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Achieving Equity in Eye Health in a Diverse Population with Evolving Health Needs

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Sociobehavioral Barriers to Eye Care and Eye Health

- In glaucoma, psychological stress (Zhang et al., 2017), cultural differences (Rees et al., 2014), and lack of emotional support (Wang et al., 2019) are barriers to eye care and eye health.

- Despite their influence, many social and behavioral factors may not be adequately discussed during clinic visits (Sleath et al., 2014).

- The patient-provider relationship is a medium for effective communication and the basis for shared decision making (Addario et al., 2018).

- Assess patient and provider perspectives on factors affecting glaucoma treatment
In Delphi surveys, a diverse panel of experts completes multiple rounds of questionnaires to reach consensus on a topic.

Consensus is reached when 80% or more of panelists agree

1. Develop key statements
2. Interview panelists
3. Summarize and collect feedback
4. Advance statements to next round

Assess patient and provider perspectives on factors affecting glaucoma treatment

(Delphi survey method; RAND Corporation, 1959)
Pleon et al., Optom Vis Sci, In Press, 2021

* Significant at 0.05 level using Mann Whitney U test

Patients
Providers

- Treatment-related Barriers
  - Disagree
  - Agree

- Treatment-related Beliefs
  - Disagree
  - Agree

- Treatment Facilitators
  - Disagree
  - Agree

- Treatment Motivators
  - Disagree
  - Agree

Pleon et al., Optom Vis Sci, In Press, 2021
Eye Care Facilitators Within the Clinic Space

• Trained in patient-centered clinical care:
  o Devote time to addressing individual patient needs
  o Provide health counseling and coaching interventions
  o Connect patients with clinic and community resources
  o Work synergistically with clinicians to improve patient engagement in eye care

• *Eye care facilitators may not be equally beneficial to all patients!*

- 10% increase in medication adherence
  Thom et al., 2015

- Improved resilience and self-evaluation
  McGonagle et al., 2014

- Lower blood pressure and cholesterol
  Willard-Grace et al., 2015

- $4 gained per $1 spent on health coaching
  Swiekowski et al., 2008
Diversity in Health Behavior

- In glaucoma, hypotensive eyedrops that lower pressure inside the eye are a preferred treatment modality for many patients.

- Higher medication adherence—the degree to which prescribed and actual medication use coincide—is associated with slower glaucoma progression (Newman-Casey et al., 2020).

- Several distinct patterns of adherence have been observed through analysis of pharmacy claims data. (Newman-Casey et al., 2015).

- Identify and characterize patterns of medication adherence in patients with electronically monitored adherence data.
Identify and Characterize Patterns of Medication Adherence

(Group-Based Trajectory Modeling)

MEMS caps (Aardex) record openings each time patients use eyedrops inside.

Weekly adherence rate: Number of doses taken
Number of doses prescribed

Observed trajectories over 52 weeks: Trajectories identified from datapoints

Adherence trajectory groups: Membership based on highest probability

Predictor variables: Age, race, gender, education level, regimen complexity etc.

Analyses performed in STATA 16.0
Identified Patterns of Medication Adherence

- Near-perfect adherence—33.2%
- Good adherence—23.5%
- Moderate adherence—19.0%
- Declining adherence—15.5%
- Poor adherence—8.9%
Compared to patients with Poor adherence:

- Near-Perfect adherence, Good adherence
  Non-Black race, milder visual field damage
- Moderate adherence
  Non-Black race, higher education level
  *What is the true impact of race?*
- Declining adherence
  More comorbidities, complex medication regimen
Conclusion

How can we achieve equity in eye health given the diverse and evolving needs of the population?

- Recognize differences in backgrounds, needs and barriers
- Incorporate these unique needs into clinical research and eyecare delivery

Patients are the greatest untapped resource in healthcare (Bolz-Johnson et al., 2021)

Let us tap into this resource by purposefully and comprehensively addressing the social, economic, cultural, and behavioral factors that shape our changing vision.
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