1.269 – 1.619)	0.803	1.035 (0.791 – 1.355)
II) Perceived Susceptibility	<0.001*	1.433 (1.279 – 1.606)	0.555	1.083 (0.831 – 1.411)
III) Perceived benefits	<0.001*	2.587 (2.123 – 3.152)	<0.001*	1.829 (1.411 – 2.372)
IV) Perceived barriers	<0.001*	0.354 (0.286– 0.439)	0.002*	0.621 (0.462 – .835)
VI) Self-efficacy	<0.001*	3.033 (2.370 – 3.881)	0.049*	1.375 (1.002 – 1.888)
Gender				
Male ®				
Female	0.016*	0.573 (.365 – 0.901)	0.849	0.903 (0.317 – 2.572)
Patient's knowledge	0.008*	1.203 (1.049 – 1.380)	0.720	1.061 (0.768 – 1.467)

. Logistic regression analysis showed that the most important predictors for patient preference were higher perceived benefits, higher self-efficacy, and lower perceived barriers to surgical intervention

Conclusion

Conclusion

- Gender, increased number of used medications, patients' knowledge and patient health beliefs were significantly associated with patient preference for surgical intervention.
- The most important predictors for patient preference for surgery were perceived benefits, self-efficacy and perceived barriers.
- Improving patient knowledge is likely to influence their choice and improve their active participation in decision-making

Conclusion

- We believe that understanding the fears & motives of patients, analyzing patterns & identifying reasons for patient preference towards his treatment options would contribute to better results.

thank you

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