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Planning for Impact to Support Individuals Newly Diagnosed with Diabetes

- Health research builds evidence, raises questions, and ideally, has a positive impact on the people it aims to support.
- A challenge exists in showing what the next steps are based on results from research projects.
- We explore how to proceed when research presents multiple avenues for impact using the Australian 3D study as an example while highlighting opportunities to increase impact through collaboration with those who have lived experience.

The '3D' Study

Type 2 Diabetes Mellitus (T2DM) is a lifestyle-related chronic disease, with the 2019 global prevalence estimated at 9.3% (463 million people).[1] In Australia in 2017-18, 4.1% of those over age 18 (almost one million people) had T2DM, which is typically diagnosed and managed in the primary health care setting.[2] The '3D' research study focused on answering the question: How does Diet change after a Diagnosis with T2DM? The aim was to understand more about how people change their diet in the first 12-months after being diagnosed with diabetes, and to use this information to plan how to support these individuals.

Our previous interview study with people recently diagnosed with T2DM had revealed that health professionals need to acknowledge how difficult it is to sustain improvements in dietary intake.[3] The 3D team looked at what had been published on the topic and found that the majority of adults with T2DM were consuming less than the recommended servings of fruit, vegetables, grains and dairy while meeting or exceeding the recommended servings for meat/meat alternatives.[4] The team were surprised to find that while there were many studies of interventions to change diet, there were no studies that had observed how diet changes over time without a dedicated intervention.[4]

The previous interview study and published evidence helped to inform the aims of the 3D study which were to:
1. Monitor diet quality changes every three months for the first year following diagnosis of T2DM.
2. Identify associations between glycemic control and diet quality in the 12 months following diagnosis.
3. Identify the demographic, physical and psychosocial predictors of sustained improvements in diet quality and glycemic control.[5]

Study summary

- 225 participants from across Australia.
- Diagnosed with T2DM within the previous six months.
- Those who improved their diet quality in the first three months of the study werethose who had started the study with:
  o lower diet quality,
  o lower body mass index (BMI),
  o higher physical activity levels,
  o and who were less likely to smoke.[6]
- While one third of participants improved their diet quality in the first three months, just 6.8% consistently improved their diet quality across the year.[7]
- Long-term analysis did not find associations between change in diet quality and demographic, physical, or psychosocial factors.
- The mean weight, BMI and waist circumference significantly decreased (indicating fat loss) over time, while the mean mental health scores of participants worsened over the 12-month study period.[7]

What next?

As you can see from the 3D study results, there are several areas that need attention to support people newly diagnosed with T2DM. Strategies to support people in making diet quality improvements could be tested, along with ways to provide mental health support after diagnosis. Traditionally, the next step in research would be a randomised control trial (RCT), however an RCT could fully account for the nuanced and complex environments in which people live. Besides, there are already numerous RCTs that show diet interventions work to improve diabetes outcomes under controlled conditions. We need to think about these results in the real world, considering, for example, the sociodemographic and cultural context, and why the services already available were insufficient for the people in the 3D study. For these reasons, an implementation study that develops, tests, and implements strategies that directly support people newly diagnosed with T2DM could be a next step. To decide where to start, a collaborative approach is needed. This will help to ensure that those living with diabetes, their family and friends, and community partners, are involved in selecting what should be implemented, and how, based on research and lived experience.

Putting results into practice

When planning an implementation study, following the Knowledge-to-Action (K2A) cycle is one way to help you think through what is known and what would need to happen next.[8] The K2A has knowledge synthesis (the evidence) at its centre. This evidence then leads to the development of a tool or intervention to be implemented. The tool or intervention then goes through the 'action cycle', which includes understanding the barriers and enablers, adapting to context, and monitoring impact, while embedding it into practice.[8] Although it's a cycle, many steps occur simultaneously as well as sometimes not in sequence, and sustainability needs to be considered throughout.

Graham I, et al. The Journal of Continuing Education in the Health Professions, Volume 26, pp 13-24 2006
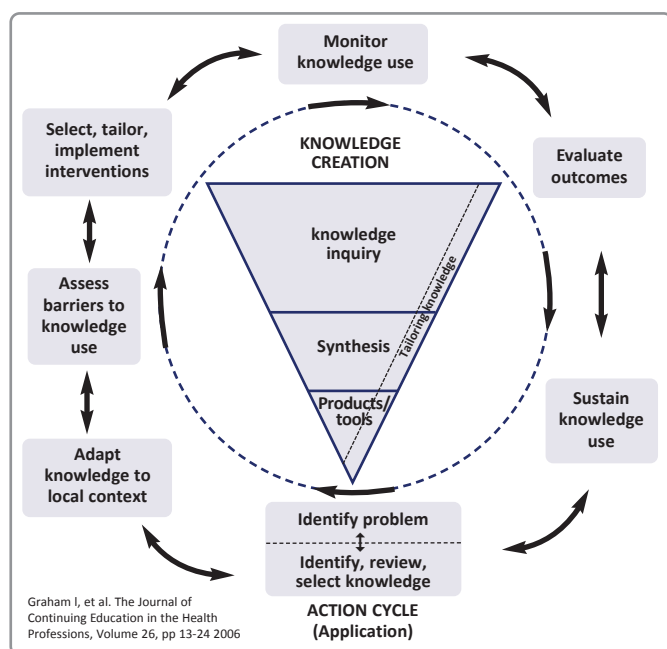
Within the K2A cycle, results of the 3D study would mainly fit in the centre, helping to build the evidence that informs what will be implemented. The 3D results also contribute to aspects of the action cycle, such as helping to understand the context and barriers and facilitators for individuals newly diagnosed with T2DM. Using this approach, emphasis would be on developing an intervention that could be implemented to support individuals and communities, however, determining what that intervention should look like needs a collaborative approach.

Working together

Planning for impact requires formation of partnerships with those most impacted, such as individuals living with diabetes, their family and friends, community partners, and health system stakeholders. Researchers and those with lived experience can work collaboratively to develop priorities, interpret findings, and work towards putting an implementation study into practice.

There is still a lot to learn about this collaborative approach, including how and when to involve these partners to make the best use of their time and knowledge. Reaching this understanding involves open and honest conversations, including discussions around availabilities and where they want to be involved as well as identifying when such involvement would bring greatest impact. Everyone involved needs to acknowledge the 'messiness' of this type of work, as well as the time needed to build relationships and trust, the differences in ways people communicate, and the various power dynamics at play during collaboration. All while typically needing to align with funder requirements. It is important to recognise and overcome these challenges to address the core reason for health research – to have a positive impact on the people it aims to support.

Conclusion

Determining the next steps in any research can be challenging. The 3D study was initiated after investigating the lived experience of people with diabetes. It has advanced the evidence regarding the challenges faced by people recently diagnosed with T2DM in improving diet quality. Next steps will be driven by a variety of factors, including funding and resources, researcher capacity, and community engagement. Collaborative approaches, that include individuals with lived experience, provide guidance towards beneficial and sustained impact. Application of implementation science to nutrition research will begin to strengthen evidence around what works in the real world, and what does not, especially at the point of patient or public application.

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