

PSAD 2025, Cluj-Napoca, Transylvania, Romania  
Scientific & Social Programme



The PSAD Study Group presents the

# 29<sup>th</sup> PSAD International Scientific Meeting

Cluj-Napoca, Romania: 14<sup>th</sup> to 16<sup>th</sup> May 2025



All sessions are held at the 'Univers T' Hotel, in Jupiter Hall, Saturn Hall or Uranus Hall

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Pre-conference: Tuesday 13<sup>th</sup> May 2025

19.00	<p><b>OPTIONAL pre-conference networking dinners (at own cost)</b></p> <p><b>PSAD Early Career Researchers' (ECR) dinner</b> – open to PSAD ECR members. Contact the ECR Working Group leads (Mandy, Eloise, Therese) if you would like to join</p> <p><b>PSAD 'Old timers' dinner</b> – open to anyone who is no longer an ECR. Contact Andreia Mocan if you would like to join</p>
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Day 1: Wednesday 14<sup>th</sup> May 2025

'Univers T'	Jupiter Hall
11.00 – 12.45	<p><b>OPTIONAL</b> Workshop: <b>'EASD diabetes distress clinical guideline: implementation challenges and opportunities'</b> Facilitators: Jane Speight, Norbert Hermanns, Andreia Mocan, Jackie Sturt on behalf of the EASD Guideline Development Panel</p>
12.45 – 13.45	Light lunch
13.45 – 15.30	<p><b>OPTIONAL</b> Workshop: <b>'Psychological screening in routine diabetes care. Best practices and challenges.'</b> Speakers: Frank Snoek, Simona Klemenčič, Bernhard Kulzer, Andreia Mocan</p>
15.30 – 16.00	<b>Free time</b>
16.00 – 16.45	<b>Coming Together</b> – Tea & Registration for the 29 <sup>th</sup> PSAD Scientific Meeting
16.45 – 18.30	<b>Opening Session</b>
16.45	<p><b>Welcome to the 29<sup>th</sup> PSAD Study Group Annual Scientific Meeting (5 mins)</b> <b>Chair:</b> Prof. Jane Speight</p> <p><b>Welcome to Cluj-Napoca (15 mins)</b> – by the Local Organizing and Conference Committee – Dr. Andreia Mocan – by the Romanian Federation of Diabetes – Prof. Dr. Gabriela Roman – by the Romanian Society of Diabetes – Prof. Dr. Bogdan Timar</p> <p><b>Brief introduction to the PSAD mentoring program (5 mins)</b> – Dr Eloise Litterbach, Theresa Mohr</p>
17.10	<p><b>The 2025 PSAD Travel Fellowship Awards (for early career researchers)</b> <b>Presentations by:</b> Eloise Litterbach and Theresa Mohr</p> <p><b>The 2025 Axel Hirsch Travel Awards (for people living with diabetes)</b> <b>Presentations by:</b> Lucía Feito Allonca and Mariam Asaad</p>
17.30	<p><b>The 2025 Anita Carlson Lecture: 'Three decades of the PSAD: Time for reflections'</b> <b>Speaker:</b> Prof. Frank Snoek <b>Chair:</b> Prof. Jackie Sturt</p>
19.00	<b>PSAD Dinner</b> – 'Univers' Hotel (included in registration fee)

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Day 2: Thursday 15 <sup>th</sup> May 2025		
'Univers'	Saturn Hall	Uranus Hall
<b>08.00 – 09.05</b>	<b>Orals Session 1 <i>Completed Work</i></b> Children and Adolescents with Type 1 Diabetes & their Parents <b>Chairs: Maartje de Wit, Belinda Moore</b>	<b>Orals Session 2 <i>Completed Work</i></b> Adolescents and Adults with Type 1 Diabetes <b>Chairs: Per Winterdijk, Jessica Brown</b>
08.00	CW 3 - Assessment of parental self-efficacy in type 1 diabetes care in childhood – Eszter Muzslay	CW 6 - Evaluating the usability and feasibility of a self-compassion chatbot to enhance the wellbeing of adolescents with type 1 diabetes – Anna Boggiss
08.15	CW 5 – “Darkness as we face the unknown”: Experiences of parents of children with type 1 diabetes in the Middle East and North Africa region – Mariam Asaad	CW 7 - Experiences and health outcomes of emerging adults with type 1 diabetes in Lebanon – Amani Al Bayrakdar
08.30	CW 25 - Attachment and psychopathology in children and adolescents. A cross-sectional study of children with type 1 diabetes and their healthy peers – Simona Klemenčič	CW 10 - Psychosocial factors influencing satisfaction and adaptation to automated insulin delivery (AID) systems in people with diabetes – Timm Ross
8.45		CW 18 - Living with type 1 diabetes whilst attending English secondary schools: Experiences of young people with type 1 aged 16-24 years old – Samantha Howland/ Jorg Huber
09.05 – 09.15	Time to move between rooms	

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Day 2: Thursday 15 <sup>th</sup> May 2025		
‘Univers’	Saturn Hall	Uranus Hall
<b>09.15 – 10.20</b>	<b>Orals Session 3 <i>Work in Progress</i></b> <b>Diabetes in Daily Life</b> <b>Chairs: <i>Sasja Huisman, Eloise Litterbach</i></b>	<b>Orals Session 4 <i>Work in Progress</i></b> <b>Diabetes Distress</b> <b>Chairs: <i>Andreas Schmidt, Theresa Mohr</i></b>
09.20	WP 35 - Psychosocial aspects of women with diabetes in a cultural environment – Anita Permata Sari	WP 43 - The D-Stress study feasibility and main trial setup: Putting a hybrid 2 model into practice – Clara Fabian Therond
09.35	WP 38 - Understanding type 1 diabetes self-management at university – Megan-Ann Thornhill	WP 44 - Diabetes distress and personality traits through the prism of the patients with diabetes and their significant others – Judita Konečná
09.50	WP 41 - Yenbena, Nitel Ngar-wu Ngarri, Diabetes Yarning (Yorta Yorta people, gather listen tell, diabetes stories) – Belinda Moore	WP 45 - Evaluating the impact of patient and public involvement in a type 1 diabetes project – Gary Hickey / Jennifer Mohammadi
10.05	WP 47 - Health-related quality of life in young women with type 1 diabetes and body image concerns – Mareille Hennekes	WP 48 - Diabetes distress in type 2 diabetes: Raising awareness and improving care – Zara Ratevosjan
10.20 – 10.40	Coffee break  <i>Coffee corner available for PSAD Mentor Program participants to meet up</i>	

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'Univers'	Saturn Hall	Uranus Hall
<b>10.40 – 12.00</b>	<b>Orals Session 5 <i>Completed Work</i></b> <b>Diabetes Distress &amp; Depression</b> <b>Chairs: Giesje Nefs, Fiona Tierney</b>	<b>Orals Session 6 <i>Completed Work</i></b> <b>Interventions to Support Diabetes Self-Care</b> <b>Chairs: Amy McInerney, Mariam Asaad</b>
10.45	CW 29 - Longitudinal associations between depressive symptoms and quality of life in individuals with diabetes mellitus: A systematic review of observational studies – Ilmari Larivuo	CW 28 - What are the experiences of structured diabetes education among people living with type 2 diabetes and healthcare professionals delivering diabetes education? A systematic review with a narrative synthesis – Olga Kozłowska
11.00	CW 31 - Overall sleep quality and variation in sleep quality over 17 days predict elevated depressive symptoms and diabetes distress in people with type 1 and type 2 diabetes – Dominic Ehrmann	CW 16 - A multi-centre, parallel, two-arm randomized controlled trial of patient-centered self-management intervention to improve glycemic control, self-efficacy and self-care behaviors in South Asian adults with type 2 diabetes – Kainat Asmat
11.15	CW 34 - Prevalence rates and impact of selected, interview-assessed mental disorders in a German sample of people with diabetes – Andreas Schmitt	CW 20 - <i>"When I do feel confident and secure, I feel more like my old self"</i> : Patient perspectives and priorities in diabetes management – Viktoriya A Kalesnikava
11.30	CW 32 - Research traditions in integrated care models for depression care in diabetes primary care: A meta-narrative review – Carley Moore	CW 21 - Experiences with a concentrated micro-choice-based group intervention for people with type 2 diabetes – Bente Elisabeth Bendixen
11.45		CW 1 - Self-help interventions benefit for psychological, glycemic, and behavioural outcomes in people with diabetes: A meta-analysis of randomized controlled trials – Anggi Lukman Wiksana
12.00 – 12.10	Time to move between rooms	

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Day 2: Thursday 15 <sup>th</sup> May 2025		
'Univers'	Saturn Hall	Uranus Hall
<b>12.10 – 13.00</b>	<p><b>Orals Session 7 <i>Completed Work</i></b></p> <p><b>Gestational Diabetes &amp; Risk for Type 2 Diabetes</b></p> <p><b>Chairs: Liz Holmes-Truscott, Siobhan Power</b></p>	<p><b>Orals Session 8 <i>Completed Work</i></b></p> <p><b>Psychosocial Profiles &amp; Perspectives</b></p> <p><b>Chairs: Lisa Newson, Dilara Karsidag Altikardes</b></p>
12.15	<p>CW 9 - Family meals to support life-course health promotion following gestational diabetes</p> <p>– Eloise Litterbach</p>	<p>CW 24 - Living with multi-morbidity: a qualitative study on the personal perspectives of patients with type 2 diabetes and cardiovascular disease</p> <p>– Jessica Brown</p>
12.30	<p>CW 17 - A biopsychosocial approach to stratifying women and predicting outcomes in women with gestational diabetes</p> <p>– Ana Munda</p>	
12.45 – 14.00	Light lunch	

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Day 2: Thursday 15 <sup>th</sup> May 2025		
‘Univers’	Saturn Hall	Uranus Hall
<b>14.00 – 15.20</b>	<b>Orals Session 9 <i>Completed Work</i></b> <b>Clinical Care &amp; Issues in Implementation</b> <b>Chairs: <i>Andreia Mocan, Simona Klemenčič</i></b>	<b>Orals Session 10 <i>Completed Work</i></b> <b>Stigma &amp; Support</b> <b>Chairs: <i>Bryan Cleal, Viktorija Kalesnikava</i></b>
14.05	CW 15 - Reducing the burden of questionnaire-overload: a practical approach to person-reported outcome measurement for type 1 diabetes – Per Winterdijk	CW 11 - Raising awareness to end diabetes stigma: a cross-sectional mixed-methods evaluation of Australian diabetes communication campaign videos among adults with and without diabetes – Liz Holmes-Truscott
14.20	CW 33 - Psychodiabetology – continuous glucose monitoring as a tool for psychological support – Katarzyna Cyranka	CW 26 - Association of diabetes stigma and weight with eating problems: differences between people with type 1 and type 2 diabetes – Laura Klinker
14.35	CW 23 - Management of diabetes in adults with psychiatric disorders in inpatient settings: clinicians’ perceptions of their role – Fiona Tierney	CW 19 - Identifying the key components of social support for people living with type 2 diabetes: A systematic review and meta-analysis of type 2 diabetes social support interventions – Lisa Newson
14.50	CW 27 - Equality, diversity and inclusion informing public and patient involvement in the D-Stress Study – Jörg Huber	
15.05	CW 22 - A novel UK care pathway to detect, prevent and manage diabetes distress for people with type 1 diabetes: adapting international interventions using a co-adaptation approach – Lusky Efrat	
15.20 – 15.30	Time to move between rooms	

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‘Univers’	Saturn Hall	Uranus Hall
<b>15.30 – 16.20</b>	<b>Orals Session 11 <i>Work in Progress</i></b> <b>Diabetes Technologies</b> <b>Chairs: <i>Katarzyna Cyranka, Olga Kozłowska</i></b>	<b>Orals Session 12 <i>Work in Progress</i></b> <b>Stigma &amp; Support</b> <b>Chairs: <i>Amani Al Bayrakdar, Tim Roos</i></b>
15.35	WP 36 - Implementing advanced diabetes technology: Exploring the role of healthcare professionals’ emotions and experiences in their engagement with new technologies – Wiebke Kantimm	WP 39 - Ecological momentary assessment of daily diabetes stigma and its impact on mood, diabetes distress and behaviour: a work in progress – Siobhan Power
15.50	WP 37 - Development of an instrument measuring Benefits and buRdens of AI-driveN bolus advisors in adults with diabetes: BRAIN questionnaire – Nefeli Dimitropoulou	WP 42 - The Role of social support on self-care: Does it function as a buffer among Turkish adults with diabetes? – Dilara Karsidag Altikardes
16.05	WP 40 - Wearable glucose sensors: if they work, how do they work, for adults for type 2 diabetes? A systematic review – Belinda Moore	
16.20 – 16.45	Free time	
<b>16.45 – 19.30</b>	<b>Social Programme – meet at ‘Univers’ Hotel (included in registration fee)</b>	
<b>19.30</b>	<b>PSAD Dinner – JaXX Restaurant, Cluj-Napoca City Centre (included in registration fee)</b>	

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Day 3: Friday 16 <sup>th</sup> May 2025	
‘Univers T’	Jupiter Hall
08.00 – 09.45	<b>OPTIONAL</b> Workshop: <i>‘Early detection of type 1 diabetes – the psychosocial aspects’</i> Facilitators: Maartje de Wit, Lucía Feito Allonca
09.45 – 10.30	<b>The 2025 PSAD Science Award: Winner to be announced</b> Chair: Prof. Norbert Hermanns
10.30 – 10.55	Coffee Break
11.00 – 12.00	<b>The ‘Mark Peyrot’ Great Debate:</b> Efficiency vs proficiency: Is AI an important innovation or a concerning compromise in the psychosocial aspects of diabetes? Chair: Bryan Cleal
12.00 – 12.50	<b>PSAD Business Meeting – Members only</b>
12.50 – 13.00	<b>Official close of the 29<sup>th</sup> PSAD Annual Scientific Meeting</b> – Prof. Jane Speight, PSAD Chair
13.00 – 14.00	Light lunch
14.00 – 15.45	<b>OPTIONAL</b> Workshop: <i>‘The power of meaningful engagement of people living with diabetes in psychosocial aspects of diabetes-related research and clinical practice.’</i> Facilitators: Lucía Feito Allonca, Mariam Asaad, Elizabeth Holmes-Truscott, Katarzyna Cyranka
15.45 – 16.00	Coffee Break
16.00 – 17.45	<b>OPTIONAL</b> Masterclass: <i>‘From Community Advocacy to National Project – what’s worked, what’s working: an evaluation using the Consolidated Framework for Implementation Research (CFIR)’</i> Speakers: Lauren Cusack, Belinda Moore
17.45 – 18.00	End of post-conference proceedings
18.30	<b>OPTIONAL</b> post-conference networking drinks and dinner(s) <i>(at own cost)</i>

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## The PSAD Mentoring Program

**You are invited to participate in the PSAD mentoring program!**

*Why join?*

Mentoring programs can be highly beneficial for researchers, at all stages of their careers. Mentors can offer invaluable emotional support, strategic insights and academic knowledge to their mentees, as well as advice around balancing research with other responsibilities. Having a mentor can help to boost one's confidence, professional growth and well-being. The PSAD mentoring program aims to foster a culture of collaboration, inclusion and support for our next generation of researchers and health professionals.

*What's involved?*

We will pair mentors and mentees who will be asked to meet with each other around 3-4 times during 2025 (online or in person, for 30-60 mins). You can make it your own – you and your mentor/mentee set the agenda for meet-ups, based on your needs and interests. Plus, we encourage mentors and mentees to attend a short, online reflection session towards the end of 2025. Join us to continue to build PSAD's connected, supportive, and inclusive research community.

*To register your interest please use the link below or the QR code (right):*

[https://researchsurveys.deakin.edu.au/jfe/form/SV\\_3adNMBfAKpaKpXU](https://researchsurveys.deakin.edu.au/jfe/form/SV_3adNMBfAKpaKpXU)



*Do you have any questions?*

Feel free to email one of our ECR co chairs:

Eloise Litterbach: [e.litterbach@acbrd.org](mailto:e.litterbach@acbrd.org)

Mandy Jansen: [mandy.jansen@cwz.nl](mailto:mandy.jansen@cwz.nl)

Theresa Mohr: [t.c.mohr@amsterdamumc.nl](mailto:t.c.mohr@amsterdamumc.nl)

# ABSTRACT BOOKLET

Orals Session 1 CW: Children and Adolescents with Type 1 Diabetes & their Parents

**Title:** Assessment of parental self-efficacy in type 1 diabetes care in childhood

**Authors:** Eszter Muzslay<sup>1</sup>, Áron Hölgyesi<sup>2</sup>, Andrea Luczay<sup>1</sup>, Péter Tóth-Hejn<sup>1</sup>, Eszter Világos<sup>1</sup>, Attila József Szabó<sup>1</sup>, Levente Kovács<sup>3</sup>, László Gulácsi<sup>2,4</sup>, Zsombor Zrubka<sup>2,4</sup>, Márta Péntek<sup>2,4</sup>

**Affiliations:** <sup>1</sup>Pediatric Center, Semmelweis University, Budapest, Hungary; <sup>2</sup>Health Economics Research Center, University Research and Innovation Center, Óbuda University, Budapest, Hungary; <sup>3</sup>Physiological Controls Research Center, University Research and Innovation Center, Óbuda University, Budapest, Hungary; <sup>4</sup>Innovation Management Doctoral School, Óbuda University, Budapest, Hungary

**Abstract:**

Despite technological advances in pediatric type 1 diabetes (T1DM) care, there is little evidence on the role of caregivers' self-perceived efficacy in disease management. Our aim was to assess parental self-efficacy and its associations with T1DM outcomes.

**Methods.** A cross-sectional study was conducted involving N=150 parent-child pairs. Socio-demographic and disease characteristics were recorded. Parental attitudes towards T1DM care were examined with the Parental Self-Efficacy Scale for Diabetes Management (PSESDM) and the Hypoglycaemia Fear Survey (HFS). Children's general and diabetes-specific quality of life (QoL) was assessed with the Pediatric Quality of Life Inventory (PedsQL) and its Diabetes Module (PedsQL-Diab).

**Results.** In the total sample, the mean PSESDM score was 32.9 (SD=5.4, range: 8-40), which differed significantly by education level ( $p=0.016$ ) and children's treatment ( $p=0.003$ ). Parents were the most confident they were able to deal with things related to their child's diabetes as well as others (56% total agreement), and the least confident in their ability to accomplish the T1DM management goals they set (30% total agreement). The PSESDM significantly correlated with the child's HbA1c level ( $r_s = -0.48$ ,  $p < 0.001$ ) and PedsQL-Diab score ( $r_s = 0.25$ ,  $p = 0.002$ ) while no association was observed with the HFS ( $r_s = -0.07$ ,  $p = 0.39$ ).

**Conclusions.** Our results suggest that parental self-efficacy is an important factor in pediatric T1DM management as it may influence disease outcomes. The findings also highlight areas of diabetes management where parents need more support. The PSESDM is an appropriate tool to measure parental self-efficacy, but further studies are needed to establish the validity of different language versions.

**Orals Session 1 CW:** Children and Adolescents with Type 1 Diabetes & their Parents

**Title:** 'Darkness as we face the unknown': Experiences of parents of children with type 1 diabetes in the Middle East and North Africa region

**Authors:** Mariam Asaad, Haya Abu Ghazaleh, Vasiliki Tzouvara, Nada AlJohani, Shatha AlSayed, Jackie Sturt

**Affiliations:** Florence Nightingale Faculty of Nursing, Midwifery and Palliative Care King's College London, London, UK

**Abstract:**

**Aim:** Qualitative interviews were conducted as part of the development of a person reported outcome measure (PROM) to assess biopsychosocial-spiritual outcomes of parents of children with type 1 diabetes (T1D) in the Middle East and North Africa (MENA) region. The aims were to (i) identify biopsychosocial-spiritual constructs of the PROM and (ii) to identify the items for the PROM.

**Methods:** Two focus groups were conducted online with n=6 mothers of children with T1D, one focus group with n=3 healthcare professionals, and one face-to-face focus group with n=6 policymakers interested in PROM development in Saudi Arabia. Four semi-structured interviews were conducted online with n=4 fathers of children with T1D in Saudi Arabia. Interviews were audio-recorded and transcribed verbatim using a thematic analysis approach.

**Results:** Four main categories and several sub-categories were identified: (1) emotional well-being: (a) 'Darkness as we face the unknown': distress, worry and anxiety (b) familiarization and empowerment: coping and optimism; (2) bio-physical well-being: (c) 'I have to be vigilant': insomnia and fear of hypoglycaemia; (3) social impact and well-being:(d) stigma, sacrifice and support; and (4) spiritual well-being: (e) 'I leaned in on spirituality': hope & acceptance.

**Conclusions:** The categories and sub-categories depict that diabetes has an impact on parents' biopsychosocial-spiritual well-being. The findings of these qualitative interviews indicated a need for the development of a new PROM specifically designed for this population. All stakeholders had positive reflections in relation to the value of the PROM as a tool for early detection of issues related parents' biopsychosocial-spiritual well-being.

**Orals Session 1 CW: Children and Adolescents with Type 1 Diabetes & their Parents**

**Title: Attachment and psychopathology in children and adolescents**

**A cross-sectional study of children with Type 1 diabetes and their healthy peers**

**Authors:** Simona Klemenčič<sup>1</sup>, Anja Turin Drouet<sup>2,3</sup>, Maja Drobnič Radobuljac<sup>3,4</sup>, Nataša Bratina<sup>1</sup>, Sašo Karakatič<sup>5</sup>, Tadej Battelino<sup>1,3</sup>

**Affiliations:**

1 Department of Pediatric Endocrinology, Diabetes and Metabolic Diseases, University Children's Hospital Ljubljana, University Medical Centre Ljubljana

2 Department for Child psychiatry, University Children's Hospital Ljubljana, University Medical Centre Ljubljana, Bohoričeva Ulica 20, 1000 Ljubljana, Slovenia.

3 Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia.

4 Centre for Mental Health, University Psychiatric Clinic Ljubljana, Ljubljana, Slovenia.

5 Institute of Informatics, Faculty of Electrical Engineering and Computer Science, University of Maribor, Maribor, Slovenia.

**Abstract:**

**Introduction:** Secure attachment originates in the early relationships and provides a foundation for mental health throughout the lifespan. We investigated the relationship between psychopathology in children and their attachment security, as well as their parents' attachment security, the presence of type 1 diabetes (T1D) and traumatic life events.

**Methods:** Children with T1D (N=101) and healthy control children (N=106) aged 8-15 years and one of their parents were included. A Child Attachment Interview (CAI) was conducted, Parents attachment security (Relationship Structures Questionnaire (ECR-RS)), stressful life events (Questionnaire on the lifetime incidence of traumatic events (LITE) and children's psychopathology (Child Behavior Checklist (CBCL); Youth Self-Report (YSR)) were assessed. Descriptive statistical analyzes and linear regression models were used.

**Results:** Children with T1D did not significantly differ from their healthy peers in psychopathology or sociodemographic variables. There were significant differences between securely and insecurely attached/disorganized children, namely the latter scored higher on the various CBCL/YSR categories. Linear regression models showed a positive association between male gender, the presence of T1D, maternal attachment anxiety in older children and a higher number of traumatic life events and psychopathology.

**Conclusion:** Children with insecure attachment, especially those with the disorganised attachment, had higher scores on parent and self-ratings of psychopathology. When the interactions between the different variables (gender, attachment security of parents, presence of negative life events) were included in the model, the results showed that other factors override the effect of the child's attachment itself. Various factors should be considered to improve the psychological well-being of children.

**Orals Session 2 CW: Adolescents and Adults with Type 1 Diabetes**

**Title: Evaluating the Usability and Feasibility of a Self-Compassion Chatbot to Enhance the Wellbeing of Adolescents with Type 1 Diabetes**

**Authors:** Anna Boggiss<sup>1,2</sup>, Katie Babbott<sup>1,3</sup>, Anna Milford<sup>1</sup>, Sian Ellett<sup>1</sup>, Nathan Consedine<sup>1</sup>, Susan Reid<sup>4</sup>, Nic Cao<sup>5</sup>, Alana Cavadino<sup>6</sup>, Sarah Hopkins<sup>7</sup>, Craig Jefferies<sup>8,9</sup>, Martin de Bock<sup>10</sup>, Anna Serlachius<sup>1</sup>

**Affiliations:**

1 Department of Psychological Medicine, University of Auckland, Aotearoa New Zealand

2 The Rio Tinto Children's Diabetes Centre and JDRF Centre of Excellence, The Kids Research Institute Australia, Perth Children's Hospital, Perth, Australia

3 Acute Pain Service, Te Whatu Ora Waitematā, Auckland, Aotearoa New Zealand

4 Health Literacy New Zealand, Auckland, Aotearoa New Zealand

5 Le Va, Auckland, Aotearoa New Zealand

6 Epidemiology and Biostatistics, University of Auckland, Aotearoa New Zealand

7 Centre for eResearch, University of Auckland, Aotearoa New Zealand

8 Starship Child Health, Te Whatu Ora Te Toka Tumai Auckland, Aotearoa New Zealand

9 Liggins Institute and Department of Paediatrics, University of Auckland, Aotearoa New Zealand

10 Department of Paediatrics, University of Otago, Christchurch, Aotearoa New Zealand

**Abstract:**

**Background and aims:** Adolescents with Type 1 Diabetes (T1D) experience higher rates of psychological distress compared to their peers, creating obstacles to their diabetes care. Despite the high prevalence of distress, diabetes care teams are often under-resourced and unable to provide sufficient or timely psychosocial support. Psychosocial interventions delivered using digital modalities have emerged as promising tools to address these gaps and improve accessibility of support. Building on previous acceptability findings, the current study aimed to evaluate the safety, usability and feasibility of a self-compassion chatbot intervention called 'COMPASS'.

**Methods:** Forty adolescents aged 12 to 16 with T1D participated in a 12-week single-group feasibility study using mixed methods. Usability was assessed through qualitative feedback and interviews, while feasibility was evaluated using app analytics and recruitment data. Psychosocial measures were collected at baseline, 6-week, and 12-week follow-ups, alongside clinical outcomes at 12-weeks.

**Results:** Out of 40 participants, 32 (80%) completed the study. On average, participants engaged with the chatbot for 8 days, completed 95% of the modules they started. Follow-up assessments indicated promising changes in psychological distress, alongside improvements in resilience, self-efficacy, self-compassion, and emotional wellbeing. Qualitative analysis highlighted the strengths of COMPASS in terms of engagement and relevance of information covered, while also suggesting areas of improvement, such as practical support with problem solving.

**Conclusions:** COMPASS was demonstrated to be safe, feasible and acceptable to adolescents with T1D. Future research aims to conduct a hybrid type 1 effectiveness-implementation trial that will leverage updates in artificial intelligence to increase the flexibility and tailoring of responding.

**Orals Session 2 CW:** Adolescents and Adults with Type 1 Diabetes

**Title:** Experiences and Health Outcomes of Emerging Adults with Type 1 Diabetes in Lebanon

**Authors:** Amani Al Bayrakdar<sup>1</sup>, Houry Puzantian<sup>2</sup>, Samar Nouredine<sup>2</sup>, Huda Abu-Saad Huijer<sup>3</sup>, Mona Nasrallah, Hala Tfayli<sup>4</sup>, Kevin L. Joiner<sup>5</sup>, Pamela Martyn-Nemeth

**Affiliations:**

1 Edinburgh Napier University School of Health and Social Care, Edinburgh, United Kingdom.

2 American University of Beirut Rafic Hariri School of Nursing, Beirut, Lebanon.

3 University of Balamand Faculty of Health Sciences, Al-Kurah, Lebanon.

4 American University of Beirut Medical Center Division of Endocrinology and Metabolism, Beirut, Lebanon.

5 University of Michigan School of Nursing, Ann Arbor, MI, USA 6University of Illinois College of Nursing, Chicago, IL, USA

**Abstract:**

**Aims:** This study explores the experiences of emerging adults (18–29 years) living with type 1 diabetes (T1D) in Lebanon, focusing on self-care practices, social support, psychological well-being, and health outcomes during their transition to adulthood.

**Methods:** A mixed methods design was used, combining quantitative data from 90 participants with qualitative insights from 15 semi-structured interviews. Quantitative measures included glycated haemoglobin (HbA1c) levels, diabetes distress, self-care practices, and social support. Regression analysis was used to analyse quantitative data, while thematic analysis was applied to qualitative data. The integration of both datasets offered a comprehensive and holistic perspective.

**Results:** Participants exhibited suboptimal health, with 70% reporting HbA1c levels above the recommended target and 81% experiencing moderate-to-severe diabetes distress. Higher diabetes knowledge, better self-care practices, and use of diabetes technology, predicted better physical and psychological outcomes. Qualitative findings indicated that psychological health was influenced by diabetes stigma, the burden of disease management, and conflicts arising from parental over-involvement. However, peer networks and supportive healthcare providers positively affected self-care and emotional well-being. Participants expressed a need for greater autonomy and highlighted the importance of tailored support systems to address both psychosocial and physical challenges.

**Conclusions:** The transition to adulthood presents significant challenges for young people with T1D. The suboptimal health of the participants highlights the importance of addressing socio-cultural and healthcare specific factors such as diabetes knowledge, public awareness to decrease diabetes stigma, balancing autonomy and social support, and increasing access to technology, to improve diabetes health. Findings of this study can guide future research, practice, and policy development.

**Orals Session 2 CW:** Adolescents and Adults with Type 1 Diabetes

**Title:** Psychosocial Factors Influencing Satisfaction and Adaptation to Automated Insulin Delivery (AID) Systems in People with Diabetes.

**Authors:** Timm Roos

**Affiliations:** FIDAM (research institute of the diabetes academy Bad Mergentheim), Germany.

**Abstract:**

**Aims**

What affects people with diabetes (PWD) in their satisfaction with their Automated Insulin Delivery (AID) system and in how they get on well with it?

**Methods**

We conducted an online survey throughout Germany, Austria and Switzerland in November and December 2023 in PWD, one specific focus lied on psychosocial aspects in AID systems. Regression analyses were computed to predict satisfaction with the AID system regarding therapy outcomes and how PWD get on well with it (both visual analogue scales from 0-100). Predictors were scales (visual analogue scales 0-100) assessing complexity, risk, change in quality of life, flexibility, mental load and expectations.

**Results**

In total, 2,747 PWD took part in the survey from Germany (47% female, 72% type 1 diabetes (T1D), 18% type 2 diabetes (T2D), 8% parents of children with diabetes, age M=53 (SD=19) years); usage of AID systems: parents (children with diabetes): 61%, T1D: 42%, T2D: 0%). On average, PWD were quite satisfied with their AID system regarding therapy outcomes (M=79.8; SD=19.1) and got on well with their AID system (M=84.0; SD=17.5). Regression analyses revealed that relevant factors influencing satisfaction with the AID system regarding therapy outcomes were the perceived risk ( $p=.001$ ;  $\beta=-.121$ ) change in quality of life ( $p=.024$ ;  $\beta=-.119$ ), mental load ( $p=.003$ ;  $\beta=.097$ ) and expectations ( $p<.001$ ;  $\beta=.644$ ). Significant factors for getting on well with the AID system were the perceived risk ( $p=.005$ ;  $\beta=-.118$ ), flexibility ( $p=.026$ ;  $\beta=-.136$ ), mental load ( $p=.009$ ;  $\beta=.097$ ) and expectations ( $p>.001$ ;  $\beta=.471$ ).

**Conclusions**

Positive expectations towards an AID system play a major role in satisfaction with the therapy outcomes and getting on well with the AID system. Also, perceived low risk and reduced mental load have a significant positive impact on these outcomes.

**Orals Session 2 CW:** Adolescents and Adults with Type 1 Diabetes

**Title:** Living with type 1 diabetes whilst attending English secondary schools. Experiences of young people with type 1 aged 16-24 years old

**Authors:** Samantha Howland, Kathy Martyn, Jorg Huber

**Affiliations:** University of Brighton

**Abstract:**

**Background:** Lived experiences as narrated by adolescents/emerging adults with type 1 diabetes are underrepresented in research and their voices largely unheard in the design of services, schooling and support. The omnipresence of diabetes is an additional factor to be managed in their transition to independent living.

**AIM:** This study explored the priorities of young people with type 1 and their perspective on how diabetes impacted their daily lives; and captures their recollections of life in secondary school (aged 11-18 years) within the past 10 years.

**METHODS:** In depth interviews with 19 people with type 1 diabetes aged 16-24 years old were conducted via Teams (for participant convenience) and thematically analysed.

**RESULTS:** In this sample, the overarching themes of being in control and the steep learning journey that comes with a diagnosis of diabetes featured strongly and shaped experiences in secondary school. Specific themes included how diabetes affects school experiences and choices made or imposed therein, emotional connection with others, erosion of carefree childhood by diabetes, how passion for a hobby and viewing diabetes as part of self-identify may build resilience.

**CONCLUSION:** Themes created from this study identified a need for improved support in schools for young people with type 1. Improved support would centre around education for school staff, regularly reviewed, tailored and implemented individualised healthcare care plans, enabling the individual to gradually take on autonomy for their condition and build resilience. Greater awareness about diabetes is needed in school without segregating people with type 1 as different to their peers.

**Orals Session 3 WP:** Diabetes in Daily Life

**Title:** Psychosocial Aspects of Women with Diabetes in a Cultural Environment

**Authors:** Anita Permata Sari

**Abstract:**

Psychosocial Aspects of Women with Diabetes in a Cultural Environment

The psychosocial experiences of women with diabetes are profoundly shaped by cultural environments, which influence their emotional well-being, social interactions, and access to healthcare. This paper examines how cultural norms, gender roles, and societal expectations intersect with the challenges of living with diabetes, particularly for women. Key issues include the burden of caregiving roles, stigma associated with chronic illness, and the pressure to conform to societal beauty and health standards. Hormonal fluctuations, reproductive health concerns, and limited autonomy in decision-making further complicate diabetes management for women in diverse cultural contexts.

In many cultures, women may face restricted access to healthcare, with patriarchal structures prioritizing men's health or limiting women's agency. Social stigma and misconceptions about diabetes, especially related to fertility and physical capabilities, exacerbate feelings of isolation and reduce self-esteem. Cultural food practices and gendered expectations regarding physical activity often conflict with medical advice, creating barriers to effective self-care.

This study underscores the importance of culturally sensitive approaches to diabetes education and care that address these psychosocial challenges. It advocates for integrating mental health support, fostering community-based peer networks, and promoting gender equity in healthcare access. By recognizing and addressing the cultural dimensions of women's experiences with diabetes, this research aims to inform policy and program development that improves outcomes and quality of life for women globally.

**Orals Session 3 WP:** Diabetes in Daily Life

**Title:** Understanding type 1 diabetes self-management at university.

**Authors:** Megan-Ann Thornhill, Gijsbert Stoet

**Affiliations:** Department of Psychology, University of Essex.

**Abstract:**

**AIM**

Transitioning to university is high-risk for students with type 1 diabetes (T1D) as it presents barriers to optimal glucose management. Subsequently, they report high stress and poor diabetes-related outcomes. To improve support during this period, this longitudinal, mixed-methods study explores the trajectory of diabetes management at university.

**METHODS**

University students with T1D will complete a series of semi-structured focus groups, individual interviews, and quantitative behavioural assessments over one year. Focus groups will explore changes in five psychosocial topics: 1) Disclosure of diagnosis, 2) Parental involvement, 3) Healthcare transition, 4) Managing diabetes at university, and 5) University support. Individual interviews will explore self-management decisions in scenarios like exams and social situations. Participants will also complete standardised assessments of diet, physical activity, treatment adherence, quality of life, wellbeing, and diabetes outcomes (e.g., glucose sensor data) after each focus group.

**ANALYSIS AND EXPECTED OUTCOMES**

Thematic analysis of psychosocial aspects discussed in focus groups and interviews will be integrated with averaged behavioural scores and diabetes-related outcomes across time-points to examine changes over time. Preliminary findings, expected by the conference, will likely show students with T1D face challenges in psychosocial areas, self-management behaviours, and glycaemic control. However, it is yet to be determined how these challenges will evolve throughout university.

**QUESTIONS**

For this study to successfully identify critical periods for support, the following questions should be discussed: 1) How to engage university students with chronic illness? 2) How to reduce participant attrition during longitudinal studies? 3) How best to integrate longitudinal mixed-methods findings?

**Orals Session 3 WP:** Diabetes in Daily Life

**Title:** Yenbena, Nitel Ngar-wu Ngarri, Diabetes Yarning (Yorta Yorta people, gather listen tell, diabetes stories)

**Authors:** Belinda Moore

**Affiliations:** Rumbalara Aboriginal Cooperative, Mooroopna, Victoria, Australia

**Abstract:**

**Aims:**

By utilising traditional Aboriginal and Torres Strait Islander painting techniques and yarning circles, deliver a diabetes education and health promotion program in a contextually appropriate manner. This will allow traditional, lingual, cultural, spiritual, social and emotional beliefs and practices to be regained, upheld, and sustained for the optimisation of individual and community health and well-being across Yorta Yorta Country in North Victoria, Australia.

**Design:**

1. Co-create a diabetes education and health promotion program by Rumbalara health and well-being staff for Rumbalara community members.
2. Through using traditional painting techniques and yarning circles facilitate therapeutic connections between community members.
3. Utilise traditional painting techniques and yarning circles as the preferred literacy and educational methods for those living with diabetes and at risk of diabetes.
4. Run monthly painting and yarning workshops where community members come together to paint 'where they are at' with their own diabetes self-management, so that after six months each community member attains their own mural of six paintings that tells their diabetes journey.

**Expected outcomes:**

1. Increase individual self-determination.
2. Facilitate sustainable behaviour change.
3. Sustain community engagement.
4. Increase community capability and capacity.
5. Remove diabetes shame and blame.
6. Incorporate traditional Aboriginal and Torres Strait Islander cultural beliefs and practices into health and well-being models of care.

**Problems/Questions:**

1. This project is currently being implemented, but what research methods can be used to measure the success of it?

**Orals Session 3 WP:** Diabetes in Daily Life

**Title:** Health-related Quality of Life in Young Women with Type 1 Diabetes and Body Image Concerns

**Authors:** Mareille Hennekes<sup>1</sup>, Severina Haugvik<sup>2,3</sup>, Elena Toschi<sup>4</sup>, Eric Stice<sup>5</sup>, Line Wisting<sup>2,6</sup>, Hans Knoop<sup>1</sup>, Rudolf Ponds<sup>1</sup>, Maartje de Wit<sup>1</sup>

**Affiliations:**

1 Department of Medical Psychology, Amsterdam University Medical Centers, University of Amsterdam, Amsterdam Public Health Research Institute, Amsterdam, the Netherlands.

2 Oslo University Hospital, Division of Mental Health and Addiction, Regional Department for Eating Disorders, Norway

3 University of Oslo, Faculty of Medicine, Norway

4 Joslin Diabetes Center, Harvard Medical School, Boston, Massachusetts, USA

5 Stanford University, Department of Psychiatry and Behavioral Sciences, USA

6 Oslo New University College, Institute of Psychology, Norway

**Abstract:**

**Aim:** Type 1 diabetes (T1D) is a complex disease that has a significant impact on individual's well-being, particularly young women. They are at an elevated risk of developing psychosocial issues, including eating disorders (ED). Moreover, adolescence and young adulthood represents a challenging period for effective management of T1D. Therefore, prioritizing well-being and health-related quality of life (HRQoL) of young women with T1D is crucial. The Type 1 Diabetes And Life (T1DAL) questionnaire is a recently developed measure that assesses diabetes-specific health-related QoL (HRQoL). We aim to assess the HRQoL of young women with T1D and body image concerns, and identify risk factors that impact this HRQoL

**Methods:** Baseline data (N=294) from an ED prevention intervention study (Diabetes Body Project) in 2 EU and 2 US sites will be used. Inclusion criteria were: young women, aged 14-35, with body image concerns. Age-appropriate versions of the T1DAL were used. Additional data on eating disorder symptoms, disordered eating behaviors (DEPS-R), diabetes distress (PAID), negative affect (PANAS), glycemic outcomes (HbA1c, TIR), clinical and demographic data are collected using questionnaires and an ED diagnostic interview.

**Planned analysis:** Descriptives of correlations and differences between the EU and US sample will be presented. Backward linear regression will be performed to examine how demographic, clinical and psychological variables are associated with HRQoL.

**Expected outcomes:** we expect higher HRQoL for the EU sample than the US sample. Furthermore, we expect that use of diabetes technology, diabetes distress, degree of eating problems, negative affect and age are related to HRQoL.

**Orals Session 4 WP:** Diabetes Distress

**Title:** The D-stress study Feasibility and Main Trial Setup: putting a Hybrid 2 model into practice.

**Authors:** Fabian-Therond C<sup>1</sup>, Ajja R<sup>2</sup>, Choudhary P<sup>3</sup>, Fiorentina F<sup>2</sup>, Fisher L<sup>4</sup>, Holt R<sup>5</sup>, Huber J<sup>6</sup>, Hussain S<sup>1</sup>, Shearer J<sup>1</sup>, Stadler M<sup>1</sup>, Watson S<sup>7</sup>, Sturt J<sup>1</sup>

**Affiliations:**

1 King's College London

2 University of Leeds

3 University of Leicester

4 University of California, San Francisco

5 University of Southampton

6 The University of Brighton

7 University of Birmingham

**Abstract:**

**Aims:** The D-stress 5-yr research programme aims to create and evaluate a care pathway to detect, prevent and manage diabetes distress in the treatment setting of adults living with type 1 diabetes, in the UK NHS.

**Design:** The research design is a Hybrid 2 study (Curran et al. 2012) giving equal emphasis to generating evidence of effectiveness and implementation of the D-stress pathway. This paper will present and discuss the Hybrid 2 feasibility study design incorporating a cluster trial, using a staircase design, alongside a realist process evaluation.

**Planned Analysis:** By engaging our key terms detect, prevent and manage diabetes distress this paper outlines work in progress on the following: (1) The implementation of the study's control arm - called Enhanced usual care (EUC) - which aims to detect and prevent diabetes distress; (2) Trial design decision-making to evaluate the management of participants with (high) diabetes distress through our experimental intervention- called REDUCE; and in keeping with the pragmatic nature of a Hybrid 2 model, and our study aims to understand how these intervention components affect participants and work in a real-world NHS setting, (3) outlines the study's longitudinal approach to simultaneously measure - from participants enrolment through to final follow up - the impact of EUC on participants with a below threshold diabetes distress score.

**Questions:** (1) What are the methodological pitfalls in our study design and implementation, (2) In scaling up this trial design to the main trail, how can we manage risk of bias and contamination?

**Orals Session 4 WP:** Diabetes Distress

**Title:** Diabetes distress and personality traits through the prism of the patients with diabetes and their significant others

**Authors:** Judita Konečná<sup>1,2</sup>, Nelly Kalinová<sup>2</sup>, Nikola Křesáková<sup>2</sup>, Karel Dobroslav Riegel<sup>3</sup>

**Affiliations:**

1 2nd Department of Internal Medicine, St. Anne's University Hospital, Brno, Czech Republic

2 3rd Department of Medicine – Department of Endocrinology and Metabolism, 1st Faculty of Medicine, Charles University and General University Hospital in Prague, Prague, Czech Republic.

3 Department of Addictology, 1st Faculty of Medicine, Charles University and General University Hospital in Prague, Prague, Czech Republic

**Abstract:**

**Aims:** The study aims to map the context of Diabetes Distress (DD) in people with Type 1 diabetes (PWT1D), or its subjectively perceived extent and personal characteristics not only from the perspective of people with diabetes but also from the perspective of their close ones who are involved in managing the patient's diabetes.

**Methods:** The Diabetes Distress Scale (DDS) and versions for parents and partners (DDS-parent, DDS-partner) were associated with the Personality Inventory for DSM-5 (PID-5) which captures pathological personality traits according to the DSM-5 Alternative model for personality disorders. Perceived DD and personality traits among PWT1D were also associated with a chronic complication of diabetes.

**Results:** Ongoing statistics found strong association between PID-5 Negative Affectivity (NEF) and emotional burden and regimen distress ( $p < .001$ ) DDS subscales.

**Conclusions:** Preliminary findings suggest that attention should be paid to the level of NEF among PWD about their emotional burden and regimen distress. Associations with close one's DD prism will be explored further.

**Orals Session 4 WP:** Diabetes Distress

**Title:** Evaluating the impact of Patient and Public Involvement in a Type 1 Diabetes project

**Authors:** Gary Hickey<sup>3</sup>, Jennifer Mohammadi<sup>2</sup>, Shalini Ahuja<sup>2</sup>, Clara Fabian-Therond<sup>2</sup>, Jörg Huber<sup>1</sup>, Iliatha Papachristou Nadal<sup>2</sup>, Megan Peck<sup>2</sup>, Jackie Sturt<sup>2</sup>

**Affiliations:**

1 School of Sport and Health Sciences, University of Brighton, Brighton UK, NB1 9PH

2 Florence Nightingale Faculty of Nursing and Midwifery, King's College London, James Clerk Maxwell Building, 57 Waterloo Road, London SE1 8WA

3 Alpha House, Enterprise Road, University of Southampton Science Park, University of Southampton, SO16 7NS

**Abstract:**

Background and aims: Patient and public involvement (PPI) is fundamental to health research, with the potential to enhance the quality and relevance of the research and build trust among stakeholders.<sup>1</sup> The UK Standards for Public Involvement provide guidance for meaningful engagement.<sup>2</sup> However, methods to effectively evaluate patient and public involvement outcomes remain underdeveloped.<sup>3</sup> Developing reliable frameworks and gathering comprehensive data to assess the impacts of PPI—both short- and long-term—are crucial for embedding meaningful engagement in health research sustainably.<sup>3</sup>

This presentation draws on a study to develop a care pathway for the detection, prevention, and management of diabetes distress in adults with type one diabetes within the NHS in the UK. Guided by the UK Standards for Public Involvement, we co-designed an evaluation framework that incorporated reflective sessions with public contributors.

Design/methods: A co-designed framework for evaluating the impact of PPI on research decisions covering the authenticity of contributor involvement, and personal outcomes such as skill-building, knowledge growth, and psychological well-being.

Planned analysis: We will analyse and present the impact findings and show how they have been used to drive continuous improvement in PPI in the study.

Expected outcomes: Our work adds to the nascent body of work on evaluating PPI in research, and highlights the dual benefits of PPI in advancing research quality and enriching the experiences of those involved.

Problems/questions:

What do we mean by 'impact' in PPI?

How can an evaluation of the impact of PPI be used to generate continuous improvement in a project?

**Orals Session 4 WP: Diabetes Distress**

**Title: Diabetes Distress in Type 2 Diabetes: Raising Awareness and Improving Care**

**Authors:** Zara Ratevosjan<sup>1</sup>, Miranda Schram<sup>2</sup>, Behiye Özcan<sup>3</sup>

**Affiliations:**

1 Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands

2 Department of Internal Medicine, School for Mental Health and Neuroscience (MHeNS) and Cardiovascular Research Institute (CARIM) Maastricht University, Maastricht, The Netherlands; Department of Epidemiology, Erasmus Medical Center, Rotterdam, The Netherlands.

3 Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands.

**Abstract:**

**Aim:** We strive to improve care for people with type 2 diabetes (T2D) by increasing awareness of diabetes distress (DD) among themselves and healthcare professionals. Furthermore, to substantiate the relevance of treating DD in clinical care, we will investigate the association between DD and incident cardiovascular disease (CVD), cardiovascular disease mortality, and all-cause mortality.

**Methods:** We have developed videos, leaflets, and posters explaining DD in eight languages, along with guides for healthcare professionals for use in consultations. The materials have been published on various Dutch diabetes-related websites for both target groups. Furthermore, an online webinar about DD in T2D will be prepared for diabetes-related healthcare professionals. We will distribute the materials among general practitioners, primary care assistants, and other diabetes care professionals. In addition, we will use data from the Dutch Diabetes Pearlstring Initiative to investigate the association between DD (PAID $\geq$ 40) and incident CVD and mortality (n=6712, 42% female).

**Analysis:** We will use Cox regression analyses to assess hazard ratios, adjusted for age, sex, education, lifestyle, diabetes and cardiovascular risk factors.

**Outcomes:** We expect people with T2D and their healthcare professionals to feel comfortable discussing DD, allowing personalized care plans to be developed that address DD effectively within routine diabetes care. Furthermore, it is expected that the analysis will substantiate evidence for the increased CVD incidence, and mortality, supporting the strategy for increasing DD awareness and improving care.

**Problems/questions:** What are effective strategies for implementing the developed materials in routine diabetes care? How can we best reach patients?

**Orals Session 5 CW: Diabetes Distress & Depression**

**Title: Longitudinal associations between depressive symptoms and quality of life in individuals with diabetes mellitus: a systematic review of observational studies**

**Authors:** Ilmari Larivuo<sup>1</sup>, Miranda Schram<sup>2</sup>, Yingxia Li<sup>3</sup>, Sonya Deschênes<sup>4</sup>, Ragnhild Bjarkøy<sup>5</sup>, Timo Partonen<sup>6</sup>, Frans Pouwer<sup>7</sup>

**Affiliations:**

1 Tampere University,

2 Maastricht University

3 Erasmus University Rotterdam

4 University College Dublin

5 Strandberg - Western Norway University of Applied Sciences

6 Finnish Institute for Health and Welfare

7 University of Southern Denmark.

**Abstract:**

**Aims**

We previously demonstrated negative association between depressive symptoms and QoL when results based mainly on cross-sectional data (Schram et al. 2009). The aim of the current study was to conduct systematic review related to depressive symptoms and quality of life (QoL) in individuals with diabetes mellitus (DM) in longitudinal setting.

**Methods**

Searches for the suitable original articles were conducted in four databases (CINAHL, Embase, Medline, PsycInfo) in July 2024. Title, abstract and full text screening were done with two independent researchers. Before data extraction stage the research plan is registered to the international prospective register of systematic reviews: PROSPERO. Data extraction from the included original articles will be done with two independent reviewers utilising tailored and piloted data extraction form. Quality assessment of each included study will be performed with 9-star Newcastle-Ottawa scale. Cohen's kappa score will be obtained to determine inter-rater reliability. Overall certainty of evidence is evaluated with the GRADE. Quantitative summary of the results from included original articles will be generated if possible. PRISMA 2020 guidelines are followed when reporting.

**Results**

To the date the data extraction is not started but perusal of the original articles included to the study seems to suggest as a preliminar result that higher depressive symptoms at baseline are associated with greater decline in QoL during the follow-up in individuals with DM.

**Conclusions**

Depressive symptoms can potentially decrease the QoL in individuals with DM. After the study is fully conducted the final conclusions can be shared in the annual PSAD meeting.

**Orals Session 5 CW:** Diabetes Distress & Depression

**Title:** Overall sleep quality and variation in sleep quality over 17 days predicts elevated depressive symptoms and diabetes distress in people with type 1 and type 2 diabetes

**Authors:** Dominic Ehrmann, Andreas Schmitt, Laura Klinker, Bernhard Kulzer, Norbert Hermanns

**Affiliations:** Research Institute of the Diabetes Academy Mergentheim (FIDAM)

**Abstract:**

**Aims**

Ecological momentary assessment (EMA) was used to assess self-rated sleep quality over 17 days. The aim was to analyse whether daily sleep quality predicts future psychosocial well-being.

**Methods**

People with type 1 and type 2 diabetes rated their sleep quality daily for 17 days on scale from 0 “very bad” to 10 “very good” with a special EMA-app. At the 3-months follow-up, elevated depressive symptoms were assessed via the Center for Epidemiology Studies – Depression (CES-D; Cut-off: 22), and elevated diabetes distress via the Problem Areas in Diabetes (PAID) scale (Cut-off: 40). Logistic regression analyses were calculated with elevated CES-D and PAID as dependent variables and sleep quality (mean and coefficient of variation in separate models) as independent variable, controlled for age, sex, BMI, diabetes type and respective baseline value.

**Results**

Data from 358 participants were analysed (50.6% type 1 diabetes). Each point increase in mean sleep quality was associated with a 35% reduced risk of having elevated depressive symptoms at follow-up (OR=0.65,  $p<.001$ ) and a 31% reduced risk of having elevated diabetes distress (OR=0.69,  $p<.001$ ). Increased fluctuations in sleep quality were also predictive of elevated depressive symptoms (10% increase: OR=1.23,  $p=.004$ ) and diabetes distress (OR=1.21,  $p=.009$ ). Better sleep quality was also associated with higher Time in Range ( $p=0.041$ ).

**Conclusions**

Mean sleep quality as well as fluctuations of sleep quality were indicative of an elevated risk for depressive symptoms and diabetes distress. This highlights the importance of sleep quality for people with type 1 and type 2 diabetes.

**Orals Session 5 CW:** Diabetes Distress & Depression

**Title:** Research traditions in integrated care models for depression care in diabetes primary care: a meta-narrative review

**Authors:** Olga Kozłowska, Marion Waite, Fiona Tierney, **Carley Moore**

**Affiliations:** Oxford Brookes University

**Abstract:**

Background: We are interested in how the interaction between mental health and diabetes is researched. In this review we focus on models of integration of mental health expertise into primary care to address the needs of people living with diabetes and depression. Method: PsycInfo, CINAHL, PubMed, BND and Cochrane databases were searched for primary research on strategies of introducing mental health expertise to primary care to improve care of people with any type of diabetes and depression published in English since 1999. Our team of four reviewers was involved in screening 3438 abstracts and assessing eligibility of 246 full texts; 26 papers were included. Findings: There is little variation in research traditions in exploring the diabetes and depression link with a positivistic-medically driven approach dominating. Since each tradition has a different conceptual perspective on the model of integration, we will reflect on the main features distinguishing these different traditions in ways they define 'depression,' operationalise 'integration,' measure the impact of interventions (we will focus on psychometric tests used for measuring the severity of depression), public and patient involvement, and the extent of person-centred care. We will also reflect on who and how undertakes these studies to better understand the extent of interdisciplinary working and its clinical relevance. Conclusion: We will reflect on the impact little variety in research traditions has had on understanding the link between diabetes and depression and proposed interventions and the dangers of working within one research tradition only.

**Orals Session 5 CW:** Diabetes Distress & Depression

**Title:** Prevalence rates and impacts of selected, interview-assessed mental disorders in a German sample of people with diabetes

**Authors:** Schmitt Andreas, Klinker L., Ehrmann D., Kulzer B., Hermanns N.

**Affiliations:** Research Institute Diabetes Academy Mergentheim (FIDAM), Diabetes Center Mergentheim (DCM), Bad Mergentheim, Germany

**Abstract:**

**Aims:**

To report updated results regarding selected interview-based mental disorder diagnoses and their associations with health behaviours and outcomes in diabetes from the ongoing longitudinal PRO-MENTAL study.

**Methods:**

Affective, anxiety and eating disorders were assessed using structured, ICD-based interviews estimating point, 12-month and lifetime prevalence rates. Person-reported variables (PRO) comprised self-management and eating behaviours, sleep, distress, wellbeing, fear of hypoglycaemia/complications, anxiety/depressive symptoms, self-rated health, etc. N=938 participants were interviewed constituting the database (age=53±16, 45% women, T1D=51.9%, T2D=46.2%, T3D=1.8%, duration=18.7±12.4 years, HbA1c=7.5±1.5%); 66% were enrolled during secondary, 34% during tertiary care visits.

**Results:**

The 12-month rates stratified for T1D/T2D (N=487/433) were: major depression=14.0%/10.4% (single episode=6.4%/5.1%, recurrent depression with 12-month episode=7.6%/5.3%); bipolar disorder=2.1%/2.3%; anxiety disorders: panic disorder=4.3%/4.2%, agoraphobia=6.0%/5.5%, generalised anxiety=9.2%/5.5%, social phobia=6.8%/3.7%, specific phobias=19.9%/21.7%—fear of injections=3.1%/2.1%, fear of hypoglycaemia=4.8%/1.2%; eating disorders: anorexia=0.6%/0%, bulimia=0.8%/0.2%, purging=0.8%/0%, binge eating=2.9%/4.8%, night eating=1.2%/2.3%.

People with 12-month depression/affective episodes (N=126) had significantly higher HbA1c levels, less optimal self-management behaviours, more dysfunctional eating habits and higher problems across PRO. Similar results applied for people with eating disorder diagnoses. Among anxiety disorders, agoraphobia, specific fear of injections and fear of hypoglycaemia were most strongly associated with unsatisfactory behaviours and glycaemia. Disorder-specific results will be presented.

**Conclusions:**

This study suggests elevated prevalence rates for depressive and anxiety disorders among people with diabetes. Major depression was more frequent in T1D. Eating disorders differed between diabetes types: purging-related diagnoses were more common for T1D, binge-eating-related diagnoses for T2D. Group comparisons indicated unsatisfactory self-management and eating behaviours and health outcomes across disorders.

**Orals Session 6 CW:** Interventions to support diabetes self-care

**Title:** Self-help interventions benefit for psychological, glycemic, and behavioral outcomes in people with diabetes: A meta-analysis of randomized controlled trials

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6 Research Center for Big Data and Meta-Analysis, Wang Fang Hospital, Taipei Medical University, Taiwan, ROC.

7 Sleep Research Center, Taipei Medical University Hospital, Taiwan, ROC.

**Abstract:**

**Aims:** To systematically evaluate the effects of self-help interventions (SHIs) on psychological, glycemic, and behavioral outcomes in people with diabetes (PWD).

**Methods:** Five databases were searched for meta-analysis. Papers with randomized controlled trial design, enrolled PWD, implemented a SHI as intervention, and reported the interested outcomes were included but it were excluded while recruited gestational diabetes or pregnant women. The outcomes included diabetes distress, depression, anxiety, HbA1c level, self-management behavior, self-efficacy, and quality of life. Hedges'  $g$  and the associated 95% confidence interval (CI) were calculated using a random-effects model to obtain the pooled estimates of short-, mid-, and long-term effects of SHIs.

**Results:** 16 papers, consisting of 3,083 PWD, were analyzed. The majority were women and late adult PWD. SHIs showed significant short-term effects on diabetes distress ( $g = -0.363$ ; 95%CI =  $-0.554, -0.173$ ), depression ( $g = -0.465$ ; 95%CI =  $-0.773, -0.156$ ), anxiety ( $g = -0.295$ ; 95%CI =  $-0.523, -0.068$ ), HbA1c level ( $g = -0.497$ ; 95%CI =  $-0.791, -0.167$ ), self-efficacy ( $g = 0.629$ ; 95%CI =  $0.060, 1.197$ ), and quality of life ( $g = 0.413$ ; 95%CI =  $0.104, 0.721$ ). Significant mid-term effects of SHIs on diabetes distress ( $g = -0.195$ ; 95%CI =  $-0.374, -0.016$ ), self-management behavior ( $g = 0.305$ ; 95%CI =  $0.155, 0.454$ ), and quality of life ( $g = 0.562$ ; 95%CI =  $0.315, 0.810$ ), were noted. The quality of evidence varied for the measured outcomes.

**Conclusions:** Self-help interventions potentially have positive benefits on diabetes distress, anxiety, self-management behavior, and quality of life.

**Orals Session 6 CW:** Interventions to support diabetes self-care

**Title:** A Multi-Center Parallel Two-Arm Randomized Controlled Trial of Patient Centered Self-Management Intervention to improve Glycemic Control, Self-Efficacy and Self Care Behaviors in South Asian Adults with Type 2 Diabetes Mellitus

**Authors:** Kainat Asmat<sup>1</sup>, Khairunnisa Dhamani<sup>2</sup>, Raisa Gul<sup>3</sup>, Erika Sivarajan Froelicher<sup>4</sup>, Nazeer Khan<sup>5</sup>

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5 Office of Research Innovation & Commercialization (ORIC), Baqai Medical University, Karachi, Pakistan.

**Abstract:**

**Background:** The complex interplay of personal, behavioral, and social factors in managing Type 2 Diabetes (T2D) highlights the critical need for a patient-centered approach to achieve effective self-management.

**Aim:** To test the efficacy of patient-centered self-management intervention (PACE-SMI) to improve HbA1c, self-efficacy, and self-care behaviors in adults with T2D.

**Methods:** In this multi-center, parallel two-arm randomized controlled trial, 612 adults with HbA1c  $\geq$  7% were randomized into control (n=310) and intervention (n=302) groups using. The control group received usual care, while the intervention group received usual care plus nurse-led, theory-driven, culturally tailored PACE-SMI, comprising eight weekly sessions of individualized education, counseling, behavioral training, and home visit. Outcomes were assessed at baseline, post-intervention, and three months follow-up.

**Results:** Of 583 participants who completed the study (control: n=295, intervention: n=288), the intervention group had a lower HbA1c (8.49% [SD 1.58]) than the control group (8.74% [SD 1.62]), with small yet statistically significant mean difference of 0.25% (95% CI -0.01, 0.51; Cohen's d=0.16; p=0.03). Self-efficacy and self-care behaviors significantly improved in the intervention group (116.89 [SD 25.50] and 70.01 [SD 17.97]) compared to the control group (75.43 [SD 18.99] and 51.54 [SD 12.04]), with mean differences of 41.48 (95% CI 37.83, 45.13; Cohen's d=1.84; p<0.0001) and 18.56 (95% CI 16.08, 21.04; Cohen's d=1.22; p<0.0001) respectively. Linear regression indicated that the effect on HbA1c was significantly mediated by improvements in self-efficacy and self-care behaviors ( $R^2 = 0.232$ , p<0.001).

**Conclusion:** PACE-SMI led to modest but significant improvement in HbA1c, and substantial enhancements in self-efficacy and self-care behaviors in adults with T2D

**Orals Session 6 CW:** Interventions to support diabetes self-care

**Title:** “When I do feel confident and secure, I feel more like my old self”: Patient Perspectives and Priorities in Diabetes Management

**Authors:** Christopher Okine, Alejandro Rodriguez-Putnam, Kara M. Mannor, Rebecca Hebert, Lauren Kouassi, Danielle Smith, Jiaxun Fan, Emma Spring, **Viktoryia A. Kalesnikava**, Alana Ewen, Bella Flores, Sikander Choudhary, Caitlan Devries, Rossella Messina, Briana Mezuk

**Affiliations:** University of Michigan, Ann Arbor, MI USA

**Abstract:**

**Aims:** Healthcare systems focus diabetes management on clinical metrics (e.g., A1c). However, people with diabetes (PWD) may operationalize diabetes management in more complex ways. This study explores themes regarding patient perspectives and priorities in diabetes management within a diverse sample of PWD.

**Methods:** Forty adults with type 1, type 2, or gestational diabetes (mean age: 49 (SD: 16), 60% female, 58% non-hispanic white; A1c range: 4.7%-12.0%, PAID-11 range: 0-39) were selected using maximum variation sampling based on their responses to a larger (n=573) quantitative study of PWD. Semi-structured 1:1 telephone interviews assessed beliefs, attitudes, and experiences regarding psychosocial aspects of diabetes care. Thematic analysis was used to explore topics related to patient perspectives and priorities in diabetes management.

**Results:** While participants valued clinical measures, they expressed a broader range of priorities. Preliminarily, emerging themes include: 1) the multidimensional meaning of fear (anticipatory: “I’m still motivated because the fear of something terrible happening to me in the future is very strong;” and hypervigilance: “Am I alright? Do I feel normal? Is this CGM working? Just on and on. I try to turn that off.”) and 2) the patient-provider relationship (“I think it’s important to have good counseling to keep you focused”; “The most important to me is the communication between me and my diabetes team... I’ve gone through so many doctors that don’t actually care about the patient.”)

**Conclusions:** Person-centered diabetes care can be enhanced by addressing these aspects when setting and adjusting management goals.

**Orals Session 6 CW:** Interventions to support diabetes self-care

**Title:** Experiences with a concentrated micro-choice-based group intervention for people with type 2 diabetes

**Authors:** Bente Elisabeth Bendixen<sup>1</sup>, Ane Wilhelmsen-Langeland<sup>1,2</sup>, Kirsten Lomborg<sup>1,3,4</sup>, Eirin Måkestad<sup>5</sup>, Trine Skogheim<sup>6</sup>, Anne Schønberg<sup>5</sup>, Marjolein M. Iversen<sup>1</sup>, Gerd Kvale<sup>1,2,7</sup>, Eirik Sjøfteland<sup>1,5</sup>, Anne Haugstvedt<sup>1</sup>

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**Abstract:**

**Aim:** In this qualitative study the purpose was to explore participants experiences with an interdisciplinary micro-choice-based concentrated group intervention for people with type 2 diabetes (T2D).

**Method:** A qualitative study with individual semi-structured interviews were conducted with 14 adults aged 45-74 years (8 women) with T2D. Purposive sampling was used, and participants from three different groups in the concentrated micro-choice-based group intervention were recruited. Reflexive thematic analysis was used for data analysis.

**Results:** One of the main themes identified was: "Commitment to change through goal-setting and conscious micro-choices", with sub-themes: a) change of attitudes and increased awareness, b) internalized changes, and c) increased engagement, but still demanding. The intervention was described as giving a boost for improved self-management through an increased awareness against several aspects of their life with diabetes. Participants felt more committed to make changes by setting SMART goals (Specific, Measurable, Achievable, Relevant, and Time-specific) and conscious micro-choices. Some participants described everyday life as still demanding after the intervention. However, the participants experienced that the concentrated intervention had contributed to better quality of life, personal gain, and more consciousness about how to make healthy choices in everyday life.

**Conclusion:** The concentrated micro-choice based interdisciplinary format is a promising way of helping people with T2D in making more health-promoting choices. The shift from only acting on high glucose levels, to making deliberate micro-choices that can increase the effect of insulin, can guide individuals to make changes that increase active involvement and thereby improved self-management for people with T2D.

**Orals Session 6 CW:** Interventions to support diabetes self-care

**Title:** What are the experiences of structured diabetes education among people living with type 2 diabetes and healthcare professionals delivering diabetes education? A systematic review with a narrative synthesis

**Authors:** Olga Kozłowska, Fiona Tierney, Samuel Bond B

**Affiliations:** Oxford Brookes University

**Abstract:**

**Aims:** Structured diabetes education has been promoted as helpful in acquiring knowledge and skills needed to self-manage diabetes. Still, the studies assessing effectiveness of the self-management programmes, most often measured with clinical outcomes (mostly HbA1c), are inconclusive. With some people benefiting more than others, it became imperative to explore if and how their learning could be enhanced. This review focuses on experiences of receiving and delivering structured diabetes education while focusing on what is taught and how it is delivered.

**Methods:** A systematic literature review with a narrative synthesis. Four databases were searched (PubMed, Web of Science, CINAHL, British Nursing Database) for peer-reviewed papers on experiences of structured diabetes education in the UK. We were interested in papers published after structured diabetes education was introduced in the 1990s. Four reviewers screened 1236 papers using Covidence and double blinding.

**Results:** Out of 1236 papers, 38 were considered for inclusion. The psychosocial factors influencing attendance and engagement with education came to view. In terms of individual characteristics, acceptance of diagnosis and individual circumstances were important. For content, the relevance of the programme to one's individual situation, circumstances and cultural context was significant. For delivery, the group dynamic and its makeup, the facilitator, the mode of delivery, and time flexibility were considered.

**Conclusions:** While research into the effectiveness of structured diabetes education is abundant, more attention is needed to the experiences of those attending the courses to explore what works and what could be improved.

**Orals Session 7 CW:** Gestational diabetes & Risk for Type 2 Diabetes

**Title:** Family meals to support life-course health promotion following gestational diabetes

**Authors:** Eloise Litterbach<sup>1,2,3,4</sup>, Alison Spence<sup>4</sup>, Georgia Middleton<sup>5</sup>, Jane Speight<sup>1,2,3</sup>, Elizabeth Holmes-Truscott<sup>1,2,3,6</sup>

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6 Australian Centre for Accelerating Diabetes Innovations, Melbourne Medical School, University of Melbourne, Melbourne, Victoria, Australia

**Abstract:**

**Aims:** To explore a life-course perspective to type 2 diabetes (T2D) risk-reduction by understanding mothers' perceptions of the role of family mealtimes in family health and wellbeing, following gestational diabetes mellitus (GDM), and brief supportive resources.

**Methods:** Qualitative, semi-structured video-interviews (60 minutes) were conducted with 16 mothers, recruited via social media, aged 18+ years, living in Australia, with experience of GDM, and ≥one child aged <6 years. Interviews explored perceptions of family mealtimes and T2D risk and included cognitive debriefing of a suite of health-promoting family mealtime messages. Messages were refined between interviews. Reflexive thematic analysis was undertaken.

**Results:** Preliminary findings indicate that mothers were aware of their and their child's elevated T2D risk. Mothers prioritised family mealtimes as opportunities to support their child's health, more than their own. They acknowledged the potential for family meals to support whole family T2D risk-reduction and wellbeing. Overall, mothers perceived messages as relevant, acceptable, and to normalise challenging experiences. Conflicting with best-practice guidelines, some raised concerns that their child would not eat enough if they allowed autonomy around "how much". Mothers preferred online or physical (e.g., videos, posters) delivery of messages, via credible sources (e.g., health professionals) and with practical resources (e.g., recipes).

**Conclusions:** Post-GDM, the family meal appears to be a feasible context for supporting T2D risk-reduction for families. Mothers appear open to using family mealtimes to support nutrition and wellbeing. The relevance and acceptability of messages highlights potential for supporting family health, though how to ensure best-practice is acceptable remains a challenge.

**Orals Session 7 CW:** Gestational diabetes & Risk for Type 2 Diabetes

**Title:** A Biopsychosocial Approach to Stratifying Women and Predicting Outcomes in Women with Gestational Diabetes

**Authors:** Ana Munda, Andrej Kastrin, Drazenka Pongrac Barlovic

**Affiliations:** University Medical Centre Ljubljana, Slovenia & Faculty of Medicine, University of Ljubljana, Slovenia)

**Abstract:**

**Aims:** The rising incidence of gestational diabetes (GDM) places a significant burden on pregnant women and healthcare systems. Therefore, we developed a biopsychosocial model to predict the attainment of target glycemic goals and GDM pregnancy-related outcomes to stratify women shortly after GDM diagnosis. The model would represent the first step towards personalized care for women with GDM.

**Methods:** The predicted outcomes were target glucose levels below 80% and the occurrence of at least one GDM pregnancy-related outcome, including large-for-gestational age, neonatal hypoglycemia, jaundice, clavicle fracture, stillbirth, and neonatal death. Predictive models were developed using machine learning methods: logistic regression, random forest, support vector machine, XGBoost.

**Results:** 470 and 477 participants (median age 31 [28–35 years]) were included in the models focused on target glucose levels and GDM pregnancy-related outcomes, respectively. The XGBoost model demonstrated the highest predictive accuracy for the target glucose levels model (Precision-Recall AUC=0.87) and the pregnancy outcomes model (PR AUC=0.81). In the target glucose levels model, variable importance decreased steeply, with the most important predictors being maternal BMI, gestational age at diagnosis, empowerment for GDM management. For the pregnancy outcomes model, the decline in variable importance was more gradual. The most important predictors were empowerment for GDM, gestational age at diagnosis, age, the impact of GDM on life, self-efficacy.

**Conclusions:** Early stratification of women with GDM is feasible using a combination of biopsychosocial predictors. The further objective would be to adapt treatment approaches considering the biopsychosocial characteristics and risk for adverse pregnancy outcomes of each individual.

**Orals Session 8 CW:** Psychosocial profiles & Perspectives

**Title:** Living with a Multimorbidity. A Qualitative Study on the Personal Perspectives of Patients with Type 2 Diabetes and Cardiovascular Disease

**Authors:** Jessica Brown <sup>1</sup>, Kanayo Umeh <sup>1</sup>, Robyn Lotto <sup>2</sup>, Ian Jones <sup>2</sup>, Lisa Newson <sup>1</sup>

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2 School of Nursing, Department of Health, Liverpool John Moores University

**Abstract:**

**Aims:** Cardiovascular disease (CVD) is a leading cause of morbidity and mortality among people with Type 2 Diabetes (T2D). In the UK, approximately one-third of individuals with T2D also live with CVD. These multimorbid conditions often create significant challenges for self-management and quality of life. However, research investigating the complexity of living with T2D and CVD as a multimorbidity are limited. This study aimed to address this knowledge gap by qualitatively exploring the perceptions of individuals navigating both conditions.

**Methods:** 27 participants living with T2D and CVD completed individual interviews that were subjected to Reflexive Thematic Analysis (Braun & Clarke, 2022).

**Results:** Three core themes and seven sub-themes were generated: (1) Patient perception of conditions, (2) Lack of integrated care and (3) Psychological impacts of living with multimorbidity. Participants highlighted a lack of understanding of the bidirectional relationship between T2D and CVD, expressing a deeper emotional distress relating to their heart condition and viewing T2D as a more manageable concern, with many delaying self-care efforts. Furthermore, socioeconomic factors influenced individuals' ability to effectively manage their multimorbidity, a challenge that appeared to be exacerbated by the perceived lack of personalised care from healthcare professionals.

**Conclusion:** This study highlights the importance of exploring the lived experiences of individuals managing the burden of T2D and CVD. Further, the study advocates for the development of an integrated care model that prioritises T2D management while emphasising CVD prevention. Such cohesive approach could enhance healthcare delivery, leading to improved clinical outcomes and overall wellbeing for this patient group.

**Orals Session 9 CW:** Clinical Care & Issues in Implementation

**Title:** Reducing the burden of questionnaire-overload: a practical approach to person-reported outcome measurement for type 1 diabetes

**Authors:** Per Winterdijk<sup>1</sup>, Pim Dekker<sup>1</sup>, Christine Fransman<sup>1</sup>, Erwin Birnie<sup>1,2</sup>, Henk-Jan Aanstoot<sup>1</sup>, Giesje Nefs<sup>1,3,4,5</sup>

**Affiliations:**

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**Abstract:**

**Aims:** How can we measure Person Reported Outcomes (PROs) in type 1 diabetes care comprehensively? We examined (a) which index questions best detect elevated scores on existing in-depth questionnaires for depressive symptoms, anxiety, diabetes-specific worries, and (b) the most informative in-depth items.

**Methods:** Participants  $\geq 16$  years completed a survey including five candidate index questions per domain and in-depth questionnaires (PHQ-9, WHO-5, GAD-7, PAID-20, DSPAV, HFS-W, HBS-W). Per domain, we selected the index question best predicting elevated scores on the in-depth questionnaires using the highest negative predictive value (NPV). Item response theory identified the most informative in-depth questions (partial credit; item selection based on maximal information over theta range), and repeated index question selection.

**Results:** 456 people completed the survey (63% women; mean $\pm$ SD age: 34 $\pm$ 14; diabetes duration 18 $\pm$ 11; HbA1c 7.1 $\pm$ 1.1%). Optimal index questions were 'Are you unhappy, dissatisfied or have less energy to do anything?' for depressive symptoms (NPV=0.49), 'Have you been feeling anxious, tense or worried lately' for anxiety (NPV=0.90), and 'Do you often feel frustrated or find it difficult when thinking about hypos, hypers, your future, injecting or finger pricking?' for diabetes-specific worries (NPV=0.23). Most informative were 9 items for depressive symptoms (was 14), 4 for anxiety (7) and 28 (64) for diabetes-specific worries. For this set, the optimal index questions were the same (NPV 0.52, 0.94, 0.36).

**Conclusion:** Index questions identifying elevated scores on IRT-shortened questionnaires were the same as for the original in-depth questionnaires with slightly better NPV. This approach minimizes questionnaire burden in clinical practice.

**Orals Session 9 CW:** Clinical Care & Issues in Implementation

**Title:** A Novel UK Care Pathway to Detect, Prevent and Manage Diabetes Distress for People with Type 1 Diabetes: Adapting International Interventions using a Co-adaptation Approach

**Authors:** Papachristou Nadal I.<sup>1</sup>, Lusky Efrat <sup>1</sup>, Ahuja S.<sup>1</sup>, Due-Christensen M.<sup>2</sup>, Fisher L.<sup>3</sup>, Hickey G.<sup>4</sup>, Simms S.<sup>1</sup>, Stenov V.<sup>5</sup>, Sturt J.<sup>1</sup>, on behalf of The D-stress collaboration

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**Abstract:**

**Aims**

To develop a UK National Health Service (NHS) diabetes distress informed care pathway (D-Stress) for people with Type 1 Diabetes(T1D) by adapting existing international treatments using co-adaptation workshops.

**Activities and Methods**

Six online co-adaptation workshops were conducted over 8-months, involving diverse stakeholders, including people with T1D, clinicians, and academic experts

Design Thinking methodology was used to engage the workshop participants, ensuring an inclusive and user-centered approach. Using the five phases of Design Thinking, participants share lived experiences (Empathise), identify key challenges (Define), generate solutions (Ideate), co-create intervention components (Prototype), and contribute to refining interventions through feedback (Test). Thematic analysis was conducted on observational notes and transcripts to identify key themes and insights from the workshops.

**Findings**

There is a strong need for people with T1D to address diabetes distress, which is otherwise not discussed in their diabetes care. This intervention will encourage people to have emotion-focused conversations with their diabetes teams. Clinicians' awareness and confidence to initiate and manage emotion-focused conversations will increase.

There is a need for a well-structured yet flexible intervention that accommodates individual preferences (using group and individual activities). Peer support and shared experiences in managing diabetes distress is important. It is necessary for people with psychological skills to facilitate the intervention.

**Conclusion**

The co-adaptation workshops have provided actionable insights into the psychosocial aspects of diabetes distress, contributing to a tailored intervention for the NHS. These findings underscore the importance of integrating participatory methodologies in designing effective healthcare services that address people with T1D needs.

**Orals Session 9 CW:** Clinical Care & Issues in Implementation

**Title:** Management of diabetes in adults with psychiatric disorders in inpatient settings: clinicians' perceptions of their role

**Authors:** Olga Kozłowska <sup>1</sup>, Fiona Tierney<sup>2</sup>

**Affiliations:**

1 Oxford Institute of Applied Health Research, Oxford Brookes University

2 Centre for Psychological Research, Oxford Brookes University

**Abstract:**

**Aims:** People coming in contact with mental health inpatient services are at an increased risk of having their diabetes needs overlooked. There have been advancements in introducing routine physical health assessment and tools to enable integrating physical health care into mental health care but the practice of utilising them is unclear. The project aimed to explore clinicians' perceptions of their role in managing diabetes (type 1 and type 2) in adult inpatients in mental health facilities.

**Methods:** Semi-structured interviews were conducted to explore clinicians' experiences of caring for patients with diabetes. Interview data was analysed using thematic analysis (Braun and Clarke, 2012).

**Results:** Participants, seven mental health nurses, perceived physical and mental health as inextricably interlinked and saw diabetes management as an important part of their role as mental health professionals. Apart from medical treatment, they acknowledged the individual and contextual aspects to diabetes care and challenges in meeting patients' needs. Poor links with specialist diabetes services, lack of patient diabetes education, and disrupted diabetes care on discharge, were some of the challenges to more holistic care for those under mental health care.

**Conclusions:** Recommendations included training of mental health nurses in diabetes care and on engaging patients in their diabetes care, introducing more opportunities for patient diabetes education, better integration of services, and ensuring health-promoting environments in inpatient wards. The project team, together with patient representatives, is developing a patient-focused study to explore their experiences of diabetes care when inpatient.

**Orals Session 9 CW:** Clinical Care & Issues in Implementation

**Title:** Equality, Diversity and Inclusion Informing Public and Patient Involvement in the D-stress Study

**Authors:** Shalini Ahuja<sup>1</sup> & Jörg Huber<sup>2,3</sup>, Megan Peck<sup>1</sup>, Clara Fabian-Therond<sup>1</sup>, Gary Hickey<sup>4</sup>, Jennifer Mohammadi<sup>1</sup>, Iliatha Papachristou Nadal<sup>1</sup>

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**Abstract:**

**Background and Aim:**

We aim to trial psychosocial interventions to detect, prevent, and manage distress in people living with type 1 diabetes (T1D). In the UK, inclusivity is increasingly a prerequisite for funding, yet trials often struggle to engage disadvantaged populations. The aim is to present our development and delivery strategy to ensure equality, diversity, and inclusion (EDI) shape our public involvement (PPI) activities.

**Methods:**

We developed a governance structure and planned outreach activities, such as tech cafés, in collaboration with key stakeholders, including PPI representatives, healthcare professionals and researchers. At the program level, we implemented an EDI checklist aligned with the Equality Act 2010 to ensure inclusivity in working groups. The National Diabetes Audit (NDA) informs the composition of our governance structure and recruitment strategies.

**Findings:**

Drawing on the NDA, issues identified are access and use of health services rather than differences in prevalences. This informs recruitment across working groups, governance structures, and public involvement. Regular monitoring of demographic characteristics ensures representation. We will report on demographics and social and health service inequalities among people with T1D, focusing on access to and use of continuous glucose management systems as a critical factor to addressing disparities. A feedback loop, integrated into governance structures, supports continuous evaluation.

**Conclusions:**

For T1D, availability and locating relevant data is important as the pattern is different to T2D. Embedding EDI considerations across project activities has raised awareness, influences participant selection, and is expected to maximise diversity in our planned trial.

**Orals Session 9 CW:** Clinical Care & Issues in Implementation

**Title:** PSYCHOTECHNODIABETOLOGY- CONTINUOUS GLUCOSE MONITORING AS A TOOL FOR PSYCHOLOGICAL SUPPORT

**Authors:** Katarzyna Cyranka<sup>1,2,4</sup>, Bartłomiej Matejko<sup>1,2</sup>, Anna Drynda<sup>3</sup>, Tomasz Klupa<sup>1,2</sup>

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**Abstract:**

**Objective:**

Assessment of changes in quality of life, fear of hypoglycemia and selected psychological parameters after first implementation of the isCGM/CGM - after national introduction of reimbursement - in people with type 1 diabetes (PwT1D) aged 26 and above.

**Study Population:**

57 PwT1D from five Polish diabetology centers. To be included in the study, each participant had to be at least 26 years old, have a minimum of two years of diabetes history, and be treated with multiple daily injections or a personal insulin pump. The exclusion criterion from the study was the use of isCGM/CGM for more than two weeks prior to the study (patients naive to CGM)

**Methods:**

Participants completed a set of validated questionnaires: Hypoglycemia Fear Survey-II (FSH-II); Diabetes Distress Scale (DDS); Perceived Stress Scale (PSS10); Diabetes Treatment Satisfaction Questionnaire status version (DTSQs); World Health Organization Well-Being Index (WHO-5); Problem Areas in Diabetes (PAID); Diabetes Burnout Questionnaire (DBQ), and sociodemographic survey at the beginning of change in monitoring level and after 3 months of CGM use.

**Results:**

Slightly more than half of the participants were male (n=29, 50.9%). The median age of the group was 37.5 years (IQR 29.5-46.0 years), while the median duration of diabetes was 16 years (IQR 29.5-46.0 years). After 3 months well-being assessment according to WHO-5 was higher (mean 13.1 vs 14.3, p=0.04), and the level of diabetes burnout measured by DBQ (median 3.0 vs 1.0, p<0.001), fear of hypoglycemia assessed by HFS-II (median 41.0 vs 30.5, p=0.03) significantly decreased. Diabetic distress measured by means of total score of DDS lowered from 2.7 to 2.0 (p=0.001), with decreased scores in emotional burden, regimen distress and interpersonal distress subscales. Participants scored also lower on PAID upon follow up (median 36.8 vs 21.3, p=0.001). However, the average stress level measured by PSS-10 did not change (p=0.94). The significant change was obtained only by means of transition from glucometer to CGM, suggesting that significant part of the distress was a source distress, connected with lack of adequate treatment method.

**Keywords:** Type 1 diabetes, CGM, reimbursement, QoL

**Orals Session 10 CW: Stigma & Support**

**Title: Raising awareness to end diabetes stigma: a cross-sectional mixed-methods evaluation of Australian diabetes communication campaign videos among adults with and without diabetes**

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6 Breakthrough T1D, New York, New York, USA

**Abstract:**

**Aims:** Diabetes stigma is pervasive and harmful, yet evidence for effective stigma-reduction interventions remains limited. In 2021, Diabetes Australia released brief campaign videos advocating an 'end to blame and shame'. This study explores: a) whether campaign videos are associated with diabetes stigma experiences (among adults with diabetes), endorsement (among adults without diabetes), or awareness (both cohorts); and b) perceptions of campaign videos (both cohorts).

**Methods:** Adults with diabetes (n=846: 42% T1D; 58% T2D) and without diabetes (n=1,397) participated in an online, three-arm randomised controlled study, viewing stigma-awareness videos (intervention), alternate campaign videos (active control), or no videos (passive control). After, they completed measures of diabetes stigma experience (DSAS-1 / DSAS-2), endorsement and awareness (study-specific items). Brief qualitative feedback was collected from a subset (n=290) of intervention-arm participants and thematically analysed.

**Results:** Intervention-arm participants reported greater experience (T2D only) and awareness (T2D; without diabetes) of stigma relative to controls (all  $p < .001$ ; small effects). Across both arms, a minority (<16%) of those without diabetes endorsed stigmatising attitudes. Campaign videos were positively reported as being of educational value, personal resonance, and important for awareness-raising. Critiques included a lack of actionable solutions, over-exaggeration of diabetes stigma, and elicitation of pity. Some without diabetes reflected on campaign alignment with current attitudes or past behaviours.

**Conclusions:** Findings support the role of diabetes organisations and communication campaigns in raising awareness of diabetes stigma among people without diabetes, and call for greater consideration of actionable solutions and avoidance of unintended consequences. Real-world evaluations of future campaigns are recommended.

**Orals Session 10 CW: Stigma & Support**

**Title: ASSOCIATIONS OF DIABETES STIGMA AND WEIGHT STIGMA WITH EATING PROBLEMS: DIFFERENCES BETWEEN PEOPLE WITH TYPE 1 AND TYPE 2 DIABETES**

**Authors:** Klinker Laura<sup>1,2</sup>, Schmitt Andreas<sup>1,2</sup>, Roos Timm<sup>1</sup>, Ehrmann Dominic<sup>1</sup>, Kulzer Bernhard<sup>1,2</sup>, Hermanns Norbert<sup>1,2</sup>

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**Abstract:**

**AIMS**

Previous research links diabetes- and weight-related stigma to dysfunctional eating behaviours in type 2 diabetes (T2D). This study examines these relationships in participants with body-mass-index(BMI)  $\geq 25$  in both type 1 (T1D) and T2D.

**METHODS**

Using the German dia:link panel, diabetes stigma was assessed via the German Diabetes Stigma Assessment Scales 1 and 2 (DSAS-1/2), weight stigma via the Weight Social Stigma Scale (WSSQ), suitable only for BMI  $\geq 25$ , and dysfunctional eating behaviours via the adapted Diabetes Eating Problem Survey-10 (DEPS-10). Blockwise linear regression was conducted for each diabetes type, with DEPS-10 as dependent variable and stigma scales as independent variables (second block: DSAS1-/2; third block: WSSQ), adjusting for sex, age, BMI, and diabetes duration (first block).

**PARTICIPANTS**

The analysis included 459 participants with BMI  $\geq 25$ : 318 (69.2%) with T1D (age  $55.5 \pm 13.8$  years; 52.5% women; diabetes duration  $29.1 \pm 16.4$  years; BMI  $30.0 \pm 5.3$ ; HbA1c  $7.1\% \pm 3.5$ ; DEPS-10  $9.8 \pm 5.7$ ) and 141 (30.7%) with T2D (age  $62.8 \pm 11.8$  years; 29.8% women; diabetes duration  $17.2 \pm 9.2$  years; BMI  $33.1 \pm 6.6$ ; HbA1c  $7.2\% \pm 1.1$ ; DEPS-10  $7.7 \pm 6.9$ ).

**RESULTS**

In T1D, higher diabetes stigma (DSAS-1:  $\beta=0.13$ ,  $p=0.007$ ) and weight stigma (WSSQ:  $\beta=0.54$ ,  $p<0.001$ ) were independently associated with more eating problems. For T2DM, diabetes stigma was significant only before accounting for weight stigma (WSSQ:  $\beta=0.26$ ,  $p=0.03$ ). Stigma scales and demographics explained 43.8% of DEPS-10 variance in participants with T1DM, but only 15.7% in T2DM.

**CONCLUSIONS**

Diabetes and weight stigma are significantly linked to eating problems. In T1D, diabetes- and weight-related stigma appear as independent factors explaining a great variance of eating behaviour together. In T2D, diabetes- and weight-related stigma may overlap and influence dysfunctional eating behaviours alongside other factors.

**Orals Session 10 CW: Stigma & Support**

**Title:** Identifying the key components of social support for patients living with Type 2 diabetes: A systematic review and meta-analysis of Type 2 diabetes social support interventions.

**Authors:** Madroumi, R., Umeh, K., Poole, H., Jones, I, **Newson, Lisa**

**Affiliations:** Institute for Health Research, Liverpool John Moores University, UK

**Abstract:**

**Background:** People with type 2 diabetes (T2D) must make significant lifestyle changes for effective self-management. Social support is crucial in helping individuals manage T2D, as it provides emotional encouragement, practical assistance, and guidance. This support can improve diabetes management, enhance psychological well-being, and boost overall quality of life. Despite its importance, the effect and mechanisms of social support in T2D management are complex and not fully understood. Previous research has identified four social support categories: informational, emotional, tangible and appraisal support, each aiding treatment adherence and reducing adverse health outcomes. However, the mechanisms through which social support influences T2D outcomes remain unclear. **AIM:** This meta-analysis evaluated the impact of social support on HbA1c levels in adults with T2D. **METHODS:** A systematic search of four databases (1990–2023) identified 392 articles, with 17 studies meeting inclusion criteria plus 10 additional studies were identified through citation searching. Interventions examined included peer support, family support, community health workers, group visits, and couples interventions. A multilevel random-effects meta-analysis using the metafor package in R accommodated multiple effect sizes across study follow-ups. **RESULTS:** While interventions generally showed positive effects on HbA1c, no specific type or combination of support significantly moderated outcomes. **DISCUSSION:** This suggests that the number or type of support components may be less critical than previously assumed. These findings highlight the importance of incorporating structured social support into T2D management strategies while emphasising the need for further research to explore the mechanisms of action and design interventions to optimise outcomes

**Orals Session 11 WP: Diabetes Technologies**

**Title:** Implementing advanced diabetes technology: Exploring the role of healthcare professionals' emotions and experiences in their engagement with new technologies

**Authors:** Wiebke Kantimm<sup>1</sup>, Ashley Metz<sup>1</sup>, Tine Buyl<sup>1</sup>, Giesje Nefs<sup>2,3</sup>

**Affiliations:**

1 Department of Organization Studies, Tilburg University

2 Department of Medical and Clinical Psychology, Tilburg University

3 Department of Medical Psychology, Radboud Institute for Health Sciences, Radboud

**Abstract:**

**Goal:** New diabetes technologies (real-time sensor, hybrid closed loop) help improve glycemic outcomes and quality of life for people with Type-1-Diabetes (PWD). Healthcare professionals (HCPs) play a key role in fostering clinical use of those technologies. However, implementation is challenging. Attitudes, emotions and experiences of HCPs can influence their implementation behavior. Therefore, the goal of this study is to explore such subjective mechanisms that shape HCPs' engagement with new technologies. **Methods:** We conducted an exploratory case-study of a Dutch clinic specialized in Type-1-Diabetes. Ten semi-structured interviews with HCPs were conducted and analyzed (thematic analysis). We will expand this study by collecting longitudinal data (interviews and field-observations) at two hospitals to gain in-depth understanding of HCPs' behavior in technology implementation. **Results:** HCPs endorsed new technologies and actively engaged in their implementation. We found two themes that impact this engagement, both relating to HCPs' desire to deliver high-quality care. First, experiencing success stories of PWD using advanced technology contributes to fulfilling care-norms, evoking positive emotions for HCPs. Second, the technology impacts HCPs' professional role. Despite insecurities about the future of their role, e.g. reduced personal interaction with PWD, participants prioritized opportunities for improved care over potential negative consequences for themselves. There also seem to be dynamics around HCPs' strive to maintain control over care while simultaneously supporting technology-based empowerment of PWD. This needs further exploration. **Conclusion:** The findings show that HCPs' emotions and experiences related to care norms shape their implementation behavior. The findings can help healthcare organizations in their implementation endeavors.

**Orals Session 11 WP: Diabetes Technologies**

**Title:** Development of an instrument measuring Benefits and burdens of Artificial Intelligence-driven bolus advisors in adults with diabetes – BRAIN questionnaire

**Authors:** Nefeli Dimitropoulou<sup>1,2</sup>, Cassy Dingena<sup>1,2</sup>, Giesje Nefs<sup>3,4,5,6</sup>, Bastiaan de Galan<sup>1,2,7</sup>

**Affiliations:**

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5 Diabeter, Center for Focused Diabetes Care and Research, Rotterdam, Netherlands

6 Diabeter Centrum Amsterdam, Amsterdam

7 Department of Internal Medicine, Radboud University Medical Center, the Netherlands

**Abstract:**

**Aim:** This qualitative study aims to develop the BRAIN questionnaire that reflects the (expected) benefits and burdens of artificial intelligence (AI)-driven bolus advisors for adults with diabetes.

**Design/methods:** Exploratory and cognitive debriefing interviews with six specialists (internist, endocrinologist, psychologist, diabetes nurse specialist, dietician, and manufacturer) in the field of diabetes and ten interviews with people with type 1 or type 2 diabetes using multiple daily insulin injections or pump will be conducted to develop the instrument and determine the domains of the questionnaire. Apart from open-ended questions, interviews also include discussion of the relevancy of benefit/burden themes from the diabetes technology literature to date. Currently the specialists' interviews have been completed.

**Planned analysis:** We will conduct qualitative content analysis (open, axial and selective coding) to analyze the interview transcripts using ATLAS.ti. Based on that we will determine domains and specific items of the questionnaire. The coding of the data will be performed independently by two researchers. Saturation will be determined by constant comparison; if needed, additional participants will be recruited. The developed questionnaire will be validated in a target group at a later stage.

**Expected outcomes:** Based on literature review we expect the following domains: effectiveness, inconvenience, intrusiveness, trust and understanding. We aim to develop an easily administrable instrument with a duration of 10-15 minutes.

**Problems/questions:** What are the main expected benefits and burdens of AI-driven bolus advisors for people with diabetes? To what extent do these benefits and burdens differ/ overlap with other technologies?

**Orals Session 11 WP:** Diabetes Technologies

**Title:** Wearable Glucose Sensors: if they work, how do they work, for adults for type 2 diabetes? A systematic review.

**Authors:** Belinda Moore

**Affiliations:** Rumbalara Aboriginal Cooperative, Mooroopna, Victoria, Australia

**Abstract:**

**Aim :**

This systematic review attempts to explore what existing evidence suggests about the mechanisms underlying the link between behavioural and emotional responses and wearable glucose sensors (WGS). Previous studies suggested WGS enable lifestyle modifications to optimise diabetes management for adults with type 2 diabetes (T2DM).

**Methods :**

A systematic search was conducted using key search terms of T2DM, glucose monitoring sensors, behaviours, motivations, thoughts, actions, responses, changes, modifications, challenges, and barriers. Studies were included if they examined behavioural and emotional responses associated with WGS use in adults with T2DM. Extracted data were analysed qualitatively through the theoretical lens of control theory, a theory proposing how continuous feedback works when people regulate their goal-directed behaviour. Extracted data were coded against the control theory components of setting goals, actioning, monitoring, feedback, discrepancies between goal and performance, and action planning to determine how these mechanisms facilitated self-regulation of behavioural and emotional responses.

**Results :**

Eighteen studies met eligibility and reported a range of study designs. Studies were conducted in hospitals, primary care, and research institutes in diverse countries and cultures. There were varying themes that emerged from within each six components when synthesising extracted data through the lens of control theory. Importantly, emotional responses were sometimes positive (satisfaction) and sometimes negative (dejection).

**Problems/Questions;**

1. How does a Master's student turn their systematic review they submitted for their final thesis into a publishable piece of work?
2. How does a clinician conduct similar work to topic of Master's thesis in their own clinical context when they aren't affiliated with a research institute?

**Orals Session 12 WP: Stigma & Support**

**Title:** Ecological momentary assessment of daily diabetes stigma and its impact on mood, diabetes distress and behaviour: a work in progress.

**Authors:** Siobhan Power <sup>1</sup>, Elizabeth Holmes-Truscott <sup>2</sup>, Patrick Divilly <sup>3</sup>, Francois Pouwer <sup>4</sup>, Sonya S Deschênes<sup>1</sup>

**Affiliations:**

1 University College Dublin

2 The Australian Centre for Behavioural Research in Diabetes

3 St. Vincent's University Hospital, Dublin, Ireland.

4 The University of Southern Denmark.

**Abstract:**

**Aims:** Existing research on diabetes stigma has been limited in that studies are mostly cross-sectional in nature, which introduces recall bias. Little is known about how day-to-day processes and experiences with stigma impact mood and behaviour at the daily level. Consequently, important gaps remain in understanding the real-time behavioural and psychological consequences of stigma. This study aims to address these gaps by examining the day-to-day psychological and behavioural impact of diabetes stigma.

**Methods:** Individuals aged 18 years and older, diagnosed with type 1 or type 2 diabetes will be recruited. Following baseline data collection, including validated measures of diabetes stigma, diabetes distress, and self-care behaviours, participants will complete 2-3 minute daily ecological momentary assessments (EMA) of diabetes stigma, mood, diabetes distress, and behaviour, for 30 days via the mPath smartphone app.

**Planned analyses:** Dynamic structural equation modelling (DSEM) will be used to explore same day and lagged (next-day) associations between diabetes stigma and mood, distress and behaviour.

**Expected Outcomes:** We anticipate finding significant same-day associations between stigma experiences, diabetes distress, mood and behaviours, with carry-over effects on the next-day. This study will provide a nuanced understanding of how individuals experience and respond to diabetes stigma as it happens, capturing the temporal dynamics of its immediate effects and cumulative consequences on mood, diabetes distress and behaviour overtime.

**Problems/ questions:** What strategies could enhance participant engagement during EMAs? What is the advantage of EMA methodology over cross-sectional or cohort designs? How can we effectively respond to real-time daily reports of diabetes stigma?

**Orals Session 12 WP: Stigma & Support**

**Title: The Role of social support on self-care: Does it function as a buffer among Turkish adults with diabetes?**

**Authors:** Dilara Karsidag Altikardes <sup>1</sup>, Giesje Nefs <sup>1,2,3</sup>, Frans Pouwer <sup>4,5</sup>

**Affiliations:**

1 Department of Medical and Clinical Psychology, Tilburg University, Center of Research on Psychological disorders and Somatic diseases (CoRPS), Tilburg, the Netherlands

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3 National treatment and research center for children, adolescents and adults with type 1 diabetes, Diabeter, Rotterdam, the Netherlands

4 Department of Psychology, University of Southern Denmark, Odense, Denmark

5 Steno Diabetes Center Odense, Odense, Denmark

**Abstract:**

**Background and Aims:**

Cultural determinants and gender-related differences are important factors to consider for successful diabetes management. However, studies were mostly conducted among Western samples (Smalls et al., 2021). To the best of our knowledge, there is no study testing the buffering hypothesis or direct effect hypotheses of social support on self-care among people with diabetes in Turkey – a country with approximately 85 million residents, ca. 16.5% of which have diabetes (Satman et al., 2013). Therefore, our study will test whether social support has a moderating role in the association between diabetes distress (DD) and diabetes self-care behaviours among different demographic groups within a sample of individuals with type 1 and type 2 diabetes.

**Methods and Results:** This study is performed as part of international Diabetes MILES (Management and Impact for Long-term Empowerment and Success) collaboration – which consists of a series of national surveys among people with diabetes across various countries. From 2017-2019, 252 adults with type 1 (n = 80) (T1DM) or type 2 diabetes (n = 172) (T2DM) self-reported demographic factors, DD (measured by PAID) and related psychological and clinical questionnaires. In order to examine the association between the independent and dependent variables, hierarchical multiple linear regression analyses were run. As potential correlates of self-care; demographic and clinical variables, DD, social support (measured by MSPSS) were included in the models with their interaction variables.

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