

T1D are needed, particularly in teenagers, and structured education on managing alcohol consumption may need revision.

OP47

# THE IMPACT OF MAJOR MENTAL ILLNESS ON QUALITY OF CARE IN PEOPLE WITH TYPE 2 DIABETES IN SCOTLAND: AN ANALYSIS OF ROUTINELY COLLECTED HEALTH DATA

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**Background** Recent evidence from some countries suggests that people with a mental health condition receive poorer type 2 diabetes mellitus (T2DM) care than people without a mental health condition. We aimed to investigate whether history of a major mental illness affects quality of care in people with T2DM in Scotland.

**Methods** We identified adults diagnosed with T2DM between 2007 and 2015 from a 2016 extract of Scotland's national diabetes register (the Scottish Care Information (SCI) – Diabetes database). We used International Classification of Disease codes to identify history of mental illness from pseudonymously linked Scottish psychiatric and acute hospital admission records. Retinopathy screening and HbA1c measurement within the first year post T2DM diagnosis were determined from the diabetes register. Using logistic regression analysis, we obtained odds ratios (ORs) for receipt of both tests for people with a history of schizophrenia, bipolar disorder or depression in hospital records, compared to those without a history of mental illness in hospital records.

**Results** We included 129,028 people with T2DM. Of these, 1,457 (1.1%) had schizophrenia, 653 (0.5%) had bipolar disorder and 4,132 (3.2%) had depression. Within the first year post T2DM diagnosis, 84.1% of the cohort received retinopathy screening and 92.5% received HbA1c measurement. Both retinopathy screening and HbA1c measurement were received by 81.3% of people without a history of mental illness compared to 75.0% of people with schizophrenia, 77.5% of people with bipolar disorder and 77.7% of people with depression. After adjusting for health board, year, age, sex, area-based deprivation, ethnicity and comorbidities, the odds of receiving both tests were lower in people with schizophrenia (OR 0.77, 95% confidence interval (CI) 0.68, 0.87), bipolar disorder (OR 0.78, 95% CI 0.65, 0.94) and depression (OR 0.82, 95% CI 0.76, 0.89) compared to those without a history of mental illness. These differences were driven by lower percentages of retinopathy screening amongst people with schizophrenia, bipolar disorder or depression; proportions with HbA1c measurement were similar across all groups.

**Conclusion** Compared to people without a history of mental illness, people with schizophrenia, bipolar disorder or depression are less likely to receive diabetic retinopathy screening within the first year post T2DM diagnosis. Such discrepancies in care may contribute to poorer T2DM outcomes amongst people with a major mental illness. Further work will investigate whether discrepancies in care persist beyond the first

year post T2DM diagnosis and how discrepancies in care have evolved over time.

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# THE PREVALENCE AND RISK FACTORS OF POLYPHARMACY AMONG DIABETIC PEOPLE: EVIDENCE FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING (ELSA)

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**Background** Diabetes among older people is becoming more common worldwide. Polypharmacy is an important issue among older people with multimorbidity; however, relevant studies focusing on older people with diabetes are scarce. Therefore, the role of polypharmacy in this vulnerable population remains uncertain. The aim of this study is to investigate the prevalence of polypharmacy among older people with and without diabetes, and to determine the potential risk factors for polypharmacy.

**Methods** A nationally representative cross-sectional study, ELSA 2012/2013, was used and 7729 participants aged 50–109 were investigated. Polypharmacy was defined as taking five to nine long-term used medications daily for chronic diseases or chronic symptoms, while using ten or more medications was categorised as excessive polypharmacy. The presence of illness was defined as either self-reported diagnosis or being prescribed specific medications for the condition. The number of comorbidities was generated based on the combined diagnoses excluding diabetes. Multinomial logistic regression was applied to estimate risk factors for polypharmacy, and potential social determinants were also included.

**Results** The prevalence of polypharmacy was 21.4% in 2012, and only 3% was excessive polypharmacy. 51.6% of people with type 2 diabetes reported polypharmacy and 10.2% excessive polypharmacy. These rates were significantly higher than the 16.4% polypharmacy and 1.8% excessive polypharmacy among people without diabetes ( $p < 0.001$ ). 74.6% diabetic people had three or more comorbidities, compared with 40.8% in people without diabetes ( $p < 0.001$ ). Among people with three or more comorbidities, polypharmacy was present in 61.5% of people with diabetes, compared with 36.0% in people without diabetes. Significant risk factors for polypharmacy were diabetes (Relative-risk ratios/RRR=4.06, 95% CI 3.38, 4.86), older age (RRR=1.02, 95% CI 1.01, 1.03), male (RRR=0.64, 95% CI 0.55, 0.75), more comorbidity (RRR=2.46, 95% CI 2.30, 2.62), living with a partner (RRR=1.20, 95% CI 1.01, 1.42), and less wealth (RRR=0.93, 95% CI 0.87, 0.98). However, age, living with partner, and wealth were not significantly related to excessive polypharmacy. Diabetes and the number of comorbidities were predominant risk factors for excessive polypharmacy.

**Conclusion** Polypharmacy was a prevalent phenomenon in the English older population, and it was more severe in people with diabetes. The presence of diabetes and having comorbidities were the main contributors to polypharmacy and excessive polypharmacy after adjusting for important covariates. Current evidences confirm both health condition and socioeconomic status are associated with medication use. This research

is currently ongoing, and more factors will be studied in the future.

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#### DEVELOPMENT OF A THEORY-BASED IMPLEMENTATION INTERVENTION TO INCREASE UPTAKE OF DIABETIC RETINOPATHY SCREENING

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**Background** Diabetic retinopathy is a common complication of diabetes affecting the blood vessels at the back of the eye. Despite evidence that diabetic retinopathy screening (DRS) is effective, uptake continues to be sub-optimal in many countries, including Ireland. As routine management of type 2 diabetes largely takes place in primary care, it is arguably the best setting in which to implement interventions to improve DRS uptake. This study aims to develop a theory-based implementation intervention to improve uptake.

**Methods** A four-stage systematic development process was undertaken. Target behaviours were identified through a multi-phase sequential mixed methods study involving key stakeholder interviews (n=19), and an audit of screening attendance in two primary care centres. Barriers and enablers to uptake were identified through coding interviews with patients (n=48) and health care professionals (HCP) (n=30) using the Theoretical Domains Framework (TDF). Barriers and enablers were mapped to behaviour change techniques (BCTs) to develop intervention content. The APEASE (affordability, practicability, effectiveness, acceptability, side effects and equity) criteria was used to select the components. Effectiveness was determined through a rapid evidence review. Feasibility, local relevance and acceptability of the intervention were identified through consensus group meetings with patients (n=15) and HCPs (n=16), and key stakeholder consultation, including the national DRS programme.

**Results** Three key behaviours were identified; one HCP-level (registration of patients for screening), and two patient-level (consent for the programme to hold their details, and attendance). *Modifiable* patient barriers and enablers were associated with six TDF domains. Barriers included confusion between screening and routine eye checks ('Knowledge'), forgetting ('Memory, attention, decision processes'), anticipation of a negative result ('Beliefs about consequences'). Enablers included a recommendation from friends/family or HCPs ('Social Influences'), recognising the importance of screening for early detection ('Beliefs about consequences'), ownership over their condition ('Identity'), and being in a routine of attending tests ('Beliefs about capabilities'). HCP barriers included the time to register patients which was impeded or supported by practice resources ('Environmental context and resources'), and a lack information on screening uptake in their local area ('Knowledge'). Following the consensus meetings, consultation and evidence review, ten BCTs were included and operationalised as an implementation intervention targeting professionals (reimbursement, training, audit/feedback and electronic prompt) and patients (face-to-face/

phone reminder messages, GP-endorsed reminder letter and information leaflet).

**Conclusion** A multi-stage process combining theory, consultation of multiple stakeholders and existing evidence, was used to develop a multifaceted implementation intervention, targeting both professional and patients, to increase uptake of DRS. The feasibility of delivering the intervention in primary care will be evaluated through a pilot trial.

## Ageing/Older People 2

OP50

#### COGNITIVE AND SOCIAL ACTIVITIES AND LONG-TERM RISK OF DEMENTIA IN UK WOMEN: PROSPECTIVE STUDY

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**Background** Most previous prospective studies have shown an association between lack of participation in cognitive or social activities and increased risk of dementia. However, most studies have been conducted on adults aged over 75 with short follow-up, and thus their findings may be affected by reverse causation bias whereby changes in behaviour are the result of preclinical dementia. In the Million Women Study, we describe the short-term and long-term associations between a lack of participation in cognitive or social activities in women aged 60–65 years old and subsequent risk of dementia.

**Methods** In 2001, 851,305 UK women, without prior dementia, mean age 60 (SD=5) years, reported participation in six social activities (religious group, voluntary work, adult education, art/craft group, music/singing group and bingo); five years later, 645,967 reported hours per day spent doing cognitive activities: reading and watching TV. They were followed by electronic record-linkage to national databases for validated hospital admissions with dementia. Cox regression yielded adjusted relative risks (RRs) for dementia, with follow-up split into 4 year intervals.

**Results** For the analysis of cognitive activities, 15,529 women had newly-diagnosed dementia over a mean follow-up of 11 (SD=2) years. During the first 4 years of follow-up, there were apparent excess risks of dementia associated with not reading and not watching TV, but associations weakened substantially with longer follow-up. For women not reading vs reading for 1+ hours/day, the RRs for dementia reduced from 3.84 (95% CI 3.19–4.62) in the first 4 years to 1.27 (1.14–1.40) after 8+ years follow-up; for not watching TV vs watching TV for 1+ hours/day, the RRs reduced from 2.18 (1.55–3.06) in the first 4 years to 1.29 (1.09–1.52) after 8+ years follow-up. For the analysis of social activities, 24,437 women had newly-diagnosed dementia over a mean follow-up of 15 years. A lack of participation in any of the six social activities was weakly associated with dementia in the first 12 years of follow-up, with RRs of 1.15 (0.96–1.38), 1.10 (1.01–1.20) and 1.06 (1.01–1.12) during <4, 4–<8 and 8–<12 years respectively, but after 12+ years follow-up there was no association (0.98, 0.94–1.01).

**Conclusion** The associations of dementia with a lack of participation in cognitive and social activities become much weaker