**The cumulative effect of perceived discrimination on the risk of Diabetes Type 2 in multiple minority groups.**

**Introduction:** It is theorised that ongoing perceived discrimination as any chronic psychological stress can result in dysregulated physiological reactivity resulting from stress response and therefore increase susceptibility to disease. Studies examining exposure to discrimination at one point only are suggested to underestimate the contribution of discrimination to poor physical and mental health. Numerous studies link the onset of Type 2 Diabetes Mellitus (T2DM) and depression to stress response. We examined the prospective association between cumulative exposure to discrimination in older multiple minority groups in the USA (>50 years old) and the likelihood of T2DM onset.

**Methods:** Survey data from a 10-year Health and Retirement Study of Ageing (N ~ 18000) conducted in the USA was used. Exposure was measured at six 2-year intervals (2008-2018). The effect of the time-varying cumulative exposure to perceived discrimination assessed at six equal 2-year intervals during 2008-2018 on T2DM onset was assessed assuming a 2-year lag to account for reverse causality. The Cox proportional hazards model with baseline (i.e., socio-economic status) and time-dependent covariates (i.e., age) was used. The analysis was performed using WCE package in R.

**Results:** In older women (HR = 2.52, 95%CI: [2.23; 3.01], p<0.001), individuals born outside US (HR = 4.05 95% CI: [3.01; 5.70], p<0.001), and obese individuals (HR = 2.04, 95%CI: [1.52; 2.82], p<0.001) everyday cumulative discrimination in a form of being treated with less respect due to their gender, national origin and weight, respectively, increased the risk of T2DM onset. Everyday cumulative discrimination in medical settings attributed to race and gender respectively increased the risk of T2DM onset in black (HR = 1.67, 95% CI: [0.73; 3.64], p<0.01) and female individuals (HR = 3.39, 95%CI: [2.65; 3.76], p<0.001).

Similarly, intersectional everyday discrimination affecting black women resulted in significant increase of T2DM risk (HR = 2.25 95% CI: [0.82; 5.79] p<0.05).

In women, everyday discrimination resulted in a significantly increased risk of depression (HR = 2.52, 95%CI: [2.01; 3.56], p<0.001). In ethnic minorities, perceived discrimination experienced as rarely as once a year significantly increased a risk of clinical depression (HR = 2.68, 95% CI: [2.18; 3.40], p<0.001). Similarly, weight-related perceived discrimination cumulatively affected the risk of the clinical depression onset in obese individuals even when experienced a few times a year (HR = 2.75, 95% CI: [2.07; 3.29], p<0.001).

**Conclusion:** Everyday discrimination attributed to gender, race, national origin and weight increases the risk of T2DM. Black women are particularly vulnerable to the negative impact of discrimination manifested in increased risk of T2DM. While even infrequent race discrimination contributes to the increased risk of depression in ethnic minorities and infrequent weight-based discrimination increased risk of depression in obese individuals.

There is a need to combat discrimination as a psychosocial phenomenon among other proposed systemic changes targeted at reducing health inequalities. This suggests that besides economic policies and legislation, there is a need for policies informed by research on psychosocial determinants of health, including interpersonal discrimination.

Such effects are particularly pronounced in those experiencing discrimination that can be attributed to more than one characteristic (intersectional discrimination).

Depression outcome

Medical in BMI (once a year), medical:

|  |  |  |
| --- | --- | --- |
| 3.34 | 2.47 | 4.10 |

Female, a few times a month, medical:

|  |  |  |
| --- | --- | --- |
| 2.08 | 1.57 | 2.83 |

Race, a few times a year, medical:

|  |  |  |
| --- | --- | --- |
| 2.48 | 1.54 | 3.56 |

ADD on intersectionality

* subset (XX = & XX =)

Not powered:

* Gender and national origin
* Gender and weight
* National origin and race
* National origin and weight
* Race and weight

Outcome: diabetes and depression