

Methods Data from waves 1 (2009–2011, n=6051), 2 (2012, n=5487) and 3 (2014–2015, n=4623) of the Irish Longitudinal Study of Ageing (TILDA), a stratified probability sample prospective cohort, was analysed. Frequency of participation in seven social activities ('Go to films, plays, concerts', 'Attend classes or lectures', 'Travel for pleasure', 'Play cards, bingo or games', 'Go to pub', 'Eat out of house' and 'Participate in sport or exercise') was collected. Depressive symptoms were assessed using the 8-item Centre for Epidemiological Studies Depression (CESD) scale, and chronic disease count included self-reported doctors' diagnosis of cardiovascular (heart attack, angina, stroke, transient ischaemic attack, heart failure) and non-cardiovascular chronic conditions (high blood pressure, diabetes, arthritis, lung disease, osteoporosis). Multilevel mixed effects logistic regression modelling was employed to assess the effect of changes in 1) chronic disease count and 2) depressive symptoms on each item of social participation (defined as monthly participation or less) over three waves, adjusted for socio-demographic and health covariates.

Results Mean age at baseline was 63.2y and 46.9% of the sample were male. Rates of social participation remained stable across waves. Each additional chronic disease accrued was associated with decreased participation in 'Attend classes or lectures' (Odds Ratio (OR): 0.86, 95% CI: 0.74–0.99) and 'Participate in sport or exercise' (OR: 0.86, 95% CI: 0.77–0.97) and an increase in 'Go to pub' (OR: 1.28, 95% CI: 1.09–1.50). A one unit increase in depressive symptoms over time was associated with decreased participation in 'Participate in sport or exercise' (OR: 0.96, 95% CI: 0.93–0.99) only.

Conclusion This longitudinal analysis suggests that deterioration of physical and mental health may influence specific domains of social participation in community dwelling older adults. Holistic approaches to disease management and mental health interventions in older age should include programmes to facilitate and maintain social and leisure time activities.

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RELIGIOUS ATTENDANCE, LONELINESS AND DEPRESSIVE SYMPTOMS IN MIDDLE AGED AND OLDER WOMEN IN IRELAND

J Orr*, K Tobin, RA Kenny, C McGarrigle. *The Irish Longitudinal Study on Ageing, Trinity College Dublin, Dublin, Ireland*

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Background Evidence for an association between mental health and religiosity largely supports a positive effect of religiosity on mental health. However, there remains a lack of research into the underlying mechanisms of these associations involving other social and health factors, particularly in older women. We aimed to investigate causal pathways between religious attendance and depressive symptoms, and test whether this relationship is mediated by loneliness.

Methods We analysed three waves of The Irish Longitudinal Study on Ageing (TILDA) (2000011, 2012, 2014–2015), a stratified probability cohort of men and women aged over 50 resident in Ireland. A total of 3400 women were included in this analysis. A theoretical longitudinal model of religious attendance and depressive symptoms was tested using Structural Equation Modelling (SEM), adjusted for age, marital status, self-rated health, education and recent adverse life events. Log likelihood tests were used to compare model fit. Depressive symptoms were measured using the 8-item Centre for Epidemiologic Studies Depression Scale (CES-

D) and loneliness with the UCLA Loneliness Scale. Religious practice and beliefs were also collected. Changes in religious attendance between waves were calculated. All analyses were conducted using Stata 14.

Results A majority of women attended religious services (86%) and 60% attended at least once a week at baseline, with a decrease in attendance at subsequent time points (85% and 57% at Wave 2; 84% and 55% at Wave 3). Mean (SD) depressive symptoms were 3.38 (4.07) at Wave 1; 3.19 (3.99) at Wave 2; and 3.62 (4.03) at Wave 3. Regular attendance at Wave 1 and Wave 2 predicted fewer depressive symptoms at Wave 2 (Incident Rate Ratio (IRR):0.81 95% CI:0.73–0.89) and Wave 3 (IRR:0.92 95% CI:0.86–1.00) respectively. When loneliness was included in the model, the effect of regular attendance remained unchanged between Wave 1 and Wave 2. The effect was attenuated, but not mediated, between Wave 2 and Wave 3 (IRR: 0.94 95% CI: 0.87–1.02). Depressive symptoms consistently predicted changes in attendance, with higher depressive symptoms predicting subsequent increased and decreased attendance.

Conclusion Longitudinal analyses of religious attendance and depressive symptoms suggest this is a complex relationship which is at least in part bidirectional. Evidence did not support loneliness as a mediator of this relationship. Analyses using other measures of religiosity may help further elucidate these associations.

Policy analysis

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SYSTEMS SCIENCE FOR CARIBBEAN HEALTH: THE DEVELOPMENT OF A SYSTEM DYNAMICS MODEL FOR GUIDING POLICY ON DIABETES IN A RESOURCE LIMITED SETTING

¹L Guariguata*, ^{2,3}C Guell, ¹TA Samuels, ⁴EAJA Rouwette, ²J Woodcock, ¹IR Hambleton, ^{1,2}N Unwin. ¹Faculty of Medical Sciences, The University of the West Indies, Bridgetown, Barbados; ²MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; ³European Centre for Environment and Human Health, University of Exeter, Truro, UK; ⁴Nijmegen School of Management, Radboud University, Nijmegen, The Netherlands; ⁵MRC Epidemiology Unit, University of Cambridge, Cambridge, UK

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Background Type 2 diabetes (T2DM) is a major cause of morbidity and mortality in the Caribbean and a threat to development. Halting its rise by 2025, a WHO target, requires interventions addressing the determinants of unhealthy diet and physical inactivity. The objective of this project is to engage with stakeholders in the development of a system dynamics (SD) simulation model on the effect of different policy interventions on diabetes prevalence and mortality in the Caribbean.

Methods Following SD methodology, we used a mixed methods approach to combine interviews (n=13) with stakeholders from multiple sectors across four countries (Barbados, Belize, Jamaica, and Saint Vincent and the Grenadines) with existing data on regional NCD policy and quantitative evidence. An additional twenty-two interviews from stakeholders in 7 Caribbean countries that were conducted as part of an ongoing policy evaluation study were also reviewed. Participants were sampled from existing contacts and their referrals. Analysis was guided by iterative thematic analysis using a grounded approach.