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Pharmacy Research UK

Identifying and addressing problematic polypharmacy in people with diabetes

Scope

Diabetes UK welcomes applications for research which seeks **to identify and address problematic polypharmacy in people with diabetes.**

Polypharmacy, commonly defined as using five or more medications, is frequent among people with diabetes who are of older age and/or live with frailty.[1] People with diabetes often take multiple medications to manage their condition, including diabetes therapies to manage blood glucose levels and cardiovascular medicines to reduce associated cardiovascular risk factors.[2] Additionally, older people often have other long-term conditions which are related to and independent of their diabetes, all of which may require further medication.[3]

While not necessarily problematic, polypharmacy is associated with increased all-cause mortality, macrovascular complications, and hospitalisation among people with diabetes.[1] This reflects the comorbidities leading to prescribing but may also be due to factors such as the risk of medication interactions, lower medication taking, and worsened quality of life.[1] Additionally, inappropriate prescribing, as defined by criteria such as the Beers List and STOPP/START, is associated with polypharmacy and is common among older people with diabetes (22-79%).[2,4,5] Polypharmacy also comes with a financial cost; an estimated £857 million was spent on diabetes prescribing in the UK between 2010 and 2011, and an another £53 million was spent on non-diabetes prescription items claimed by people with diabetes.[6] There is a need to distinguish between appropriate and problematic polypharmacy, and to identify and reduce inappropriate prescribing in a safe and effective manner.

Currently, there is very little published research on interventions to reduce problematic polypharmacy in people with diabetes. None of the studies identified in the 2018 Cochrane review for interventions to improve the appropriate use of polypharmacy for older people focused specifically on people with diabetes.[7] There have been several recent, prominent RCTs focusing either on reducing polypharmacy in primary care (e.g. SPPiRE in Ireland)[8] or on multiple long term conditions more generally in which medication optimisation was one aspect (e.g. 3D in the UK and PRIMUM in Germany),[9,10] but only the 3D trial reported the prevalence of diabetes in the study population (53%) and none made any specific reference to polypharmacy challenges relating to diabetes specifically.

A specific focus on diabetes is warranted since the setting of administering care and prescriptions, the extent of comorbidity and the particular problematic medication combinations or interactions, may to some extent be diabetes specific. A diabetes specific focus on polypharmacy may also present the ability to explore the efficacy of diabetes specific fixed-dose combination therapies as an intervention.[11] Furthermore, settings in which diabetes care is provided, such as care homes, may afford particular routes to intervention that can be harnessed to deliver personalised approaches to polypharmacy.

Research questions

In response to this gap, we are seeking applications for observational studies or pilot studies for interventions to address the following research questions:

- What is the current extent of polypharmacy and deprescribing in those with diabetes and how is it associated with sociodemographic status, frailty, and multiple long-term conditions?
- What tools and interventions are effective in allowing inappropriate prescribing/ problematic polypharmacy to be identified and reduced safely?
- What are the costs and benefits of addressing inappropriate prescribing/problematic polypharmacy in diabetes patients?

Suitable study designs might involve observational cohort studies or the development and evaluation of risk prediction tools, screening tools, decision support tools, and/or interventions through pilot intervention studies. Intervention studies may have a range of designs. Studies may be targeted to any type of diabetes, particular risk settings such as care homes, and/or high-risk sociodemographic groups or multiple long-term conditions. A range of outcomes are relevant including patient reported outcome measures, clinical outcomes, and costs.

Funding

Diabetes UK invites applications to kick start research in these areas in line with our project grant scheme which provides funding of up to £500,000 over five years.

Deadline

1 June 2023 17:00 hrs (Committee meets in October 2023)

How to apply

Apply for a Diabetes UK grant through our online portal and select *"Identifying and addressing problematic polypharmacy in people with diabetes"*

For further details please contact the Diabetes UK Research team at research@diabetes.org.uk

Application assessment process

All applications received under this highlight notice will be assessed through the Diabetes UK standard assessment procedure for Project grants and will be considered in competition with all applications submitted.

Applications will be assessed by the scientific panel on the following criteria:

- Potential difference the research will make to the lives of people with diabetes.
- Scientific excellence and potential impact.
- Track record of the applicants.
- Value for money.

Applications will be assessed by the Grants Advisory Panel on the following criteria:

- Relevance to people with diabetes and its potential impact.
- The timescale on which the project could make a difference to people living with diabetes.
- The extent of involvement of people with diabetes in the development and the management of the study.

References

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11. Böhm A, Schneider U, Aberle J, Stargardt T. Regimen simplification and medication adherence: Fixed-dose versus loose-dose combination therapy for type 2 diabetes. PLoS One 2021;16(5):e0250993.