

**A SELECTION OF TEN CURRENT READINGS ON TOPICS RELATED TO
PERSON CENTRED DIABETES CARE AND MEAL PLANNING FOR THE OLDER PERSON**

Some available as free full-text and some requiring payment

Selection of readings made by A/Prof Goh Lee Gan

**READING 1 – PATIENTS’ PERSPECTIVE ON SELF MANAGEMENT OF TYPE 2 DM IN
DAILY LIFE**

van Smoorenburg AN(1), Hertroijs DFL(2), Dekkers T(1) et al. Patients' perspective on self-management: type 2 diabetes in daily life. BMC Health Serv Res. 2019 Aug 28;19(1):605. PMID: 31462220.

URL: doi: 10.1186/s12913-019-4384-7. PMID: 31462220 [Free full text].

Author information:

(1)Faculty of Industrial Design Engineering, Delft University of Technology, Delft, the Netherlands.

(2)Department of Health Services Research, Care and Public Health Research Institute, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, the Netherlands.

(3)Faculty of Industrial Design Engineering, Delft University of Technology, Delft, the Netherlands. M.Melles@tudelft.nl.

ABSTRACT

BACKGROUND: The number of type 2 diabetes mellitus (T2DM) patients and related treatment costs are rapidly increasing. Consequentially, more cost-effective and efficient strategies for the treatment of T2DM are needed. One such strategy is improving patients' self-management. As patients are more and more expected to self-manage their disease, it is important to provide them with suitable self-management support. This way, the success of self-management will increase and complications and related costs of T2DM can be reduced. Currently, self-management support is developed mainly from the perspective of health professionals and caregivers, rather than patients. This research focused on gaining a better understanding of patients' perspectives on self-management and support.

METHODS: Semi-structured interviews, preceded by preparatory assignments, were conducted with ten patients with T2DM treated in Dutch primary care.

RESULTS: We found that patients experience 'active' self-management when recently diagnosed. As time progresses and no problems occur, patients do not experience their disease-related behaviour as self-management. Diabetes has 'just' become part of their daily life, now including new routines taking diabetes into account.

CONCLUSIONS: With this knowledge, support solutions can be designed and implemented that better fit the needs, preferences, and abilities of patients with T2DM.

**READING 2 – POOR GLYCAEMIC CONTROL AND PATIENT-RELATED FACTORS AMONG
PATIENTS WITH TYPE 2 DM**

Romakin P(1), Mohammadnezhad M(2). Patient-related factors associated with poor glycaemic control among patients with type 2 diabetes mellitus. Aust J Gen Pract. 2019 Aug;48(8):557-563. PMID: 31370132.

URL: doi: 10.31128/AJGP-02-19-4859. PMID: 31370132 [Free full text].

Author information:

(1)MD, MPH, Chief Medical Officer Community Health Suva, Fiji Ministry of Health and Medical Services, Fiji.
 (2)BSc, MSc, PhD, Associate Professor in Public Health (Health Promotion), School of Public Health and Primary Care, Fiji National University, Fiji.

ABSTRACT

BACKGROUND AND OBJECTIVES: Poorly controlled type 2 diabetes mellitus (T2DM) is the number one cause of premature deaths, hospital admissions, and disability in Fiji. The purpose of this qualitative study was to determine healthcare providers' perceptions of factors associated with glycaemic control.

METHOD: Three focus group discussions were conducted with 19 healthcare providers selected through purposive variation sampling in three selected diabetes clinics in Suva, Fiji, in August 2017 and analysed using thematic analysis.

RESULTS: Five themes on factors associated with poor glycaemic control emerged: patients' adherence to treatment and management plans, attitudes, knowledge about diabetes, culture/beliefs, and support. Other factors that play a pivotal part in achieving good glycaemic control are healthcare providers' behaviour and addressing patient's caregiver issues

DISCUSSION: Knowing how to empower patients with T2DM to manage the different patient-related factors associated with poor glycaemic control at first encounter will assist healthcare providers to deliver high-quality patient-centred diabetic care services and achieve better health outcomes in patients.

READING 3 – PERCEPTIONS OF BARRIERS TO EFFECTIVE OBESITY MANAGEMENT

Sharma AM(1), Bélanger A(2), Carson V(3) et al. Perceptions of barriers to effective obesity management in Canada: Results from the ACTION study. Clin Obes. 2019 Oct;9(5):e12329. PMID: 31294535.

URL: doi: 10.1111/cob.12329. PMID: 31294535 [Free full text].

Author information:

(1)Department of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada.
 (2)Le Groupe de Médecine Familiale Valcartier, Courcette, Quebec, Canada.
 (3)Novo Nordisk Canada Inc., Mississauga, Ontario, Canada.

ABSTRACT

Obesity is a chronic disease with a significant and growing impact on Canadians. The "Awareness, Care and Treatment In Obesity MaNagement" (ACTION) Study investigated perceptions, attitudes and perceived barriers to obesity management among Canadian people with obesity (PwO), healthcare providers (HCPs), and employers.

In this study adult PwO (body mass index ≥ 30 kg/m², based on self-reported height/weight), HCPs (physicians and allied HCPs managing PwO) and employers (≥ 20 employees; offering health insurance), completed online surveys between 3 August and 11 October 2017 in a cross-sectional design.

Survey respondents (N = 2545) included 2000 PwO, 395 HCPs and 150 employers. Obesity was viewed as a "chronic medical condition" by most PwO (60 percent), HCPs (94 percent), and employers (71 percent) and deemed to have a large impact on overall health (74 percent, 78 percent, 81 percent, respectively). Many PwO (74 percent) believed weight management was their own responsibility. While PwO (55 percent) reportedly knew how to manage their weight, only 10 percent reported maintaining ≥ 10 percent weight reduction for >1 year.

Despite low success rates, the most commonly reported effective long-term weight loss methods tried and/or recommended were "improvements in eating habits" (PwO 38 percent; HCP 63 percent) and "being more active" (PwO 39 percent; HCP 54 percent). PwO and HCPs reported very different perceptions of the quality and content of their interaction during obesity management discussions.

These findings highlight the communication gaps and misunderstanding between PwO, HCPs, and employers. This underscores the importance of, and need for, evidence-based management of obesity and a collaborative approach and understanding of the complex nature of this chronic disease.

READING 4 – PREVALENCE OF SARCOPENIA AMONG MULTI-ETHNIC AMBULATORY OLDER TYPE 2 DM ASIANS

Fung FY(1), Koh YLE(2), Malhotra R(3), et al. Prevalence of and factors associated with sarcopenia among multi-ethnic ambulatory older Asians with type 2 diabetes mellitus in a primary care setting. BMC Geriatr. 2019 Apr 29;19(1):122.

URL: doi: 10.1186/s12877-019-1137-8. PMID:31035928 [Free full text].

Author information:

(1)Duke NUS Medical School, 8 College Road, Singapore, 169857, Singapore. fung.foon.yin@u.duke.nus.edu.

(2)SingHealth Polyclinics, 167 Jalan Bukit Merah Connection One Tower 5 #15-10, Singapore, 150167, Singapore.

(3)Duke NUS Medical School, 8 College Road, Singapore, 169857, Singapore.

ABSTRACT

BACKGROUND: Sarcopenia is the age-related loss of muscle mass and function, which increases fall risks in older persons. Hyperglycaemia relating to Type-2 Diabetes Mellitus (T2DM) is postulated to aggravate sarcopenia. This study aimed to determine the prevalence of sarcopenia among ambulatory community-dwelling older patients, aged 60-89 years, with T2DM in a primary care setting and to identify factors that mitigate sarcopenia.

METHODS: A total of 387 patients were recruited from a public primary care clinic in Singapore. Data on their socio-demography, clinical and functional status, levels of physical activity (International Physical Activity Questionnaire), and frailty status was collected. The Asian Working Group for Sarcopenia (AWGS) criteria were used to define sarcopenia based on muscle mass, grip strength, and gait speed.

RESULTS: The study population comprised men (53 percent), Chinese (69 percent), mean age = 68.3 ± SD5.66 years, lived in public housing (90 percent), had hypertension (88 percent) and dyslipidaemia (96 percent). Their mean muscle mass was 6.3 ± SD1.2 kg/m²; mean gait speed was 1.0 ± SD0.2 m/s and mean grip strength was 25.5 ± SD8.1 kg. Overall, 30 percent had pre-sarcopenia, 24 percent with sarcopenia and 4 percent with severe sarcopenia. Age (OR = 1.14; 95 percent CI = 1.09-1.20; p < 0.001), multi-morbidity (OR = 1.25; 95 percent CI = 1.05-1.49; p = 0.011) diabetic nephropathy (OR = 2.50; 95 percent CI = 1.35-5.13; p = 0.004), hip circumference (OR = 0.86; 95 percent CI = 0.82-0.90; p < 0.001) and number of clinic visits in past 1 year (OR = 0.74; 95 percent CI = 0.59-0.92; p = 0.008) were associated with sarcopenia.

CONCLUSIONS: Using AWGS criteria, 58 percent of older patients with T2DM had pre-sarcopenia and sarcopenia. Age, diabetic nephropathy, hip circumference, multi-morbidity, and fewer clinic visits, but not a recent single HbA1c reading, were significantly associated with sarcopenia among patients with T2DM. A longitudinal relationship between clinic visits and sarcopenia should be further evaluated.

READING 5 – A NEED-BASED APPROACH TO SELF-MANAGEMENT EDUCATION FOR PATIENTS WITH CO-MORBID DM AND CHRONIC KIDNEY DISEASE

Zimbudzi E(1)(2), Lo C(2)(3), Kerr PG(1) et al. A need-based approach to self-management education for adults with co-morbid diabetes and chronic kidney disease. BMC Nephrol. 2019 Apr 2;20(1):113. PMID: 30940170.

URL: doi: 10.1186/s12882-019-1296-z. 30940170 [Free full text].

Author information:

(1)Department of Nephrology, Monash Health, Melbourne, Australia.

(2)School of Public Health and Preventive Medicine, Monash University, Alfred Centre, 99 Commercial Road, Melbourne, 3004, Australia.

(3)Diabetes and Vascular Medicine Unit, Monash Health, Melbourne, Australia.

ABSTRACT

BACKGROUND: Self-management education needs have not been assessed in patients with complex co-morbid conditions such as diabetes and chronic kidney disease (CKD). The objectives of this study were to 1) determine the self-management education needs for patients with co-morbid diabetes and CKD and 2) co-develop an educational resource meeting the self-management education needs of patients with co-morbid diabetes and CKD.

METHODS: Patients with co-morbid diabetes and CKD attending a co-designed, patient-centred outpatient diabetes and kidney clinic at a tertiary metropolitan hospital were recruited for semi-structured interviews. Maximal variation sampling was used, ensuring adequate representation of different gender, age, diabetes duration, and stage of CKD. Data were thematically analysed using grounded theory.

RESULTS: Forty-two patients participated. Most were male (67 percent) and the mean age was 64.8 (11.1) years. The majority of patients preferred an educational resource in the form of a Digital Versatile Disc (DVD) and they thought that current education could be improved. In particular patients wanted further education on 1) management of diabetes and kidney disease (including nutrition and lifestyle, and prevention of the progression of kidney disease) and 2) complications of comorbid diabetes and kidney disease.

CONCLUSION: Patients with co-morbid diabetes and kidney disease have education gaps in the management of and complications of diabetes and kidney disease. Interventions aimed at improving patient education need to be delivered through education resources co-developed by patients and health staff. A targeted education resource in the form of a DVD, addressing these needs, may potentially close these gaps.

READING 6 – BEING TESTED BUT NOT EDUCATED – PERCEPTIONS OF PATIENTS' PERCEPTIONS OF DIABETIC DIETARY ADVICE

Arana MA(1), Valderas JM(1), Solomon J(2). Being tested but not educated - a qualitative focus group study exploring patients' perceptions of diabetic dietary advice. BMC Fam Pract. 2019 Jan 3;20(1):1. PMID: 30606122

URL: doi: 10.1186/s12875-018-0892-5. PMID: 30606122 [Free full text].

Author information:

(1)Health Services and Policy Research, University of Exeter Medical School, Exeter, UK.

(2)Faculty of Health and Life Sciences, De Montfort University, Leicester, UK. jsolomon@dmu.ac.uk.

ABSTRACT

BACKGROUND: Diet is a key component of the management of diabetes. Several studies suggest that patients receive insufficient and inadequate information. As a first step for developing an intervention for improving dietary advice in primary care, we aimed to explore patients' experience of receiving dietary advice; their attitudes towards that advice; their perceived dietary advice needs, and any barriers faced in adopting a diet that supports the management of their diabetes.

METHODS: A qualitative study with three focus groups (20 purposively sampled participants) was conducted with adult primary care patients with Type 2 diabetes in 2016. A semi-structured topic guide was developed from the literature. The focus groups were audio recorded and transcribed. The data were analysed by emergent themes analysis. Data saturation was achieved in the third focus group.

RESULTS: The majority of participants were given dietary advice in the form of a generic healthy eating leaflet from a Practice Nurse. Participants had their Haemoglobin A1c (HbA1c) reviewed regularly, but the results seemed not to be linked with review of dietary habits. The test was perceived as being a "pass or fail", judgmental experience. Participants felt tested but not educated.

CONCLUSION: Individuals with type 2 diabetes seem not to receive dietary advice according to their expectations. Information collected as part of the study can be used to inform the development of interventions aimed at improving dietary advice in this population.

READING 7 – QUALITY INDICATORS FOR AMBULATORY CARE FOR OLDER ADULTS AND COMORBID CONDITIONS

Petrosyan Y(1), Barnsley JM(2), Kuluski K(2)(3), et al. Quality indicators for ambulatory care for older adults with diabetes and comorbid conditions: A Delphi study. PLoS One. 2018 Dec 13;13(12):e0208888. PMID: 30543672.

URL: doi: 10.1371/journal.pone.0208888. PMID: 30543672 [Free full text].

Author information:

- (1)Clinical Epidemiology, The Ottawa Hospital Research Institute, Ottawa, Canada.
- (2)Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Canada.
- (3)Lunenfeld Tanenbaum Research Institute, Sinai Health System, Toronto, Canada.

ABSTRACT

BACKGROUND: An increasing number of people are living with multiple chronic conditions and it is unclear which quality indicators should be used to guide care for this population.

OBJECTIVE: To critically appraise and select the most appropriate set of quality indicators for ambulatory care for older adults with five selected disease combinations.

METHODS: A two-round web-based Delphi process was used to critically appraise and select the quality of care indicators for older adults with diabetes and comorbidities. A fifteen-member Canadian expert panel with broad geographical and clinical representation participated in this study. The panel evaluated process indicators for meaningfulness, potential for improvements in clinical practice, and overall value of inclusion, while outcome indicators were evaluated for importance, modifiability, and overall value of inclusion. A 70 percent agreement threshold was required for high consensus and 60-69 percent for moderate consensus as measured on a 5-point Likert type scale.

RESULTS: Twenty high-consensus and nineteen medium-consensus process and outcome indicators were selected for assessing care for older adults with selected disease combinations, including 1) concordant (conditions with a common management plan), 2) discordant (conditions with unrelated management plans), and 3) both types. Panelists reached rapid consensus on quality indicators for care for older adults with concordant comorbid conditions, but not for those with discordant conditions. All selected indicators assess clinical aspects of care.

The feedback from the panelists emphasised the importance of developing indicators related to patient-centred aspects of care, including patient self-management, education, patient-physician relationships, and patient's preferences.

CONCLUSIONS: The selected quality indicators are not intended to provide a comprehensive tool set for measuring quality of care for older adults with selected disease combinations. The recommended indicators address clinical aspects of care and can be used as a starting point for ambulatory care settings and development of additional quality indicators.

READING 8 – MECHANISM OF DIABETES-SPECIFIC NUTRITION FORMULAS ON SATIETY AND HUNGER HORMONES TO CAUSE WEIGHT LOSS IN TYPE 2 DM PATIENTS

Mottalib A(1)(2), Abrahamson MJ(1)(3), Pober DM(1), et al. Effect of diabetes-specific nutrition formulas on satiety and hunger hormones in patients with type 2 diabetes. *Nutr Diabetes*. 2019 Sep 24;9(1):26. PMID: 31551412.

URL: doi: 10.1038/s41387-019-0093-x. PMID: 31551412 [Free full text].

Author information:

(1)Joslin Diabetes Center, Harvard Medical School, Boston, MA, 02215, USA.

(2)Department of Medicine, Lahey Hospital and Medical Center, Burlington, MA, 01805, USA.

(3)Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 02215, USA.

ABSTRACT

OBJECTIVES: Diabetes-specific nutritional formulas (DSNFs) are frequently used by patients with type 2 diabetes (T2MD) as part of nutrition therapy to improve glycaemic control and reduce body weight. However, their effects on hunger and satiety hormones when compared to an isocaloric standardised breakfast are not fully understood. This study aims to evaluate the postprandial effects of two DSNFs-Glucerna (GL) and Ultra Glucose Control (UGC)-versus oatmeal on selected satiety and hunger hormones.

METHOD: After an overnight fast, 22 patients with T2MD (mean age 62.3 ± 6.8 years, A1C 6.8 ± 0.7 percent, body weight 97.4 ± 21.3 kg, and BMI 33.2 ± 5.9 kg/m²) were given 200 kcal of each meal on three separate days. Blood samples for amylin, cholecystokinin (CCK), ghrelin, glucagon, leptin, and peptide-YY (PYY) were collected at baseline and 30, 60, 90, 120, 180, and 240 min after the start of each meal. The incremental area under the curve (iAUC₀₋₂₄₀) for each hormone was calculated.

RESULTS: iAUC₀₋₂₄₀ for glucagon and PYY were significantly higher after GL and UGC than after oatmeal ($p < 0.001$ for both). No difference was observed between the three meals on postprandial amylin, CCK, ghrelin, and leptin hormones.

CONCLUSIONS: Intake of DSNFs significantly increases secretion of PYY and glucagon, two important satiety hormones. While subjective satiety was not directly evaluated, the increased effect on satiety hormones may partially explain the mechanism of bodyweight loss associated with DSNF use.

READING 9 – PHARMACY CARE PLAN SERVICE IS COST EFFECTIVE

Twigg MJ(1), Wright D(2), Barton G(3), Kirkdale CL(4), Thornley T(5). The pharmacy care plan service: Evaluation and estimate of cost-effectiveness. Res Social Adm Pharm. 2019 Jan;15(1):84-92. PMID: 29610052.

URL: doi: 10.1016/j.sapharm.2018.03.062. PMID: 29610052 [Free full text].

Author information:

(1)School of Pharmacy, University of East Anglia, Norwich Research Park, Norwich, UK. Electronic address: m.twigg@uea.ac.uk.

(2)School of Pharmacy, University of East Anglia, Norwich Research Park, Norwich, UK. Electronic address: d.j.wright@uea.ac.uk.

(3)Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, UK. Electronic address: g.barton@uea.ac.uk.

ABSTRACT

BACKGROUND: The UK Community Pharmacy Future group developed the Pharmacy Care Plan (PCP) service with a focus on patient activation, goal setting, and therapy management.

OBJECTIVE: To estimate the effectiveness and cost-effectiveness of the PCP service from a health services perspective.

METHODS: Patients over 50 years of age prescribed one or more medicines including at least one for cardiovascular disease or diabetes were eligible. Medication review and person-centred consultation resulted in agreed health goals and actions towards achieving them. Clinical, process and cost-effectiveness data were collected at baseline and 12-months between February 2015 and June 2016. Mean differences are reported for clinical and process measures. Costs (NHS) and quality-adjusted life-year scores were estimated and compared for 12 months pre- and post-baseline.

RESULTS: Seven hundred patients attended the initial consultation and 54 percent had a complete set of data obtained. There was a significant improvement in patient activation score (mean difference 5.39; 95 percent CI 3.9-6.9; $p<0.001$), systolic (mean difference -2.90mmHg; 95 percent CI -4.7 to -1; $p=0.002$) and diastolic blood pressure (mean difference -1.81mmHg; 95 percent CI -2.8 to -0.8; $p<0.001$), adherence (mean difference 0.26; 95 percent CI 0.1-0.4; $p<0.001$) and quality of life (mean difference 0.029; 95 percent CI 0.015-0.044; $p<0.001$). HDL cholesterol reduced significantly and QRisk2 scores increased significantly over the course of the 12 months. The mean incremental cost associated with the intervention was estimated to be £202.91 (95 percent CI 58.26 to £346.41) and the incremental QALY gain was 0.024 (95 percent CI 0.014 to 0.034), giving an incremental cost per QALY of £8495.

CONCLUSIONS: Enrolment in the PCP service was generally associated with an improvement over 12 months in key clinical and process metrics. Results also suggest that the service would be cost-effective to the health system even when using worst-case assumptions.

READING 10 – PERCEPTIONS OF DIABETES SELF-CARE MANAGEMENT AMONG PATIENTS WITH T2DM

Tan CCL(1), Cheng KKF(2), Sum CF(3), et al. Perceptions of Diabetes Self-Care Management Among Older Singaporeans With Type 2 Diabetes: A Qualitative Study. J Nurs Res. 2018 Aug;26(4):242-249. PMID: 29016464

URL: doi: 10.1097/jnr.000000000000226.PMID: 29016464

Author information:

(1)MA, RN, Doctoral Candidate, Yong Loo Lin School of Medicine, National University of Singapore, and Senior Staff Nurse, Singapore.

(2)PhD, RN, Professor, Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore.

(3)MBBS, Director, Diabetes Centre, Khoo Teck Phuat Hospital, Singapore.

ABSTRACT

BACKGROUND: Given the global shift in ageing populations and the associated increasing prevalence of diabetes, it is critical to explore new approaches in diabetic self-care management. In Singapore, what has been overlooked to date is an in-depth, contextually based examination of the needs, expectations, and barriers faced in self-care management by older adults with Type 2 diabetes.

PURPOSE: This study aimed to explore the experiences of older Singaporeans with Type 2 diabetes in diabetes self-care management to understand their perceived needs, expectations, and barriers associated with their diabetes self-care management.

METHODS: A descriptive qualitative approach using focus group discussions was adopted. Purposive sampling was used to recruit older adults with Type 2 diabetes from Singapore's three main ethnic groups, namely, Chinese, Malay, and Indian, through the diabetes centres of two hospitals. Four focus groups, including two groups of Chinese, one group of Malays, and one group of Indians, were conducted. Thematic analysis was used to analyse the data set for emerging themes that relate to the experiences of participants with diabetes self-care management.

RESULTS: The four major themes related to the experiences of participants with diabetes self-care management that emerged were as follows: (a) "Diabetes is genetic, destined, and not serious; complication, let it come"; (b) "Diabetes self-care is difficult"; (c) "I don't know diabetes"; and (d) "Doctor and nurses are important facilitators of self-care management."

CONCLUSIONS/IMPLICATIONS FOR PRACTICE: Findings have important implications in Singapore as well as in other Asian countries where populations are also ageing and diabetes prevalence is increasing. The findings provide new culturally focused insights for clinical patient education within the Southeast Asian context to improve diabetes self-care management of older adults.