Is oral health an important factor for mental health among people in custody in Scottish prisons?
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In 2005, the Scottish oral health strategy highlighted the importance of preventing dental caries for people in custody. Soon after, the responsibility of oral health care shifted from the Scottish Prison Service to the National Health Service. Although, oral health has been recognised as a key area for improvement of prisoners’ health, the effects of psychosocial influences such as depression, drug use and dental anxiety have not been fully appreciated.

Majority of the people entering Scottish prisons test positive for drugs, those with mental health issues report substance use and have an increased prevalence of dental decay experience. Greater levels of dental anxiety and infrequent use of dental services contribute to increased untreated dental decay.

The study proposed to test a theoretical mediation model and to determine if drug use and/or dental anxiety acted as mediating factors between depression and dental decay among a sample of people in custody in Scottish prisons.

The adequacy of the measurement model was tested using CFA and was specified based on the modification indices.

The re-specified model revealed an excellent fit to the sample data (X2 [84] = 102.3, p=0.09; RMSEA: 0.03; CFI: 0.994 and TLI: 0.992) (Figure 2).

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Depression predicted decayed and missing teeth through an indirect pathway via drug use and dental anxiety (Figure 2).

The final dataset comprised of 298 participants from three Scottish prisons- 90 females, 109 adult males and 99 young offenders. The age ranged from 17 to 67 years (mean: 29.1 years). The mean CES-D score was 17.7 and 35.2% scored 16 or above. Depression was measured using the Centre for Epidemiological Studies Depression Scale (CES-D) with scores ranging from 0 to 60 and dental anxiety using the Modified Dental Anxiety Scale (MDAS), a score range of 5 to 25. Three questions assessed drug use: ever taken (illegal) drugs, injecting drugs and participated in rehabilitation programme were scored as 0 (no) and 1 (yes).

The oral examination was conducted on 298 participants using the International Caries Detection and Assessment System (ICDAS) to assess carious, restored and missing tooth surfaces. Decay into dentine (D3cvT) and missing teeth (MT) in the four quadrants (D3cvMT) was recorded.

Ethical approval was obtained from the National Research Ethics Service (Reference Number: NRES 10/S0501/10) and the Scottish Prison Service Ethics Committee.

The data was analysed using the SPSS v25 and Stata v16. Structural equation modelling (SEM) was conducted to test and modify the hypothesised model as a two-step approach.

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