

2022 IADR/APR General Session

View Abstract

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If the line "**PREFERRED PRESENTATION TYPE: Proposal Submission**" appears in the proof below, the abstract co-author notification you received is attached to a session proposal submission.

CONTROL ID: 3718358

TITLE: Impact Of Poverty On Frequent Dental Pain Among US Adults

PREFERRED PRESENTATION TYPE: Undecided Interactive Talk

SCIENTIFIC GROUP/NETWORK CATEGORY: Behavioral, Epidemiologic and Health Services Research

PRESENTER: Muthuthanthrige Prasanga Upul Cooray

PRESENTER (INSTITUTION ONLY): Tohoku University

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ABSTRACT BODY:

Objectives: It should be considered a social injustice if people suffer from dental pain merely because of poverty. The association between economic disadvantage and adverse oral health outcomes is well known. However, evidence for this association based on causal inference is scarce. Thus, we aimed to obtain an approximate causal estimate of the impact of poverty on the prevalence of frequent dental pain among the United States(US) adults.

Methods: We used data from 2013-2014, 2015-2016, and 2017-2018 cycles of the National Health and Nutrition Examination Survey(NHANES) in the US. Self-reported frequency of dental pain was used as a binary outcome (0={hardly ever/never}; 1={very often/fairly often/occasionally}). Quartiles of the ratio of family income to poverty (income-index) was used as the exposure. To specify the impact of income-index on counterfactual outcome, we shifted the observed income-index level of each individual as a deterministic function of their observed income-index level. Then, doubly-robust targeted minimum loss-based estimation(TMLE) was used to estimate mean outcomes under corresponding counterfactual scenarios, adjusted for age, sex, educational attainment, and ethnicity [weighted for NHANES design].

Results: A total of 15,165 adults aged >19 years (mean±sd[weighted]= 47.76±17.1) were included. Prevalence of frequent dental pain in <25th, 25th-50th, 50th-75th, and >75th income-index quartile groups were 37.1%,30.4%, 24.9%, and 16.0%, respectively. After adjusting for confounders, being in the lowest income-index quartile increased the likelihood of frequent dental pain by 74.2%[Causal odds ratio (OR) =1.74, 95% confidence intervals (95%CI) =1.53-1.94] compared to the highest income-index quartile. Similarly, compared to the highest income-index group, shifting to 25th-50th and 50th-75th groups increased the likelihood of dental pain by 31.4%[OR=1.31, 95%CI=1.16-1.46] and 21.3%[OR=1.21, 95%CI=1.06-1.35], respectively.

Conclusions: Low income-index levels significantly impacted the prevalence of frequent dental pain among US adults. When an individual's income-index gradually shifts towards poverty, there is a clear dose response and a gradient for frequent dental pain.

TABLE TITLE: (No Tables)

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TABLE FOOTER: (No Tables)

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KEYWORDS: Poverty, Dental Pain, Causal Inference, TMLE, Doubly-robust estimator.

AWARDS APPLICATIONS: IADR Group/Network Award-BEHSR Outstanding Student Abstract Award|IADR Group/Network Award-BEHSR Lois Cohen International Travel Award

PRESENTER'S STUDENT STATUS: PhD Student (after professional degree)

SUPPORT FUNDING/GRANT NUMBER:

FINANCIAL INTEREST DISCLOSURE: NONE

Group Author Abstracts - Abstract: (none)

ONE SENTENCE SUMMARY: Using the NHANES data, a doubly-robust estimator was adapted to estimate the causal effect of poverty on the prevalence of frequent dental pain among US adults.

PRESENTER'S PLANNED ATTENDANCE MODE: Virtual attendee