

PERCEPTIONS AND EXPERIENCES OF CONTINUOUS GLUCOSE MONITORING FOR DIABETES MANAGEMENT

IN THE PUBLIC HEALTHCARE SECTOR IN SOUTH AFRICA: A PATIENT AND HEALTHCARE PROVIDER PERSPECTIVE

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INTRODUCTION

- Continuous glucose monitoring (CGM) technology has emerged as a significant advancement in diabetes management, offering real-time insights into blood glucose levels and facilitating informed decision-making around diabetes care.
- Despite the proven benefits of CGM, its adoption in low- and middle- income countries remains low.
- The aim of the study was to assess the feasibility and acceptability of CGM use among participants enrolled in a three-arm pragmatic randomized control trial including people living with diabetes (PLWD), caregivers, and healthcare providers (HCPs).

STUDY OBJECTIVES

- To explore the perceptions and experiences of CGM use among PLWD, caregivers, and HCPs.
- To identify key barriers and facilitators to CGM implementation in the public healthcare sector in South Africa.

Figure 1. Key themes associated with the introduction of CGMs in the public health sector in South Africa

FEASIBILITY

- "It's so easy, it gives you better control. You can test it every two hours and you see, okay, this is now 8.3, calm down now, drink a little water. So, the scanner is amazing."
– ARM 2 PARTICIPANT
- "We'll have to make sure that there are training programs both for healthcare providers as well as for patients."
– HCP (ENDOCRINOLOGIST)

ACCEPTABILITY

- "I had a lot of trust in the sensor, before we didn't really know or have any idea about which foods had an impact on his sugar levels, at least with the sensor now we know that if he eats this, this is what happens."
– ARM 2 CAREGIVER
- "There's more communication, and especially amongst them as a family, and they are a lot more open about their diabetes. Because now they can talk about it a lot more freely."
– HCP (DIABETES NURSE EDUCATOR)

COST

- "We've got a lot of children being looked after by the grandmother and they only get that child grant. Is it going to go to food or the sensor? The food, that you can feed like four children and the sensor is only for the one."
– HCP (DIABETES NURSE EDUCATOR)
- "You are going to have to deal with your amputations, theatre time, ICU time, multiple DKA admissions which require ICU or fluids or treatment in the ward for at least a week. So, from that perspective, if you can do a cost analysis, then maybe you'll get better buy-in."
– HCP (ENDOCRINOLOGIST)

References

1. Marbán-Castro, E., Muhwava, L., Kamau, Y., Safary, E., Rheeder, P., Karsas, M., Kemp, T., Freitas, J., Carrihill, M., Dave, J. and Katambo, D., 2024. Implementation research: a protocol for two three-arm pragmatic randomised controlled trials on continuous glucose monitoring devices in people with type 1 diabetes in South Africa and Kenya. *Trials*, 25(1), p.331.
2. <https://www.finddx.org/what-we-do/projects/improving-access-to-continuous-glucose-monitoring-devices-in-kenya-and-south-africa/accede-operational-research/>

Acknowledgements

We would like to thank the participants for taking part in the study and sharing their experiences. The ACCEDE study teams at Steve Biko Hospital, Groote Schuur Hospital – Diabetes Centre and Red Cross Children's Hospital. Social scientists: Dr Anniza de Villiers for data collection and data analysis. The ACCEDE study is sponsored by FIND, with a grant from The Leona M. and Harry B. Helmsley Charitable Trust.

METHODS

This qualitative study is embedded within a larger randomized controlled trial involving PLWD who receive care in three diabetes clinics in the public health sector, one in Pretoria and two in Cape Town, South Africa.

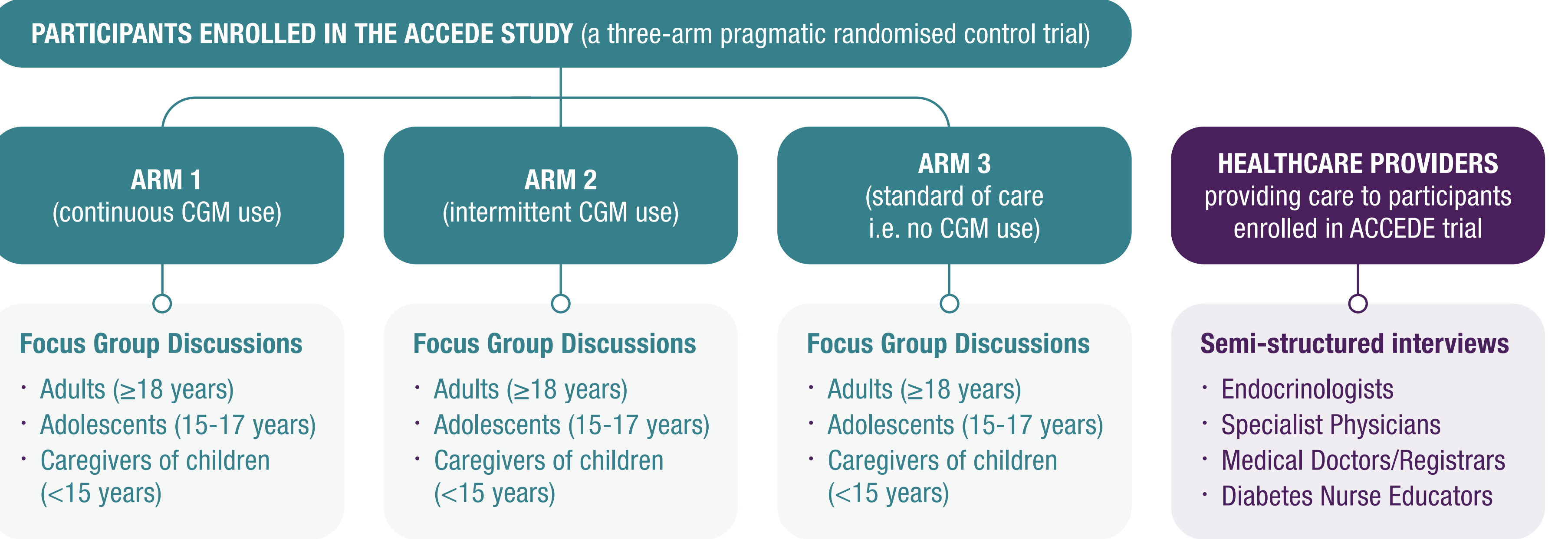


Figure 2. Study population selected from ACCEDE clinical trial participants who had completed ≥ three study visits

Data analysis followed thematic content analysis. The findings are presented according to the socioecological framework.

RESULTS



A total of 107 participants including 75 PLWD, 17 caregivers and 15 HCPs participated in 15 FGDs and 15 semi-structured interviews.

Figure 3. Factors influencing feasibility and acceptability of CGMs from a patient and HCP perspective according to the socioecological framework

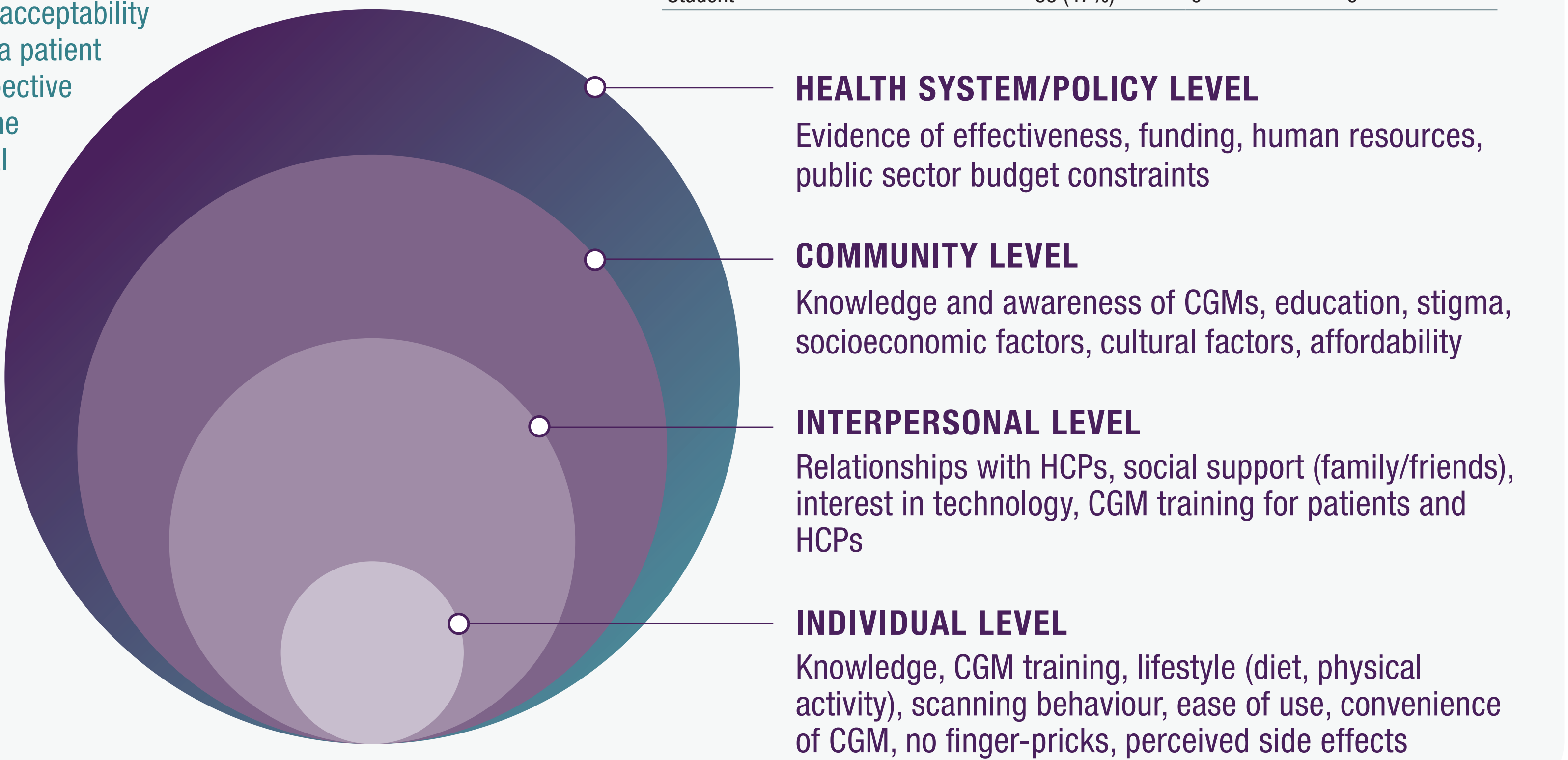


Table 2. Sociodemographic characteristics of study participants

VARIABLE	PLWD	CAREGIVERS	HCPs
Age			
14-17 years	32 (43%)	0	0
18-29 years	21 (28%)	2 (12%)	0
30-49 years	20 (27%)	13 (76%)	7 (47%)
50-68 years	2 (3%)	2 (12%)	8 (53%)
Sex			
Male	25 (33%)	2 (12%)	4 (27%)
Female	50 (67%)	15 (88%)	11 (73%)
Highest level of education completed			
University Degree or Higher	7 (9%)	5 (29%)	15 (100%)
Vocational/College	3 (4%)	1 (6%)	0
Secondary School	33 (44%)	7 (41%)	0
Primary School	30 (40%)	4	0
None (primary school not completed)	2	0	0
Employment status			
Employed	15 (20%)	10 (59%)	15 (100%)
Unemployed	25 (33%)	7 (41%)	0
Student	35 (47%)	0	0

CONCLUSION

- CGM training and support for patients, HCPs, and caregivers are necessary for optimal CGM use.
- There is a need to prioritize funding and policy support for CGM technology to address the current challenges of cost and accessibility.
- Further, resources should be invested towards a multidisciplinary implementation approach that involves endocrinologists, dietitians, psychologists, and diabetes nurse educators within the public healthcare system to provide comprehensive care and support for PLWD.

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