



City Research Online

City St George's, University of London

Citation: Bott, D., Campbell, P., Subramanian, A., Edgar, D., Alaghband, P. & Lawrenson, J. (2023). Practitioner experiences managing glaucoma medication adherence and recommending technology: A qualitative study using the Theoretical Domains Framework. Paper presented at the European Academy of Optometry and Optics Newsroom About us Membership Education Events, 12-14 May 2023, Poznan, Poland.

This is the accepted version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/34184/>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

Abstract for EA00

Word count 350

Title

UK Eye Care Practitioner experiences of using technology to improve medication adherence in glaucoma: A qualitative study using the Theoretical Domains Framework

Authors and affiliations

Deborah Bott¹, Ahalya Subramanian¹, David Edgar¹, Pouya Alaghband², John Lawrenson¹, Peter Campbell¹

¹ Department of Optometry and Visual Sciences, School of Health and Psychological Sciences, City, University of London

² Department of Ophthalmology, York and Scarborough Teaching Hospitals NHS Foundation Trust

Purpose

Adherence to long-term glaucoma medication is poor.¹ Utilising emerging technologies has the potential to help glaucoma patients take their eyedrops correctly.^{2,3}

The aim of this study was to explore what factors influence eye care practitioner (ECP) management of nonadherence and whether they recommend technology-based interventions, by applying the Theoretical Domains Framework (TDF).

Method

Purposive sampling was employed to conduct one-to-one semi-structured interviews, with UK registered ECPs involved in glaucoma management, using a TDF-based topic guide. The TDF, a validated behavioural framework, provides a comprehensive theory driven basis for identifying determinants of behaviour.⁴ It comprises 14 domains, each domain consists of a set of related constructs representing personal, sociocultural and environmental influences on behaviour. First part of interview gathered demographic information, second part related to experiences with eyedrops and last part focussed on views towards using technology. Interview transcripts were analysed using deductive and inductive thematic analysis. Key TDF domains and themes influencing adherence management and technology recommendation, from an ECP perspective, were identified.

Results

Nine ECPs were interviewed: six females, ages ranged from 18-30 years (n=1), 31-45 years (n=5) and 46-60 years (n=3). Years of experience within glaucoma care ranged from 9 months to 21 years.

Initial analysis identified six main TDF domains that influence adherence management: (1) knowledge, (2) skills, (3) reinforcement, (4) memory, attention and decision processes, (5) environmental context and resources and (6) behavioural regulation. The main barriers ECPs encountered to adherence were patient forgetfulness, lack of patient knowledge about glaucoma and treatment rationale, side effects from eyedrops, and poor instillation technique. Emerging themes “developing trust”, “non-judgemental approach” and “time constraints” were influential in ECPs identifying nonadherence.

The main domain associated with use of technology was “knowledge”. ECPs were not aware such interventions existed. Key themes “accessibility”, “patient familiarity with technology” and “time constraints” were identified as issues in recommending technology.

Conclusion

ECPs in the UK state medication nonadherence remains an ongoing issue and current methods to improve adherence are of limited success. There is a lack of awareness regarding technology-based solutions. Further work is needed on how these solutions could improve adherence and on educating ECPs on their benefits.

Keywords

Glaucoma medication adherence, technology-based interventions, Theoretical Domains Framework, eye care practitioner

References

1. Sabaté, E. and World Health Organization (eds) (2003) *Adherence to long-term therapies: evidence for action*. Geneva: World Health Organization.
2. Gray, T.A. *et al.* (2009) ‘Interventions for improving adherence to ocular hypotensive therapy’, *The Cochrane Database of Systematic Reviews*, (2), p. CD006132. Available at: <https://doi.org/10.1002/14651858.CD006132.pub2>.
3. Waterman, H. *et al.* (2013) ‘Interventions for improving adherence to ocular hypotensive therapy’, *The Cochrane Database of Systematic Reviews*, (4), p. CD006132. Available at: <https://doi.org/10.1002/14651858.CD006132.pub3>
4. Cane J, O’Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Sci.* 2012;7(1):37. doi:10.1186/1748-5908-7-37

Funding

This study forms part of a PhD which is funded by a College of Optometrists postgraduate scholarship.

Conflicts of Interest

The authors confirm they have no conflicts of interest.

First author biography

Deborah Bott is currently a second year PhD student at City, University of London. Her PhD is funded by a College of Optometrists postgraduate scholarship. She gained her MSc from City, University of London and was awarded the Essilor Achievement Prize for highest overall marks. She is a qualified Optometrist practising in glaucoma clinics and an independent non-medical prescriber. In 2019, she gained the professional certificate qualification in Glaucoma and was awarded the Thea Pharmaceuticals Achievement Prize. She has undertaken teaching roles both at City, University of London and the University of Bradford. Deborah has had several poster presentations accepted at national conferences, co-written two articles for Optician magazine and had a research paper published on "Nutritional and smoking advice recalled by patients attending a UK age-related macular degeneration clinic".