

In Older Adults Study Links Internet Exclusion to Increased Depression

Researchers investigated the association between internet exclusion and depressive symptoms among older adults from [high-income countries](#) (HICs) and low- and middle-income countries (LMICs).



Study

Data were collected from five international aging cohorts: the English Longitudinal Study of Ageing (ELSA), the [Health and Retirement Study](#) (HRS), the Survey of Health, Ageing and Retirement in Europe (SHARE), the Mexican Health and Ageing Study (MHAS), and the China Health and Retirement Longitudinal Study (CHARLS).

All cohorts provided information on internet exclusion and depressive symptoms among individuals aged 60 and above. Data spanned from 2010 to 2020, excluding ELSA and SHARE surveys from 2010 due to missing questions on internet exclusion. The [final waves](#) included were 2012-2019 for ELSA, 2010-2020 for HRS, 2011-2020 for CHARLS, 2013-2020 for SHARE, and 2012-2018 for MHAS.

Participants under 60 and those with missing data on internet exclusion, [depressive symptoms](#), and covariates were excluded. The final sample comprised 18,619 participants with 60,291 observations from HRS, 13,556 participants with 41,290 observations from CHARLS, 76,255 participants with 146,029 observations from SHARE, 8726 participants with 24,185 observations from ELSA, and 12,691 participants with 27,729 observations from MHAS.

Internet exclusion was assessed through specific questions about internet use in each cohort. Depressive symptoms were measured using the [Euro-Depression scale](#) (Euro-D) and Centre for Epidemiologic Studies of Depression scale (CES-D) scales, with scores above predefined cutoffs indicating depressive symptoms.

Covariates included socioeconomic indicators, demographic factors, lifestyle factors, the presence of chronic diseases, [cognitive impairment](#), living arrangements, and functional ability.

Statistical analysis included descriptive statistics and Generalized Estimating Equations (GEE) models to account for intercorrelation among repeated measures within each cohort. Random-effects [logistic regression models](#) estimated the associations between internet exclusion and depressive symptoms.

Four models were fitted: unadjusted, adjusted for a [minimal sufficient adjustment set](#) (MSAS), adjusted for age and gender, and adjusted for all covariates. Subgroup analyses and several sensitivity analyses were conducted to evaluate the robustness of the findings.

De-identified data from publicly available databases were used, and no additional ethical approval was required. [Statistical analyses](#) were performed using Stata and R software, with a significance threshold of $P < 0.05$.

Findings

From 2010 to 2020, characteristics of included and excluded observations from five [aging](#) cohorts were analyzed. Internet exclusion rates varied widely: 21.9% in Denmark (SHARE) to 92.3% in China (CHARLS). Depressive symptom prevalence was 46.0% in HRS, 54.8% in SHARE, 32.6% in ELSA, and 65.3% in MHAS, ranging from 3.8% in Switzerland (SHARE) to 37.7% in China (CHARLS). The overall prevalence was 19.5% in HRS, 11.1% in SHARE, 17.8% in ELSA, and 32.4% in MHAS.

Internet exclusion significantly correlated with depressive [symptoms](#) across cohorts and countries in crude models, except for Finland and Malta. Adjusting for the minimal sufficient adjustment set (MSAS) maintained these associations in HRS, SHARE, ELSA, CHARLS, and MHAS. Fully adjusted models confirmed these findings.

Subgroup analyses indicated significant associations in adults under 80, non-working individuals, the most economically deprived, those with primary education or below, and those without difficulties in [basic activities of daily living](#) (BADL) and instrumental activities of daily living (IADL). Associations were found between internet exclusion and all depressive dimensions in SHARE, MHAS, and ELSA, except for sleep and feeling sad.

Follow-up analyses showed a higher risk of depressive symptoms for internet-excluded individuals in SHARE and MHAS, even after excluding baseline depressive symptoms. Excluding participants with severe [cognitive impairment](#), internet exclusion still correlated with depressive symptoms in all cohorts.

All Euro-D depressive symptoms were linked to internet exclusion in SHARE, excluding cognitively impaired participants. [Post-COVID-19 data](#) exclusion showed consistent results for HRS, SHARE, and CHARLS. Stratified analysis mirrored these findings, with internet exclusion significantly associated with "everything is an effort" in HRS and CHARLS, and all depression dimensions in SHARE.

Cross-sectional studies affirmed significant correlations between internet exclusion and depressive symptoms in all SHARE and [MHAS waves](#) and most HRS, ELSA, and CHARLS waves.

Conclusion

To summarize, results revealed a significant association between internet exclusion and higher likelihood of [depression](#) and specific depressive symptoms in studies across high-income (HRS, SHARE, ELSA) and low- and middle-income countries (CHARLS, MHAS).

These associations were particularly known among adults younger than 80, those not working, the most economically deprived, those with primary education or below, and those without difficulty performing basic and [instrumental activities](#) of daily living.

As [information and communications technologies](#) (ICTs) become more prevalent, addressing internet exclusion among older adults is increasingly critical to mitigate depressive symptoms.

Source:

<https://www.news-medical.net/news/20240807/Study-links-internet-exclusion-to-increased-depression-in-older-adults.aspx>