Narrative Review: Depression Assessment Scales Used in Lithuania

Literatūros apžvalga: Lietuvoje naudojamos depresijos vertinimo skalės

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SUMMARY

The measurement of health outcomes is critical defining subjective and objective patient's experiences, and evaluating treatment efficacy. For this purpose, a large number of depression rating scales have been published to screen, monitor and evaluate the severity of the disorder. However, it is still rather difficult for the clinicians and researchers to choose an appropriate rating scale without adequate information on their psychometric properties. This work aims to provide a selective overview of key depression symptoms assessment scales most often used in clinical practice and research as well as to examine the characteristics of questionnaires regarding their adaptation and validity in Lithuania.

Keywords. Depression, Depressive symptoms, Depression assessment scales.

SANTRAUKA

Sveikatos simptomų vertinimas yra itin svarbus apibrėžiant subjektyvią ir objektyvią paciento patirtį ir gydymo efektyvumą. Šiuo tikslu yra publikuota nemažai depresijos įvertinimo skalių, skirtų sutrikimo sunkumui tirti, stebėti ir vertinti. Vis dėlto pastebima, kad klinicistams ir tyrėjams vis dar yra sunku pasirinkti tinkamą įvertinimo skalę, neturint pakankamai informacijos apie jų psichometrines savybes. Šiuo darbu siekiama pateikti pagrindinių depresijos simptomų vertinimo skalių, dažniausiai naudojamų klinikinėje praktikoje ir tyrimuose Lietuvoje, apžvalgą, kartu pateikiant klausimynų charakteristikas atsižvelgiant į jų adaptaciją ir validizaciją Lietuvoje.

Raktiniai žodžiai: Depresija, depresijos simptomai, depresijos vertinimo skalės

THE BURDEN CAUSED BY DEPRESSION

About 264 million people in the world are affected by depression, and the World Health Organization has stated it to be the leading cause of disability [1]. According to the data provided by the Health Information Centre of the Hygiene Institute of the Lithuanian Ministry of Health, in 2018 mood disorders were one of the leading psychiatric disorders in the country [2]. Depression can affect people of all ages. This mental disorder is a common cause of disability and reduced life-satisfaction in senior years [3]. In youth, depression is seen as prevalent and disabling condition which can increase chances of chronic, recurrent illness and impairment later in life [4, 5].

THE IMPORTANCE OF ADEQUATE ASSESSMENT

Adequate evaluation and assessment of depression symptoms is important to not only screen for the right diagnosis, but also to evaluate unique symptoms profile of an individual case and treatment response. Due to far many currently offered questionnaires, mental health practitioners and researchers face a great difficulty in choosing the best scales to measure depression severity and treatment outcomes. In order to select the appropriate questionnaire for the clinical practice and research study, it is critically important to understand the psychometric characteristics and adaptation procedures as well as history of a particular questionnaire and for what purpose it was developed.

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Therefore, this paper aims to review depression assessment scales most often used in clinical practice and research and to examine the characteristics of the scales regarding their adaptation and validity in Lithuania.

DEPRESSION RATING SCALES

The nine most commonly used scales for depressive symptoms in clinical practice and research in Lithuania were selectively chosen and reviewed. These scales are: T*he Beck Depression Inventory-II [6], The Burns Depression Checklist [7], The Edinburgh Postnatal Depression Scale [8], The Geriatric Depression Scale [9], The Hamilton Depression Rating Scale [10], The Hospital Anxiety and Depression Scale [11], The Montgomery and Åsberg Depression Rating Scale [12], The Patient Health Questionnaire-9 [13] and The Zung Self-Rating Depression Scale [14]*. Following the introductions to each scale, the characteristics of their adaptation and validity in Lithuania are presented as well (Table 1). The questionnaires were reviewed regarding psychometric properties, scale development and variability in scale functioning.

THE BECK DEPRESSION INVENTORY-II

The Beck Depression Inventory-II (BDI-II) is a 21-item, self-report instrument used to measure motivational, emotional and behavioural symptoms of depression [6, 15]. The first version of the questionnaire (BDI) was developed in 1961 by Aaron T. Beck and colleagues [16]. It was designed to effectively discriminate between groups of patients with varying degrees of depression. It could also reflect changes in the intensity of depression after an interval of time, giving the clinician possibility to rate the effectiveness of psychotherapy. As the authors expressed – "...in view of these attributes of reliability and validity, this instrument is presented as a useful tool for research study of depression, and as a step in the direction of placing psychiatric diagnosis on a quantitative basis (p. 61)" [16].

Indeed, it was one of the first questionnaires which rated behavioural depression symptomatology quantitatively. Existing depression measures at the time either did not rate the intensity of behavioural aspects of the disorder such as The Minnesota Multiphasic Personality Inventory or were derived from studies of regular college students. To test the usefulness of the questionnaire, A. Beck attempted to include patients in psychiatric facilities.

While this instrument was employed for registering varying degrees of depression, it was not designed to distinguish between diagnostic categories. Along with other self-rated tests, its applicability largely depended on the cooperation of the patients as well as their ability to comprehend the questions [16].

Approximately 17 years later the questionnaire was revised and copyrighted [15]. The new form (BDI-IA) had adequate psychometric characteristics, however, critics of the questionnaire have pointed out that the scale lacks consistency with the Diagnostic and Statistical Manual III definition of depression [15].

This scale had a second revision in 1996 (BDI-II) [6]. It included psychological and somatic displays of a two-week major depressive episode, measuring the frequency and intensity of depressive symptoms, in accordance with DSM-IV [6].

The English version of BDI-II has been shown to have good psychometric characteristics [15]. Each item in the BDI-II is scored between 0 and 3. The final score of 1–10 is considered normal mood, 11–16 is seen as mild mood disturbance, 17–20 is considered borderline clinical depression symptomatology, 21–30 indicates moderate depression symptomatology, 31–40 is considered as severe depression and over 40 – is extreme depression symptomatology. The highest total of the instrument is 63. It takes approximately 10 minutes to complete.

As with all self-assessment instruments, limitations for BDI-II include probability of unintentional exaggeration or minimization of depression symptoms [17] e.g. patients with concomitant physical illnesses can have their fatigue scores inflated, but this inflation rather reflects symptoms due to illness and not depression [18]. By definition major depressive episode (MDE) symptoms must last for more than two weeks and the BDI-II specifically asks to assess individual changes in symptoms in the last two weeks [19]. Patients who experience their symptoms change in a shorter than two weeks period may be inclined to report no changes in depressive symptoms. Therefore, if the questionnaire is given to the patient weekly, clinician or researcher should advise patient to concentrate on experiences within the time period of interest.

The psychometric properties of the Lithuanian BDI-II questionnaire have been verified showing adequate internal consistency, validity and proposed good factor structure in samples of patients with coronary artery disease [20] and brain tumours [21]. However normative cut-offs for depression severity evaluation still need to be verified for Lithuanian populations.

THE BURNS DEPRESSION CHECKLIST

The Burns Depression Checklist (BDC) [22] is a self-reported instrument developed by David D. Burns in 1984 to measure and track patients progress between therapy sessions. The original version of BDC consisted of 15 questions but the upgraded version in 1996 has 25 items [23].

The 25-item BDC rates the intensity of patient's depression symptoms in these areas: thoughts and feelings, activities and personal relationships, physical symptoms, and suicidal urges. Participants are asked to indicate how much they experienced each symptom during the last week by rating on a scale from 0 to 4, with a higher score representing a more severe symptomatology. The final score of 0–5 indicates no depression symptoms, 6–10 is considered as regular mood, but with some unhappiness, 11–25 indicates mild depression symptoms, 26–50 shows moderate depression symptoms, 51–75 is considered as severe depression symptoms, and 76–100 indicates extreme depression symptoms.

The Psychometric properties of BDC have been investigated and showed good internal consistency, strong content validity, excellent concurrent validity, and well-established discriminant validity [24]. It was also assessed in

Table 1. **Prevalence of sleep complaints and sleep parameters among males and females in 2003 and 2013**

Depression Scale	Adaptation in Lithuania	Validated groups in Lithuania	Licensed
The Beck Depression Inventory-II (BDI-II) [6]	Partial adaptation in specific samples	Patients with coronary artery disease [20]. Patients with brain tumours [21]	Copyrighted by Pearson, Ltd. (https://www.pearsonassessments.com/)
The Burns Depression Checklist (BDC) [7]	No	–	Burns DD. Geros nuotakos vadovas, nauja emocijų terapija. Vilnius: Psichologija TAU; 2013
The Edinburgh Postnatal Depression Scale (EPDS) [8]	Yes	Women two weeks postpartum [8]	Users may reproduce the scale without permission providing the copyright is respected by quoting the names of the authors, title and the source of the paper in all reproduced copies.
The Geriatric Depression Scale (GDS) [9]	No	–	Freely available at http://biological-psychiatry.eu/wp-content/uploads/2014/06/1999_1_1_Instrumentuot%C4%97.pdf
The Hamilton Depression Rating Scale (HAM-D) [10]	No	–	Reproduced with permission of John Wiley & Sons Ltd. For more information please visit https://eprovide.mapi-trust.org/instruments/hamilton-depression-rating-scale
The Hospital Anxiety and Depression Scale (HADS) [11]	Yes	Students [47] Primary care patients [40] Patients with coronary artery disease [20] Patients with brain tumours [21]	Lithuanian HADS version is not available anymore due to changes in licensing terms. All questions regarding permission to use the Lithuanian scale version should be addressed to The GL Assessment Education Group (info@gl-assessment.co.uk). For more information please visit: https://eprovide.mapi-trust.org/instruments/hospital-anxiety-and-depression-scale
The Montgomery and Åsberg Depression Rating Scale (MADRS) [12]	Partial adaptation in specific samples	Patients with coronary artery disease [42]	The copyright on the MADRS is claimed by Stuart Montgomery and the Royal College of Psychiatrists.
The Patient Health Questionnaire- 9 [13]	Partial adaptation of a short form of a questionnaire PHQ-2	Patients with brain tumours [45]	Freely available at http://biological-psychiatry.eu/wp-content/uploads/2019/01/JBPP_2018_v20_No2_57-59.pdf
The Zung Self-Rating Depression Scale (SDS) [14]	No	–	Copyrighted by W. Zung, 1972, for more information please visit https://eprovide.mapi-trust.org/instruments/the-zung-self-rating-depression-scale

the dissertation thesis of Jessica Ann Damron [25] showing adequate psychometric properties for the BDC-Revised. However, in comparison to other depression scales, BDC is rarely used in research and more often applied in clinical practice. The Lithuanian version is available in a David D. Burns book published in 2013 [7]. However, this questionnaire has not been adapted to Lithuanian populations and clinicians as well as researchers should not use its results as the basis for their scientific findings, neither to monitor patients' mood or therapy effectiveness relying on the severity scores provided.

THE EDINBURGH POSTNATAL DEPRESSION SCALE

The Edinburgh Postnatal Depression Scale (EPDS) [26] is a self-reported 10-item tool developed to assist health professionals in detecting emotional distress of mothers during pregnancy and the postnatal period. It takes about 5 minutes to complete. During the assessment, an individual has to pick an answer reflecting mood over the past week. Answers are scored on a scale from 0 to 3 with a higher number representing increased severity of depression symptoms. Some items are marked with an asterisk (*) and are scored in reverse, from 3 to 0.

The items included in this scale correlate to MDE symptoms within psychiatric and psychotherapeutic practices assessing feelings of guilt, sleep disturbance, low energy, anhedonia, and suicidal thoughts. (26). However, in a study conducted by Brouwers and colleagues investigating the factor structure of the questionnaire it was found that EPDS has two-factor structure and does not just measure depression, but also an anxiety [27].

The final score of 0–9 indicates some symptoms of

distress that may be short-lived and are less likely to interfere with everyday ability to function at home or work; 10–12 is considered as presence of symptoms of depression that may cause discomfort (it is recommended to repeat the assessment in 2 weeks and monitor progress); a score of 13 and above – requires further assessment of possible depression symptoms (referral to a psychiatrist/psychologist might be necessary). If the last item about suicidal thoughts is scored from 1 to 3, further evaluation is recommended to ensure the mother's and the child's safety.

Ever since the development of the EPDS a number of studies have shown that the questionnaire has good psychometric properties for measuring postpartum depression [28]. However, there is a significant variability in validation studies of psychometric properties and optimal cut off scores, thus it is highly recommended to validate EPDS for a particular population [28].

The Lithuanian version of EPDS has been adapted showing that the scale is a reliable instrument for repeated evaluations of depressive symptoms during pregnancy [8]. It has good psychometric characteristics for detecting antenatal major depressive disorder with an optimal cut-off of 11/12 or higher [29] .

THE GERIATRIC DEPRESSION SCALE

The Geriatric Depression Scale (GDS) was first created by Yesavage et al. (1983) and is designed for older adults from age 66. The scale was design to avoid interference of depression symptoms with medical illness and it was made easy to understood for mild to moderately cognitively impaired respondents [30]. It is a useful screening tool to measure depression in older adults in clinical settings when baseline measurements are compared to subsequent scores. The GDS has a long form (30-items) and a short form (15-items) questionnaires in which participants are asked to respond by answering "yes" or "no" in reference to how they felt during the past week. It is a screening tool used in the clinical setting to facilitate assessment of depression in older adults when baseline measurements are compared to subsequent scores. This tool can be used in retirement homes, hospitals or primary care clinics. It does not require high medical qualification; it can be used by medical and nursing staff. The assessment can be done in person or over the phone [9]. A limitation of GDS is that it does not assess suicidality, which is something to keep in mind for the interviewer during the assessment. In the short form of GDS scores of 0–4 are considered as regular mood; 5–8 indicates mild depression symptomatology; 9–11 refers to moderate depression symptomatology; and 12–15 indicates severe depression symptomatology. In the long form: 0–9 indicates regular mood; 10–19 mild depression symptomatology; 20–30 represents severe depression symptomatology [9, 31]. In practise, the short form of GDS is used more commonly. This form is easier for patients who are physically ill or have mild to moderate dementia, for those who have short attention spans and/or feel easily fatigued. It takes about 5 to 7 minutes to complete [31].

The English version of both short and long forms of GDS were found to have very good psychometric properties and both were successful in differentiating depressed from non-depressed adults [32]. Freely accessible in Lithuania [9], this scale requires further validation and adaptation to be used in Lithuanian geriatric population.

THE HAMILTON DEPRESSION RATING SCALE

The Hamilton Depression Rating Scale (HAM-D) is a clinician-administered depression assessment scale used for clinical and research assessments. Developed in 1960 by M. Hamilton, it is used to measure the severity and the treatment course of depression [10].

The original version of HAM-D consists of 21 items, but over the years several versions have been developed resulting in 29 items. In the original form a severity score yields from 0 to 63 and has proven to be a reliable and valid measure of depression across various populations [33, 34]. The items in the scale measure patients depressed mood, work and interests, vitality, anxiety, guilt feelings, psychomotor changes (motor, verbal, intellectual, and emotional), psychomotor agitation and suicidal thoughts [10]. Usually a sum of the first 17 statements is used to determine the severity of depression symptomatology. The first 8 items are scored on a five-point scale, ranging from zero to four and nine others are scored from zero to two. Additional items from 18 to 21 provide information about symptoms associated with depression, such as circadian rhythms, paranoid symptoms, obsessions and compulsions. The final scores ranging from 0 to 7 is accepted to be within the normal mood range (or in clinical remission), from 8 to 19 is considered as mild depression symptomatology, 20 or higher indicates moderate severity depression symptomatology [35].

A limitation of the HAM-D is that atypical symptoms of depression such as hypersomnia, hyperphagia are not assessed [34]. This is a clinician rating scale based on patient interview and being a multiple question scale, it requires approximately 15 to 20 minutes to be completed. On the other hand, good psychometric characteristics of the English version questionnaire ensured that this scale remains a gold standard for depression symptomatology assessment in clinical pharmaceutical trials [36]. It is frequently used scale for measuring the effectiveness of antidepressant [37]. However, to the best of our knowledge, this scale is not adapted to the Lithuanian population.

THE HOSPITAL ANXIETY AND DEPRESSION SCALE

The Hospital Anxiety and Depression Scale (HADS) was developed by A.S. Zigmond and R.P. Snaith in 1983 to measure symptoms of anxiety and depression [11]. This instrument was found to perform well when assessing anxiety and depression in somatic and psychiatric cases, in primary care patients and in the general population [38]. It is also validated to use with adolescents [39].

This instrument consists of two subscales, anxiety (HADS-A) and depression (HADS-D), both containing seven intermingled items. It is used to indicate how the respondent has felt in the past week. It takes 2–5 min. to complete. Each question is scored from 0 to 3 and the final scores for

anxiety and depression are counted separately. Final scores between 0 and 7 are considered regular mood, 8–10 are seen as borderline depression symptomatology and 11–21 indicate severe depression symptomatology.

In a sample of 503 primary care patients, it has been found that the Lithuanian version of HADS-D at a cut-off score of ≥6 showed adequate performance in screening for a major depressive episode (MDE), but not dysthymia [40]. Similarly, in patients with coronary artery disease optimal cut-off values for screening of major depressive disorder were ≥5 for the HADS-D [20]. However, at optimal cut-off values the BDI-II ≥14 had slightly superior psychometric properties when compared to the HADS [20]. Another problem with HADS, which is that itis currently copyrighted, and assessment charges are applied both per individual assessment and per research study. Historically, the questionnaire was freely available. Due to its simplicity, low administration costs and ease of use the HADS became one of the most popular depression screening tools in research studies and clinical practice. However currently use of the questionnaire is licensed by GL Assessment, and a license agreement must be completed beforehand, and a user fee is required to all users (commercial, healthcare organizations and academic users). Although HADS can still be found in many older textbooks and can be easily downloaded from the internet, users should be mindful that unlicensed use of the scale will infringe copyright.

THE MONTGOMERY-ÅSBERG DEPRESSION RATING SCALE

The Montgomery-Åsberg Depression Rating Scale (MADRS) is a clinician administered questionnaire used to measure the severity of depressive episodes in patients with mood disorders [12, 41]. Developed in 1979 by S. A. Montgomery and M. Åsberg, it was meant as an addition to the HAM-D, which would be more sensitive to changes brought on by antidepressants and other forms of treatment [12].

The questionnaire was developed using a Comprehensive Psychopathological Rating Scale (CPRS). The CPRS is composed of 65 scaled items covering a wide range of psychiatric symptoms. MADRS authors took 10-items of CPRS to form a questionnaire covering particularly prevalent symptoms of individuals with depression. Each item in the scale has a score ranging from 0 to 6 and the overall sum score ranges from 0 to 60. The questionnaire includes items such as sadness, inner tension, reduced sleep, reduced appetite, concentration difficulties, lassitude, inability to feel, pessimistic and suicidal thoughts. The final score from 0 to 6 is considered as regular mood, 7 to 19 – mild depression symptomatology, 20 to 34 – moderate depression symptomatology and >34 – severe depression symptomatology [12]. This instrument can be used by nursing staff, psychologists and psychiatrists [41].

In comparison to HAM-D, MADRS is shorter and requires approximately 8 to 12 minutes to be completed. Differently from HAM-D this scale does not measure patient's psychomotor agitation. However, like HAM-D, MADRS does not have reverse vegetative symptoms (i.e., increased appetite and hypersomnia). This limits scale's sensitivity assessing patients with atypical depression. The English version of the questionnaire has been shown to have good psychometric characteristics and is useful for major depressive disorder screening [19].

The Lithuanian version of MADRS has been adapted in a sample of 522 patients with coronary artery disease showing that MADRS had one-factor structure and high internal consistency [42]. At a cut-off value of 10 or higher the Lithuanian version of the questionnaire had good psychometric properties for the identification of current MDE [42].

THE PATIENT HEALTH QUESTIONNAIRE-9

The Patient Health Questionnaire-9 (PHQ-9) [13, 43] is a self-administered 9-item depression module from the full Patient Health Questionnaire that measures how the patient felt in the past two weeks before the questionnaire was administered. It is a multipurpose instrument for screening, monitoring and measuring the severity of depression. This instrument incorporates DSM-IV depression diagnostic criteria with other depressive symptoms.

Each of the items in the questionnaire can be measured from 0 (not at all) to 3 (nearly every day) and the final score can range from 0 to 27. There is one additional non-scored item at the end of the diagnostic section, which assigns weight to the degree to which depressive problems have affected the patient's level of functioning. The PHQ-9 scores of 0–4 are considered minimal depression symptomatology, 5–9 indicates mild depression symptomatology; 10–14 indicates moderate depression symptomatology; 15–19 indicates moderate to severe depression symptomatology and 20–27 is considered as severe depression symptomatology [13]. Clinicians and psychologists can administer this tool. It is used with somatic, psychiatric and primary care patients.

A limitation of PHQ-9 is that it does not measure depression symptoms that are not included in the DSM-IV criteria, e.g., loneliness, hopelessness, and anxiety, which may provide additional information to the clinician when accessing a patient [13].

The English version of PHQ-9 demonstrated adequate reliability, convergent/discriminant validity, and similar responsiveness to change in a sample of 172 depressed patients in two randomized clinical trials [44]. The study authors noted that 'the attributes of the PHQ-9, being shorter and based on the diagnostic criteria for depression, may indicate an advantage over the BDI-II [44]. While the Lithuanian version of PHQ-9 is freely available, there is still a need for adaptation of this instrument to be used in clinical practice and research. However, a shortened version of PHQ-9 consisting of only two questions, PHQ-2, was validated by Bunevicius et al. [45] in neurosurgical patients with brain tumours.

THE ZUNG SELF-RATING DEPRESSION SCALE

The Zung Self-Rating Depression Scale (SDS) [14] is a self-administered questionnaire, created by W.K. Zung in 1965 to assess the severity of depression for patients diagnosed with depressive disorder [38]. It is a 20-item tool used to rate characteristics of depression: the pervasive effect, the physiological equivalents, other disturbances, and

psychomotor activities. SDS results provide indicative ranges for depression severity that can be useful for clinical and research purposes.

As a screening tool, SDS is often used for monitoring changes in depression severity. The questionnaire takes about 10 minutes to complete with ten positively and ten negatively worded questions. Each question is scored on a Likert scale of 1–4 (a little of the time; some of the time; a good part of the time; most of the time). A final score ranging from 20 to 44 represents regular mood, 45–59 indicates mild depression symptomatology, 60–69 is considered as moderate depression symptomatology, 70 and above represents severe depression symptomatology.

The SDS scale has recently undergone new validation of its psychometric properties showing that the instrument could be used for identification of individuals with major depressive disorder [46]. However, the psychometric properties of SDS in the Lithuanian populations have not been researched.

CONCLUSION

There are variety of assessment scales used in Lithuania for screening, monitoring and measuring the severity of depression. Most of them are based on self-report and filled in by the patient or client themselves. All of the reviewed instruments have been translated into Lithuanian, however only a couple of the depression rating scales currently used are culturally adapted. A few have been partially validated in Lithuania. There is a need for adapting and validating all depression scales to ensure accurate patient assessment and treatment.

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