Title: Women's empowerment and health: nationwide insights on selected noncommunicable conditions in Bangladesh

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Abastact: Background Women's empowerment may influence non-communicable disease (NCD) risk. However, evidence on these associations among women in Bangladesh remains limited. This study examined the associations between women's empowerment and the prevalence of selected non-communicable conditions among ever-married reproductive-aged women in Bangladesh. Methods Data from the 2022 Bangladesh Demographic and Health Survey were analyzed. Women's empowerment was assessed using the survey-based women's empowerment index (SWPER), encompassing three domains: attitudes toward violence, social independence, and decision-making. Selected non-communicable conditions included overweight/obesity, hypertension, diabetes, anxiety symptoms, and depression symptoms, and were categorized into composite physical NCDs (overweight/obesity, hypertension, or diabetes) and mental conditions (anxiety or depression symptoms). Anxiety and depression symptoms were screened using the GAD-7 and PHQ-9 scales. Both individual outcomes and composite outcomes were assessed. Modified Poisson regression was used to assess the associations between each empowerment domain and the different forms of NCDs while controlling for potential confounders and presented as adjusted prevalence ratio (APR). Results The prevalence of overweight/obesity was 55.4%, hypertension 16.2%, diabetes 14.4%, anxiety 18.6%, and depression 4.7%. Overall, 63.2% of women had at least one physical NCD, and 19.4% had any mental symptoms. High empowerment was observed in the attitude toward violence (85.4%) and decision-making (59.5%) but was low in the social independence domain (16.9%). High empowerment in attitude toward violence was associated with lower prevalence of overweight/obesity (APR: 0.90, 95%CI: 0.82–1.00), any physical NCD (APR: 0.89, 95%CI: 0.79– 1.00), anxiety symptoms (APR: 0.68, 95%CI: 0.58–0.79), depression symptoms (APR: 0.65, 95%CI: 0.45–0.94), and any mental symptoms (APR: 0.69, 95%CI: 0.59–0.80). Similarly, high empowerment in social independence was inversely associated with overweight/obesity (APR: 0.94, 95%CI: 0.88–1.00), anxiety symptoms (APR: 0.87, 95%CI: 0.78–0.97), and any mental symptoms (APR: 0.88, 95%CI: 0.80–0.98). However, higher decision-making empowerment was associated with higher prevalence of overweight/obesity (APR: 1.24, 95%CI: 1.15–1.33), hypertension (APR: 1.29, 95%CI: 1.01– 1.64), and any physical NCD (APR: 1.12, 95%CI: 1.03–1.21).

Keywords: Women's empowerment, Survey-based women's empowerment index (SWPER), Non-communicable diseases, Hypertension, Diabetes, Mental health, Anxiety, Depression, Demographic and health survey, Bangladesh.

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