Original research article

SOCIAL PREDICTORS OF DEPRESSION IN OLDER ADULTS – A CROSS-SECTIONAL STUDY

Iva Brabcová [1] *, Věra Hellerová [1], Sylva Bártlová [1], Helena Michálková [1], Marek Zeman [1], Olga Dvořáčková [1], Miluše Vítečková [2], Miroslav Procházka [2], Tomáš Šubrt [3]

[1] *University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, České Budějovice, Czech Republic*
[2] *University of South Bohemia in České Budějovice, Faculty of Education, České Budějovice, Czech Republic*
[3] *University of South Bohemia in České Budějovice, Faculty of Economics, České Budějovice, Czech Republic*

Abstract

Objective: Depressive symptoms represent a significant health problem among older adults and are influenced by a variety of sociodemographic and psychosocial factors. The aim of this study was to analyze the relationship between selected psychosocial and sociodemographic characteristics and the occurrence of depressive symptoms in people 65 years and older.

Methods: This was a descriptive cross-sectional study. Depressive symptoms were evaluated using the Geriatric Depression Scale (GDS-15), which is a validated screening tool designed for the elderly population. Statistical analysis was performed using the Chi-square test and Cramér's V to assess the strength of the associations between variables. The research sample consisted of 403 people aged 65 years and older, selected through quota sampling. The sample was representative of the population of the South Bohemian Region of the Czech Republic in terms of sex and age.

Results: 64.0% of the study participants showed no signs of depression. Mild depressive symptoms were identified in 24.1% of the respondents, while 11.9% exhibited severe depressive symptoms. Weak associations with depressive symptoms were observed for widowhood, living in an institutional care facility, and age over 80 years, while substantially stronger associations were found for several psychosocial characteristics, particularly persistent feelings of unhappiness or sadness, persistent low mood, and feelings of emptiness or loss of meaning in life. In contrast, protective factors included being married, living in a shared household, having children, attainment of higher education, and male gender.

Conclusion: The findings highlight the importance of sociodemographic and psychosocial factors in identifying older adults at risk of depressive symptoms. From a clinical perspective, the results underscore the need for targeted screening and preventive interventions, particularly among socially isolated and older individuals.

Keywords: *Age; Depression; Geriatric Depression Scale; Older people; Predictors*

INTRODUCTION

The ageing of the population increases the importance of mental health in later life. Depressive symptoms are particularly relevant because they are associated with poorer health and functioning, reduced social participation, and increased healthcare utilization among older adults (Buczak-Stec et al., 2022; Melo et al., 2025). Adults 65 years and older accounted for 22.0% of the European Union population in 2025, and their share has con-

tinued to increase over the past decade (Eurostat, 2026). This trend is also evident in the Czech Republic, where 65-year-old adults represented 20.8% of the population in 2025, compared with 13% in 1993, and their proportion is projected to reach approximately 29% by the middle of the century (Czech Statistical Office, 2026a, b). This demographic change is expected to increase future health and social care needs (Ministry of Health of the Czech Republic, 2020).

The prevalence of depressive symptoms among older adults varies considerably according to the characteristics of the population and the method of assessment (Melo et al., 2025; Parsons et al., 2024). Recent data from Wave 9 of the Survey of Health, Ageing and Retirement in Europe (SHARE), including 45,601 adults aged 65 years and older from 27 European countries and Israel, showed an overall prevalence of depressive symptoms of 29.2%, with substantial variation between countries (Melo et al., 2025). Prevalence estimates can also vary depending on the instruments and thresholds used to identify depressive symptoms. This distinction is particularly important when screening instruments such as the 15-item Geriatric Depression Scale (GDS-15) are used, because screening-based estimates should not be interpreted as equivalent to the prevalence of clinically diagnosed depressive disorders (Parsons et al., 2024).

Depressive symptoms in later life are associated with a complex interplay of sociodemographic, health, and psychosocial characteristics (Horackova et al., 2019; Sánchez-Moreno and Gallardo-Peralta, 2021). Previous European research has identified poorer physical health, multimorbidity, functional limitations, socioeconomic disadvantage, insufficient social support, and loneliness as important correlates of depressive symptoms (Horackova et al., 2019; Sánchez-Moreno and Gallardo-Peralta, 2021; Smit et al., 2025). Social relationships appear to be particularly relevant, with longitudinal SHARE data demonstrating an association between loneliness and subsequent depressive symptoms among adults 65 years and older, although the findings did not support a straightforward causal effect of loneliness itself (Smit et al., 2025). Institutionalized older adults may represent a particularly vulnerable population, with a high prevalence of depressive symptoms reported among residents of long-term care facilities (Wang et al., 2024). Together, these findings highlight the importance of considering both individual and social characteristics when identifying older adults who may benefit from targeted preventive and supportive interventions.

Evidence addressing the combined sociodemographic and psychosocial correlates of depressive symptoms among older adults at the regional level in the Czech Republic remains limited. Previous Czech research has demonstrated temporal and socioeconomic differences in depressive symptoms among older adults at the national level (Kucera et al., 2020). Therefore, regional analyses can complement national and European evidence by providing a more context-specific understanding of vulnerable groups and informing targeted screening and preventive interventions.

Therefore, the objective of this study was to examine the associations between selected sociodemographic and psychosocial characteristics and depressive symptoms among adults 65 years and older in the southern Bohemian region of the Czech Republic.

Study design

A quantitative and descriptive cross-sectional study design was used.

Participants and sampling

The study included adults 65 years and older who were permanent residents of the South Bohemian Region of the Czech Republic. Cognitive function was assessed using the Mini Mental State Examination (MMSE) as part of the eligibility assessment (Bartos and Raisova, 2016). Individuals identified as having cognitive impairment based on the MMSE assessment were not included in the study.

Participants were selected using quota sampling. The quotas were established according to the distribution of the population 65 years and older in the South Bohemian Region by sex, age, and district of residence. The sample was structured to approximate the composition of the target population with respect to these characteristics. The required sample size was calculated using Raosoft, assuming a 95% confidence level and a 3% error margin.

Data collection
As part of the field survey, a total of 455 residents of the South Bohemian Region were approached and invited to participate in an interview addressing the research objectives. Of the 52 individuals approached, 52 declined to participate, representing 11.4% of the total. On the contrary, 403 participants agreed to participate in the interview, corresponding to a response rate of 88.6%. Data collection was conducted throughout the South Bohemian Region in April 2024.

Measurement of depressive symptoms
Depressive symptoms were assessed using the Geriatric Depression Scale (GDS), a standardized screening instrument developed specifically for older adults. The original 30-item version was developed by Yesavage et al. (1983), and a shorter 15-item version (GDS-15) was subsequently introduced to provide a brief assessment of depressive symptomatology in older populations (Yesavage and Sheikh, 1986).

In the present study, the 15-item Geriatric Depression Scale (GDS-15) was used. The instrument consists of 15 questions that assess aspects of depressive symptoms and psychological well-being in later life. Each item is answered dichotomously (yes/no), with responses indicative of depressive symptoms assigned a point. The item scores are summed to obtain a total score ranging from 0 to 15, with higher scores indicating a higher level of depressive symptomatology (Yesavage and Sheikh, 1986).

For the present analysis, the GDS-15 scores were categorized as follows (Holmerová et al., 2006):

- 0–4 points, no depressive symptoms;
- 5–9 points, mild depressive symptoms;
- 10–15 points, severe depressive symptoms.

As GDS-15 is a screening rather than a diagnostic instrument, these categories were interpreted as levels of depressive symptomatology and not as clinical diagnoses of depressive disorders. The internal consistency of GDS-15 in the present study was assessed using Cronbach's alpha. The scale demonstrated good internal consistency (Cronbach's $\alpha = 0.853$).

In addition to depressive symptoms, the study assessed selected sociodemographic characteristics of the participants, including age, sex, educational attainment, marital status, number of children, district of residence, housing situation, and economic status. Subsequently, these variables were examined in relation to GDS-15 scores to identify sociodemographic characteristics associated with depressive symptoms.

Ethical approval
The study was approved by the Ethics Committee of the Faculty of Health and Social Sciences of the University of South Bohemia in České Budějovice no. 01/2024 in accordance with the Declaration of Helsinki.

Data analysis
Statistical analyses were performed using IBM SPSS Statistics, version 28 (IBM Corp., Armonk, NY, USA). Frequency distributions were used to describe the study variables, and contingency tables were constructed to examine the associations between selected categorical variables. The associations between categorical variables were tested using the chi-square independence test and the strength of these associations was assessed using Cramér's V. The level of statistical significance was established at $p < 0.05$.

Because chi-square analysis is limited to the examination of bivariate associations and does not account for the simultaneous effects or relative importance of multiple variables, the analysis was supplemented with Chi-square Automatic Interaction Detection (CHAID). CHAID is an exploratory multivariate decision tree method that uses chi-square statistics to recursively partition the data into increasingly homogeneous subgroups based on the outcome variable. This approach allows multiple explanatory variables to be considered simultaneously and facilitates the identification of variables that most effectively differentiate groups with respect to the outcome.

RESULTS

The study sample consisted predominantly of participants aged 65 to 74 years (58.0%), with a median age (50th percentile) of 72 years. Participants 85 years and older constituted

9.2% of the sample. Women accounted for 56.3% of the participants. Regarding marital status, 46.9% were married, 11.9% were divorced, and 30.0% were widowed. More than half of the participants (61.8%) lived in a shared home, while 26.1% lived alone.

Most of the participants (83.5%) were retired and no longer economically active, while 9.5% were economically active in full-time or part-time employment.

Regarding educational attainment, 34.5% of the participants had completed secondary education and 36.0% had vocational education, while 11.9% had completed university education (Table 1).

Most of the participants reported being satisfied with their current life (77.7%), in good spirits (83.9%), and feeling happy (81.4%). Approximately two-thirds of the participants reported feeling full of energy and enthusiasm for life (65.3%).

In contrast, almost half of the participants reported having given up many of their previous activities and interests (54.1%). More than a third (36.0%) felt that other people were better off than they were. Feelings of hopelessness were reported by 26.1% of the participants, helplessness by 21.1%, and worthlessness by 20.1%. A relatively high proportion of participants (40.4%) reported being afraid that something bad might happen to them. More than half (57.6%) reported that they prefer to stay home rather than going out and participating in new activities (Table 2).

At the time of the study, 64.0% of the participants had no depressive symptoms, 24.1% had mild depressive symptoms, and 11.9% had severe depressive symptoms.

Among the psychosocial factors strongly associated with the presence of depressive symptoms in adults 65 years and older were (Table 3):

- persistent feelings of unhappiness or sadness (Cramér's V = 0.746);
- persistent low mood (V = 0.694);
- reduced vitality and loss of interest in life (V = 0.665);
- feelings of emptiness and loss of meaning in life (V = 0.651);
- dissatisfaction with the current life (V = 0.635);
- feelings of hopelessness with respect to one's situation, surroundings, or future (V = 0.633);

Table 1 – Sociodemographic characteristics of participants (*N* = 403)

	Frequency	%
Sex		
Men	176	43.7
Women	227	56.3
Age		
65–69 years	125	31.0
70–74 years	109	27.0
75–79 years	70	17.4
80–84 years	62	15.4
85 years and older	37	9.2
Education		
Incomplete primary education	4	1.0
Primary education	33	8.2
Vocational education	145	36.0
Secondary education	139	34.5
Higher vocational education	34	8.4
University education	48	11.9
Marital status		
Single	16	4.0
In a partnership	29	7.2
Married	189	46.9
Divorced	48	11.9
Widowed	121	30.0
Living arrangements		
Living alone	105	26.1
Living in a shared household	249	61.8
Living in a residential care facility	49	12.1
Place of residence		
Urban area	154	38.2
Rural area	249	61.8
Age		
Minimum	65 years	
25th percentile	69 years	
50th percentile	72 years	
75th percentile	79 years	
Maximum	94 years	
Employment status		
Full-time employee	22	5.5
Part-time employee	16	4.0
Entrepreneur	4	1.0
Self-employed	4	1.0
Disability pension recipient	20	5.0
Old-age pension recipient	337	83.5
Having children		
None	56	13.9
Yes	347	86.1
Number of children		
No children	56	13.9
One child	74	18.4
Two children	176	43.7
Three children	81	20.1
Four children	14	3.5
Five children	2	0.5

- feelings of helplessness and lack of control over one's life (V = 0.630);
- low self-esteem and feelings of worthlessness or social rejection (V = 0.568);
- social comparison associated with feelings of personal failure (V = 0.553).

Table 2 – Geriatric Depression Scale (GDS-15 categories), *N* = 403

	Question		
1	Are you basically satisfied with your life?	Yes 313 (77.7%)	No 90 (22.3%)
2	Have you dropped many of your activities and interests?	Yes 218 (54.1%)	No 185 (45.9%)
3	Do you feel that your life is empty?	Yes 132 (32.8%)	No 271 (67.2%)
4	Do you often get bored?	Yes 99 (24.6%)	No 304 (75.4%)
5	Are you in good spirits most of the time?	Yes 338 (83.9%)	No 65 (16.1%)
6	Are you afraid that something bad is going to happen to you?	Yes 163 (40.4%)	No 240 (59.6%)
7	Do you feel happy most of the time?	Yes 328 (81.4%)	No 75 (18.6%)
8	Do you often feel helpless?	Yes 85 (21.1%)	No 318 (78.9%)
9	Do you prefer to stay at home, rather than going out and doing new things?	Yes 232 (57.6%)	No 171 (42.4%)
10	Do you feel you have more problems than most?	Yes 90 (22.3%)	No 313 (77.7%)
11	Do you think it is wonderful to be alive now?	Yes 129 (32.0%)	No 274 (68.0%)
12	Do you feel pretty worthless the way you are now?	Yes 81 (20.1%)	No 322 (79.9%)
13	Do you feel full of energy?	Yes 263 (65.3%)	No 140 (34.7%)
14	Do you feel that your situation is hopeless?	Yes 105 (26.1%)	No 298 (73.9%)
15	Do you think that most people are better off than you?	Yes 145 (36.0%)	No 258 (64.0%)

Note: The scoring procedure is also important for interpreting your results: for items 1, 5, 7, 11, and 13, the depressive response is No; for the remaining ten items, the depressive response is Yes. Each depressive response score = 1 point.

According to Table 4, sociodemographic characteristics that show weak to moderate associations with depressive symptoms among adults 65 years and older included:

- widowed status (Cramér's V = 0.258);
- living in an institutional care facility (V = 0.256);
- age over 80 years (V = 0.217);
- receiving a disability pension (V = 0.197).

In contrast, the following sociodemographic characteristics were associated with a lower occurrence of depressive symptoms among adults 65 years and older:

- being married (Cramér's V = 0.258);
- living in a shared household (V = 0.256);
- university education (V = 0.186);
- male sex (V = 0.150);
- having children (V = 0.150).

Table 3 – Associations between individual GDS-15 items and the overall level of depressive symptoms

GDS-15 Items	Cramér's V	*P*	Sig.
Persistent feelings of unhappiness or sadness	**0.746**	<0.001	***
Persistent low mood	**0.694**	<0.001	***
Reduced vitality and loss of interest in life	**0.665**	<0.001	***
Feelings of emptiness and loss of meaning in life	**0.651**	<0.001	***
Dissatisfaction with one's current life	**0.635**	<0.001	***
Feelings of hopelessness with respect to one's situation, surroundings, or future	**0.633**	<0.001	***
Feelings of helplessness and lack of control over one's life	**0.630**	<0.001	***
Low self-esteem and feelings of worthlessness or social rejection	**0.568**	<0.001	***
Social comparison associated with feelings of personal failure	**0.553**	<0.001	***
Frequent feelings of boredom and loss of interest in usual activities	0.493	<0.001	***
Reduction or loss of previous interests and activities	0.452	<0.001	***
Subjectively perceived memory decline compared with peers	0.437	<0.001	***
Increased worry and fear of negative events	0.432	<0.001	***
Preference for staying at home rather than engaging in social activities	0.303	<0.001	***
Negative perception of current circumstances and living conditions	0.287	<0.001	***

Note: P – independence test; * Correlation is significant at α = 0.05; ** Correlation is significant at α = 0.01; *** Correlation is significant at α = 0.001. Cramér's V is a statistical measure of the strength of association between two categorical variables (nominal). As a general guideline, Cramér's V values can be interpreted as follows: 0.00–0.10, very weak association; 0.10–0.30, weak association; 0.30–0.50, moderate association; and >0.50, strong association.

Table 4 – Sociodemographic factors associated with depressive symptoms in older adults

Risk factors	Cramér's V	*P*	Sig.
Widowed status	**0.258**	<0.001	***
Living in an institutional care facility	**0.256**	<0.001	***
Age over 80 years	**0.217**	<0.001	***
Receiving a disability pension	**0.197**	0.001	**
Protective factors	**Cramér's V**	***P***	**Sig.**
Being married	0.258	<0.001	***
Living in a shared household	0.256	<0.001	***
University education	0.186	0.002	**
Male sex	0.150	0.011	*
Having children	0.150	0.011	*

Note: P – independence test; * Correlation is significant at α = 0.05; ** Correlation is significant at α = 0.01; *** Correlation is significant at α = 0.001. Cramér's V is a statistical measure of the strength of association between two categorical variables (nominal). As a general guideline, Cramér's V values can be interpreted as follows: 0.00–0.10, very weak association; 0.10–0.30, weak association; 0.30–0.50, moderate association; and >0.50, strong association.

To account for the simultaneous contribution of multiple variables and to identify their relative importance, a CHAID analysis was subsequently performed (Fig. 1).

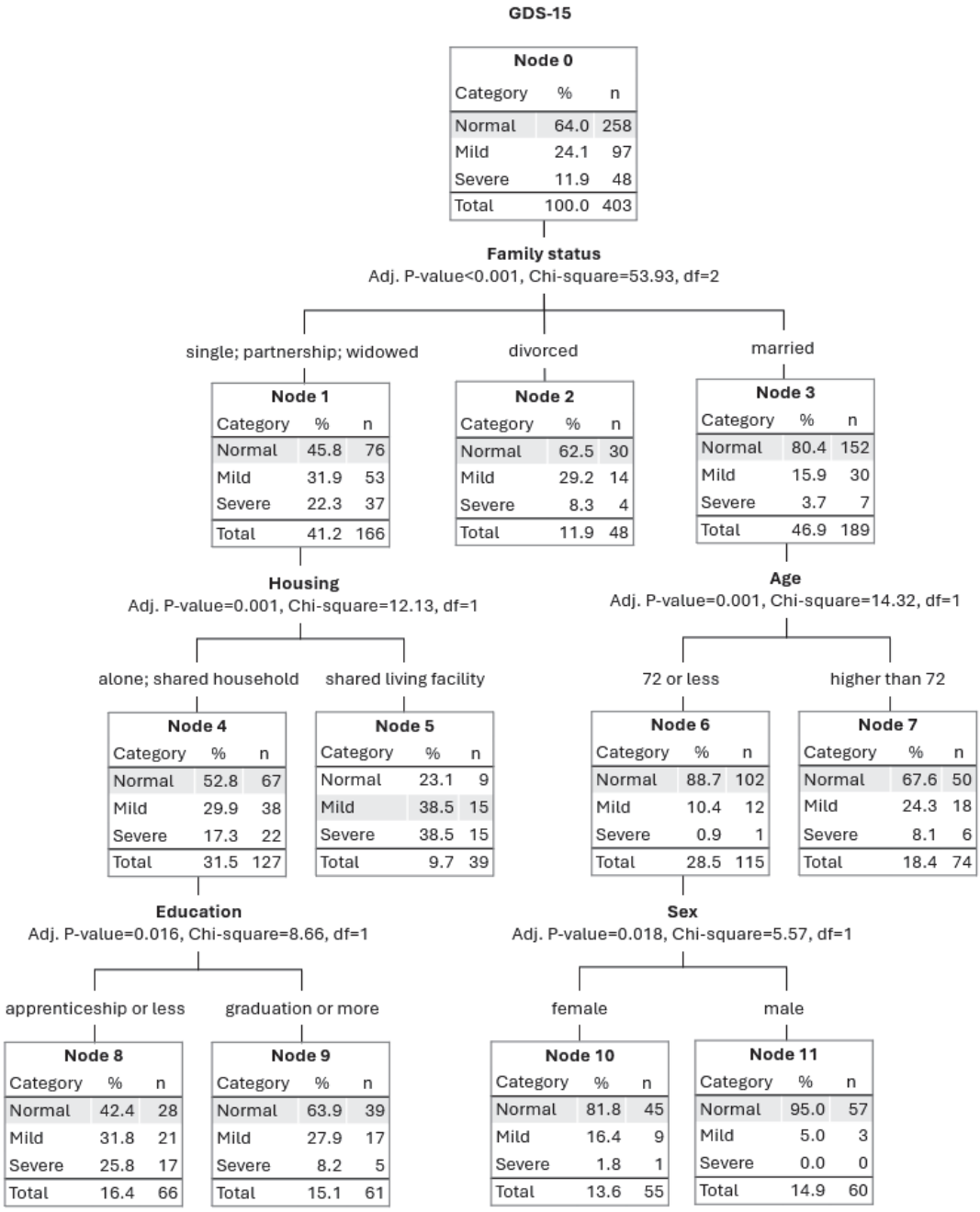


Fig. 1 – CHAID decision tree for the study sample by GDS-15 level of depressive symptoms

The decision tree generated using the Chi-square Automatic Interaction Detection (CHAID) method examined the relationship between the level of depressive symptoms assessed using GDS-15 and the selected sociodemographic characteristics of the participants.

The dependent variable, the level of depressive symptoms, was divided into three categories: no depressive symptoms, mild depressive symptoms, and severe depressive symptoms. The following sociodemographic characteristics were included as independent variables: marital status, living arrangements, age, educational attainment, and sex.

The overall misclassification rate was 34.5% (risk estimate = 0.345), with a standard error of 0.024.

The most important variable differentiating levels of depressive symptoms was marital status ($p < 0.001$). Married participants showed a more favorable psychological profile, with 80.4% reporting no depressive symptoms and only 3.7% reporting severe depressive symptoms. Divorced participants showed intermediate levels of depressive symptoms, with 62.5% reporting no depressive symptoms and 8.3% reporting severe depressive symptoms. On the contrary, participants without a partner (widowed or single), as well as those who live with a partner without being married, showed higher levels of depressive symptoms: 45.8% reported no depressive symptoms, while 22.3% reported severe depressive symptoms.

Among participants without a partner, living arrangements emerged as a further significant factor ($p = 0.001$). The highest levels of depressive symptoms were observed among participants living in institutional care facilities, of whom only 23.1% reported no depressive symptoms, while 38.5% had mild depressive symptoms and 38.5% had severe. Participants who lived in their own home or in a shared home showed a comparatively more favorable psychological profile. Within this subgroup, educational attainment was also significantly associated with depressive symptoms ($p = 0.016$), with higher educational attainment associated with lower levels of depressive symptoms.

Among married participants, age was the next significant factor ($p < 0.001$). Among those 72 years of age or under, 88.7% reported no depressive symptoms, while severe depressive symptoms were observed in only 0.9%. Participants older than 72 years showed higher levels of depressive symptoms. Within the younger age group, sex was also significantly associated with depressive symptoms ($p = 0.018$), with men reporting fewer depressive symptoms than women.

In general, the CHAID analysis indicated that the levels of depressive symptoms among older adults differed significantly according to marital status, living arrangements, age, sex, and educational attainment. Married participants and younger participants generally showed lower levels of depressive symptoms, whereas participants without a partner and those living in institutional care showed higher levels of depressive symptomatology.

DISCUSSION

The present study examined depressive symptoms and their sociodemographic correlates among adults aged 65 years and older in the South Bohemian Region of the Czech Republic. According to the GDS-15, 64.0% of participants had no depressive symptoms, while 24.1% had mild depressive symptoms and 11.9% had severe. These findings highlight the relevance of depressive symptomatology as a mental health concern in later life. However, comparisons with other studies should be interpreted with caution because prevalence estimates vary according to population characteristics, screening instruments, and applied cutoff values. The GDS-15 is a screening rather than a diagnostic instrument (Parsons et al., 2024). A recent Czech study conducted among older adults in the Moravian-Silesian Region reported depressive symptoms in 17.2% of participants and identified low social support and older age among factors associated with depression (Kozáková et al., 2024). Recent SHARE Wave 9 data reported depressive symptoms in 29.2% of adults aged 65 years and older across 27 European countries and Israel, with considerable variation between countries (Melo et al., 2025).

A central finding of the present study was the importance of marital status, which was the first variable that differentiated levels of depressive symptoms in the CHAID analysis. Married participants showed the most favorable profile, with 80.4% reporting no depres-

sive symptoms and only 3.7% severe symptoms. On the contrary, participants who were single, widowed, or living in a non-marital partnership showed higher levels of depressive symptomatology. This finding is consistent with previous research that emphasizes the importance of social relationships and social support for mental health in later life (Sánchez-Moreno and Gallardo-Peralta, 2021; Smit et al., 2025). Recent longitudinal evidence also indicates an association between widowhood and increased depressive symptoms (Huang et al., 2024). Recent Czech qualitative evidence further indicates that the loss of a partner affects several interconnected dimensions of older women's lives, including emotional experiences, everyday routines, social relationships, and health-related experiences (Černá and Gabrielová, 2026). These findings should not be interpreted as evidence of a causal protective effect of marriage; rather, marital status can reflect differences in companionship, emotional support, and social integration.

Among participants without a partner, living arrangements represented the next significant differentiating characteristic. Participants living in institutional care facilities showed the least favorable profile: 38.5% had mild depressive symptoms and 38.5% severe. This finding corresponds to the systematic review and meta-analysis by Wang et al. (2024), which demonstrated a substantial burden of depression among older adults living in nursing homes. Living arrangements have also been associated with depressive symptoms in older adults living in the community, with social relationships and social participation potentially contributing to this association (Fang et al., 2024). More broadly, a recent meta-analysis supports an association between the characteristics of social networks and depression among older adults living in the community (Reiner et al., 2025). However, institutional residence itself cannot be considered a direct cause of depressive symptoms because differences in health status, functional limitations, bereavement, and social support can contribute to the observed association.

Age was another important characteristic. Participants older than 80 years showed higher levels of depressive symptoms, and age further differentiated the levels of symptoms among married participants in the CHAID model. Among married participants 72 years or younger, 88.7% had no depressive symptoms compared to 67.6% among those older than 72 years. Previous European and Czech studies have similarly demonstrated variations in depressive symptoms according to age and other sociodemographic characteristics (Horackova et al., 2019; Kucera et al., 2020). However, chronological age should not necessarily be regarded as the underlying mechanism, as increasing age can be accompanied by multimorbidity, functional limitations, bereavement, and changes in social circumstances.

Educational attainment and sex provided further differentiation within specific CHAID subgroups. Higher educational attainment was associated with a more favorable symptom profile among participants without a partner who did not live in institutional care. This is consistent with European evidence linking socioeconomic disadvantage with depressive symptoms (Sánchez-Moreno and Gallardo-Peralta, 2021) and with longitudinal evidence that demonstrates socioeconomic inequalities in incident depressive symptoms among older adults (Sato et al., 2024). Among married participants 72 years of age or younger, men showed fewer depressive symptoms than women. The fact that education and sex emerged only within particular branches of the CHAID tree suggests that their associations with depressive symptoms may depend on combinations of other sociodemographic characteristics rather than operating uniformly in the study population.

The analysis of individual GDS-15 items provided complementary information on the symptom profile of the participants. Items reflecting unhappiness or sadness, low mood, reduced vitality, emptiness and loss of meaning, dissatisfaction with life, hopelessness, and helplessness showed the strongest associations with the overall level of GDS-15 symptoms. Because these items directly contribute to the total GDS-15 score, they should not be interpreted as independent psychosocial predictors. Rather, they indicate which components of depressive symptomatology most strongly differentiated participants according to their overall level of symptoms.

In general, the findings indicate that depressive symptomatology among older adults

is associated with combinations of sociodemographic characteristics. The CHAID analysis identified marital status as the primary differentiating characteristic, followed by living arrangements among participants without a partner and age among married participants, with further differentiation according to education and sex. These findings expand previous Czech evidence by providing a regional perspective and suggest that older adults without a partner, those living in institutional care, and the oldest age groups may warrant particular attention in screening and preventive practice. Longitudinal studies that incorporate physical health, functional status, loneliness, social networks, and socioeconomic circumstances are needed to clarify the pathways underlying these associations.

Study limitations

This study has several limitations related to its cross-sectional design. Because the data were collected at a single point in time, the findings allow identification of associations between the variables examined, but do not allow causal inferences. Therefore, it is not possible to determine, for example, whether loneliness contributes to depressive symptoms or occurs as a consequence of them.

Data were based on self-reported information and may therefore be subject to recall bias and social desirability bias. Although GDS-15 is considered a valid and reliable screening instrument for depressive symptoms in older adults, its results should be interpreted with caution in individuals with cognitive impairment. This potential limitation was minimized by excluding people identified as having cognitive impairment during eligibility assessment.

CONCLUSION

The purpose of this study was to examine the association between the level of depressive symptoms, as measured by the GDS-15, and selected psychosocial and sociodemographic characteristics among adults 65 years and older. The findings showed that the depressive symptoms in later life differed significantly according to marital status, housing arrangements, age, and sex. Participants who were married had a substantially lower prevalence of depressive symptoms than those without a partner. Older age was associated with poorer psychological well-being, and women exhibited higher levels of depressive symptoms than men.

Psychosocial characteristics associated with depressive symptoms included persistent feelings of unhappiness or sadness, reduced vitality, and loss of interest in life, as well as feelings of emptiness and loss of meaning in life. In general, depressive symptoms in later life appear to be multifactorial and associated with an interplay of social, demographic, and individual characteristics.

Depressive symptoms among older adults represent an important and potentially preventable mental health concern. Health policy in the Czech Republic should consider the increased vulnerability of adults older than 80 years, widowed individuals, and those living in institutional care. These groups can benefit in particular from targeted screening, preventive programs, and mental health interventions.

Data availability

The source data are available at the Data Catch-all Repository, doi: 10.48700/datst.gnxjy-bqx14, https://datarepo.eosc.cz/datasets/records/datst.gnxjy-bqx14

Funding

Project reg. no. TQ01000591 is co-financed with state support from the Czech Republic Technology Agency under the SIGMA Program.

Conflict of interest

The authors have no conflict of interest to declare.

REFERENCES

1. Bartos A, Raisova M (2016). The Mini-Mental State Examination: Czech Norms and Cutoffs for Mild Dementia and Mild Cognitive Impairment due to Alzheimer's Disease. Dement Geriatr Cogn Disord 42(1–2): 50–57. DOI: 10.1159/000446426.
2. Buczak-Stec EW, Löbner M, Stein J, Stark A, Kaduszkiewicz H, Werle J, et al. (2022). Depressive Symptoms and Healthcare Utilization in Late Life. Longitudinal Evidence From the AgeMooDe Study. Front Med 9: 924309. DOI: 10.3389/fmed.2022.924309.
3. Černá M, Gabrielová J (2026). Factors accompanying the grieving process in the perception of widowed elderly women. Kontakt 28(1): 60–64. DOI: 10.32725/kont.2025.061.
4. Czech Statistical Office (2026a). Počet, struktura a projekce obyvatel. Praha: Český statistický úřad. [online] [cit. 2026-05-18]. Available from: https://csu.gov.cz/pocet-struktura-a-projekce-obyvatel?pocet=10&start=0&utm_source=chatgpt.com&podskupiny=132&razeni=-datumVydani
5. Czech Statistical Office (2026b). Senioři. Praha: Český statistický úřad. [online] [cit. 2026-05-18]. Available from: https://csu.gov.cz/seniori?utm_source=chatgpt.com&pocet=10&start=0&skupiny=31&razeni=-datumVydani
6. EUROSTAT (2026). Population structure and ageing. Statistics Explained. Luxembourg: European Commission. Data extracted 2 February 2026. [online] [cit. 2026-09-18]. Available from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing#Highlights
7. Fang H, Duan Y, Hou Y, Chang H, Hu S, Huang R (2024). The association between living alone and depressive symptoms in older adults population: evidence from the China Health and Retirement Longitudinal Study. Front. Public Health 12: 1441006. DOI: 10.3389/fpubh.2024.1441006.
8. Holmerová I, Vaňková H, Dragomirecká E, Janečková H, Veleta P (2006). Depresivní syndrom u seniorů, významný a dosud nedoceněný problém. Psychiatr. praxi 4: 182–184.
9. Horackova K, Kopecek M, Machů V, Kagstrom A, Aarsland D, Bankovska Motlova, L, Cermakova P (2019). Prevalence of late-life depression and gap in mental health service use across European regions. Eur Psychiatry 57: 19–25. DOI: 10.1016/j.eurpsy.2018.12.002.
10. Huang X, Tey NP, Lai SL (2024). Unraveling the Impact of Widowhood Duration on Depression: Does Time Heal All Wounds? Asia Pac J Public Health 36(4): 352–357. DOI: 10.1177/10105395241244960.
11. Kozáková R, Bužgová R, Bobčíková K, Dostálek P, Šilhán P (2024). Anxiety and depression in Moravian-Silesian older adults: prevalence and associated factors. Kontakt 26(3): 218–225. DOI: 10.32725/kont.2024.039.
12. Kucera M, Wolfová K, Cermaková P (2020). Changes in depressive symptoms of older adults in the Czech Republic. J Affect Disord 261: 139–144. DOI: 10.1016/j.jad.2019.10.016.
13. Melo D, Midão L, Mimoso I, Alcântara L, Figueiredo T, Carrilho J, Costa E (2025). Prevalence and Determinants of Depressive Symptoms in Older Adults Across Europe: Evidence from SHARE Wave 9. J Clin Med 14(15): 5340. DOI: 10.3390/jcm14155340.
14. Ministry of Health of the Czech Republic (2020). Strategic Framework For the Development of Health Care in the Czech Republic until 2030 (Health 2030). Prague: Ministry of Health of the Czech Republic. [online] [cit. 2026-01-22]. Available from: https://zdravi2030.mzcr.cz/
15. Parsons M, Qiu L, Levis B, Fan S, Sun Y, Amiri LSN, et al. (2024). Depression prevalence of the Geriatric Depression Scale-15 was compared to Structured Clinical Interview for DSM using individual participant data meta-analysis. Sci Rep 14(1): 17430. DOI: 10.1038/s41598-024-68496-3.
16. Reiner A, De Gioannis E, Steinhoff P (2025). Social networks and their association with depression in community-dwelling older adults: a meta-analysis. Aging Ment Health 29(7): 1209–1238. DOI: 10.1080/13607863.2025.2468892.
17. Sánchez-Moreno E, Gallardo-Peralta LP (2021). Income inequalities, social support and depressive symptoms among older adults in Europe: a multilevel cross-sectional study. Eur J Ageing 19(3): 663–675. DOI: 10.1007/s10433-021-00670-2.
18. Sato M, Tsuji T, Ueno T, Watanabe R, Ide K, Kondo K (2024). Socioeconomic status and incident depressive symptoms among older adults: A 3-year longitudinal study from the Japan Gerontological Evaluation Study. Int J Geriatr Psychiatry 39(2): e6069. DOI: 10.1002/gps.6069.

19. Smit DH, Rehnberg J, Fors S (2025). The effect of loneliness on depressive symptoms in the 65+ European population: a longitudinal observational study using SHARE data. Eur J Ageing 22(1): 9. DOI: 10.1007/s10433-025-00846-0.
20. Wang Q, Huang X, Liu M, Wang C, Sun Z, Huang C, Tang S (2024). Prevalence and risk factors of depression among elderly people in nursing homes from 2012 to 2022: a systematic review and meta-analysis. Aging Ment Health 28(12): 1569–1580. DOI: 10.1080/13607863.2024.2367044.
21. Yesavage JA, Sheikh JI (1986). 9/Geriatric Depression Scale (GDS): Recent Evidence and Development of a Shorter Version. Clin Gerontol 5(1–2): 165–173. DOI: 10.1300/J018v05n01_09.
22. Yesavage JA, Brink TL, Rose TL, Lum O, Huang V, Adey M, Leirer VO (1983). Development and validation of a geriatric depression screening scale: A preliminary report. J Psychiatr Res 17(1): 37–49. DOI: 10.1016/0022-3956(82)90033-4.

* **Corresponding author:** Iva Brabcová, University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, Institute of Nursing, Midwifery and Emergency Care, U Výstaviště 26, 370 05 České Budějovice, Czech Republic; e-mail: brabcova@zsf.jcu.cz
http://doi.org/10.32725/jnss.2026.018

Submitted: 2026-08-31 • Accepted: 2026-10-22 • Prepublished online: 2026-10-27
J Nurs Soc Stud Public Health Rehabil 17/3–4: xxx–xxx • EISSN 1804-7181 • ISSN 1804-1868
© 2026 The Authors. Published by University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, Czech Republic and International Society of Applied Preventive Medicine, Vienna, Austria
This is an open access article under the CC BY 4.0 license.