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The Women's Wellness With Type 2 Diabetes Program: An Australian-UK Collaboration Supporting Women With Diabetes

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Background: As one of today's dominant health issues, type 2 diabetes is a rising challenge socially, economically and across health industries in both Australia and the United Kingdom (UK). In Australia, 451,559 women had type 2 diabetes in 2014-2015 (Australian Institute of Health and Welfare, 2015), whilst in the UK the figure is estimated at 1.4 million in 2013 (Diabetes UK, 2014).

For women diagnosed in midlife, there are multiple challenges that impact their mental and physical wellbeing. These include possible social, psychological, biological and physiological changes such as changes in metabolism and body composition as well as hormonal changes associated with menopause (Harlow & Derby, 2015). In addition, it can be a time of life when they have increased life stressors such as increased responsibility for others such as family members, work-related issues and financial stressors (Thomas et al., 2018). These challenges and previous adverse lifestyle behaviors potentially increase a person's vulnerability to the effects of Type 2 diabetes. Lifestyle modification programs aimed at early intervention have been shown to reduce the complications in established type 2 diabetes (Seib et al., 2018). Furthermore, Strandberg et al., (2015) suggest that a diagnosis of type 2 diabetes can motivate women to make positive changes in their lifestyle and may also initiate a focus on health improvement. Consequently, midlife represents a pivotal time in women's lives whereby such lifestyle modifications addressing the chronic condition are likely to yield a significant positive impact on future morbidity and mortality.

The Women's Wellness with Type 2 Diabetes Program (WWDP) was developed and culturally adapted for use across the two countries (Australia and the UK) from the existing online Women's Wellness Programs (WWPs) (Anderson et al., 2013; Anderson et al., 2015; Anderson et al., 2017). The twelve-week structured, multi-modal lifestyle WWPs for the prevention of chronic disease in midlife women, and a UK twelve-week type 2 diabetes education program called the Diabetes Manual (Sturt et al., 2008)

collaboration formed between these two research teams resulted in the online WWDP. The WWDP aims to enhance different health and lifestyle behaviors and health outcomes in midlife women with type 2 diabetes.

Methods: The Women's Wellness with Type 2 diabetes Program (WWDP) is a complex intervention that addresses nutrition, exercise, and distress specific to diabetes along with the issues pertinent to midlife women that include sleep, stress, sexuality, and menopause management. It is delivered through a hard copy or eBook where participants work through the structured program week by week. There is also a study website offering a discussion board, health resources and links (relevant to country of recruitment), and health professional input. The participants received three virtual health consultations plus email/phone support from an experienced women's health or diabetes nurse trained in delivery of the intervention. The health consultation includes personalized goal setting relating to psychological wellbeing, lifestyle, diet and exercise. A feasibility trial was conducted in both the UK and Australia. Quantitative data were collected via online self-report questionnaire including socio-demographic characteristics, diabetes distress, diet, physical activity, sleep and health related quality of life while anthropometric measures (weight, height, waist and hip circumference and body mass index (BMI)) were collected via virtual consultations. Qualitative feedback from participants about acceptability and utility of the program was collected in short semi structured interviews.

Results: A total of 149 women aged from 45-65, from both Australia and the UK, who had been diagnosed with type 2 diabetes registered interest in the study. Seventy-two of those women consented to participate, Australia (n = 35) and the UK (n = 37). Anthropometric measurements - including weight, BMI, waist circumference, diabetes distress and physical activity were compared across the two study locations (UK and Australia) at both baseline and completion of the intervention. Overall, significant reductions were seen in weight ($F(1,48) = 2947.06$, $p < 0.01$), BMI ($F(1,47) = 2959.76$, $p < 0.01$), waist circumference ($F(1,50) = 665.52$, $p < 0.01$) and waist-hip ratio ($F(1,50) = 111.13$, $p < 0.01$) over the course of the intervention. Moreover, while a significant reduction in hip circumference was also noted over time ($F(1,52) = 409.35$, $p < 0.01$), women in the Australian sample reported a greater reduction compared with the UK sample ($F(1,50) = 4.97$, $p = 0.03$).

Changes in clinically relevant diabetes distress (DSS ≥ 3) was examined. Some differences in distress levels were noted at baseline with around one-fifth of Australian women (21.4%, n = 6) and over one-third of UK women (37.9%, n = 11) reported elevated distress. Notably however, at 12 weeks (post intervention) only 11% of Australian woman (n = 3) and 7% of UK women (n = 2) continued to have elevated distress.

The participants were also interviewed at the end of the program to elicit their experience and feelings regarding the program. The qualitative data from the interviews revealed that participants in both study locations found the WWDP program was a clear, structured and self-guided programme. Comprehensive intervention with interrelated components and provision of booklet were the most appreciated features of the program.

Some participants explicitly referred to the importance of external support. Before starting the program and during the early weeks of program, some expressed having

feeling of anxiety which gradually disappeared with the support they received as the program continued. Following completion of the program, the participants' perspectives regarding diabetes and their health had been positively changed and participants attributed these changes directly to the intervention.

Outcomes / final remarks: This presentation describes the development, delivery, and findings from the WWDP feasibility study conducted across Australia and the United Kingdom in 2017. The outcomes from the feasibility study are promising, demonstrating the need to further develop and test the intervention in a larger cohort of women across the two global locations. They demonstrate the intervention has the potential to encourage a healthier lifestyle and manage symptomology relating to both mid-life and aging, as well as a diagnosis of type 2 diabetes and diabetes distress. This may improve overall health and well-being while preventing diabetes complications.

Title:

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Keywords:

Global Research, Type 2 Diabetes and Women's Health

References:

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Abstract Summary:

This presentation describes the development, delivery, and findings from a feasibility study conducted across Australia and the United Kingdom of the Women's Wellness with Type 2 Diabetes Program (WWDP). The program aims to enhance different health and lifestyle behaviors and health outcomes in midlife women with type 2 diabetes.

Content Outline:

Introduction

- Introduction of health issue (type 2 diabetes) in women across both Australia and the United Kingdom

- Rationale for diabetes interventions in mid-life women

Body

- Introduction and background of the WWDP program and its development
- Discussion of cross-country collaboration and program development
- Discussion of the program eHealth components, program content, theoretical methodology and health education
- Detailed discussion of trial methods including recruitment, data collection and analysis
- Discussion of findings from trial

Conclusion

- Final remarks on program and potential impact
- Notes on the programs future actions and dissemination

First Primary Presenting Author

Primary Presenting Author

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Author Summary: Dr. Anderson is Professor and Head of School of Nursing and Midwifery, Griffith University. She was Regional Chapter Coordinator for Oceania Region and the inaugural President of Phi Delta Chapter. She was a nurse scholar in Geneva at WHO working with the Chief Nursing Scientist and the Strategic Directions for Nursing and Midwifery (SDNM) 2010-2015. Her research has been presented globally.

Second Author

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Author Summary: Janine undertook her training in the UK as an RN, midwife and health visitor. She is a Breast Care and Women's Health Nurse and the Manager of the Wesley Hospital Kim Walters Choices Program in Brisbane, which offers support and information to women, men, and their families who are affected by breast and gynaecological cancers. Her special interests are in menopause, sexuality, and depression after a diagnosis of cancer.

Fourth Author

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Author Summary: Ms. Diksha Sapkota has worked as a registered nurse in a tertiary hospital in Nepal. Before joining her PhD, she was working as a lecturer in Kathmandu University. Diksha has contributed to the protocol development, collection and analysis of data, and report writing of multiple research studies.

Fifth Author

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Author Summary: Rosie Walker is a UK diabetes specialist nurse with qualifications in psychology and higher education, who runs an independent company, Successful Diabetes (SD). SD provides training and consultancy in diabetes care, especially psychological and person-centred aspects. Rosie has served in several national roles relating to diabetes and is Visiting Clinical Educationalist at Kings College, London, acting as the UK consulting nurse for the WWDP intervention.

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Author Summary: After extensive industry experience in a range of clinical,

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Author Summary: Charrlotte Seib is a nurse researcher with expertise in women's health, chronic disease self-management, epidemiology, and statistical approaches. Her research examines the impact of previous life stressors on health-related quality of life in women with cancer and explores whether exposure to stress across the life course is associated with distinct health trajectories in women as they age.

Ninth Author

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Author Summary: Rebecca Rogers is a Research Assistant at King's College London. She has worked on a number of different research projects including two years on the LYNC study which investigated the use of digital clinical communications between NHS clinicians and young people with long term health conditions. She has also worked for the Dean of Research at the Institute of Education, University College London and the National Nursing Research Unit, also based at King's.

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Author Summary: Jackie Sturt is Professor of Behavioural Medicine in Nursing at King's College London. Jackie is an experienced behavioural scientist and for much of her academic career she has worked in diabetes. Her extensive national and

international research work involves the development and evaluation of complex educational and psychological interventions to support diabetes self-management.