The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 11, Issue 4, October- December, 2023
DIP: 18.01.196.20231104, DOI: 10.25215/1104.196
https://www.ijip.in

The International Journal of INDIAN PSYCHOLOGY

Review Paper

Extrapolative Utility on Assessment of Depressive Symptoms Among Elderly Population

Suphala S Kotian[1]*, M S Kotian[2]

ABSTRACT

Purpose: Attempting to explore the symptoms of depressive elders with an intention to prevent psychological morbidity is the purpose of the current study. This article aims to analyze various assessments which diagnose depression and discuss utility, with an objective to evaluate assessment of depression, initiating the author to probe the various process of diagnosing depressive symptoms, a major psychological problem, effecting psychological, physical and social health. **Design:** The article followed in-depth review format to understand the assessments, its advantages and limitations and other contributing factors. The data is collected through the electronic media, including, SCORPUS, PsycINFO, google scholar, and Medline. **Findings**: Noteworthy efficacy of the assessments, highlighting the advantages and limitations are presented in the article, thereafter suggesting the factors to be included in the screening process of depression. **Value:** The study reviews the previous research on tools assessing later life depression, which helps in bringing quality to the life of the elders. Diagnosing later life depression cannot be assessed with one single tool because of its atypical presentation. Results will produce diagnosis of depression to promote psychological, social and physical health, to bring quality of life.

Keywords: *Elders, Depression, Assessments of Depression, Psychological Distress, literature review, Geriatric depression scale*

Feeling low is common in every stage of life. But when this feeling continues for a specific duration, it effects the normal life of an individual, which is considered to be the serious issue especially among the older adults. Depression is one of the commonest mental disorder among the elders. Although most of the people undergo this condition in their lifetime, it is under-recognized and hence untreated. Diagnosing depression is especially difficult among the elders as it is overlooked due to their age-related biological and psychological conditions and other co morbidities (Rodda, J., Walker, et.al. (2011) [1]). Untreated or undiagnosed depression is considered to be a high-risk factor of morbidity, give rise to poor cognitive, somatic and social functioning. Depression in old age, most of the time is associated with poor prognosis from physical illness (Grover, Sandeep et al. (2015) [2]). This becomes an emergency need which has to be dealt with, because elders tend to self-neglect and increase dependency on others (Fiske, A., et al. (2009) [3]).

[1]Professor, Srinivas University, Mangalore, India. OrcidID: 0000-0002-5747-4982.
[2]Professor, Srinivas University, Mukka, India. OrcidID: 0000-0001-5729-1337.
*Corresponding Author

Received: December 04, 2023; Revision Received: December 14, 2023; Accepted: December 18, 2023

© 2023, Kotian, S.S. & Kotian, M.S.; licensee IJIP. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License (www.creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited.

1.1 DEPRESSION AMONG ELDERS: Research accredit that depression is a long-lasting and lapsing illness Mitchell, A. J et al. (2005) [4]). With reference to DSM-5, depressive disorder is considered to be a condition with marked changes in sleep, appetite, impairment in social areas of functioning. These symptoms should occur during the two-week period and not associated with the effects of substances or any medical conditions. Depressive elders, have physical complaints, cognitive difficulties and functional adjustments (Glover, J., & Srinivasan, S. et. al. (2005) [5]). These symptoms are generally treated by the physician Mulsant BH, et.al (1999) & Unützer, J. et.al (1999) [6-7]) assuming it is the general process of aging. This can happen to be one of risk factor for being not able to diagnose various other psychological problem. Depressive elders may develop cognitive deficits in information processing and visuospatial functioning Yaffe, K., Blackwell et.al (1999), Comijs, H. C. et.al (2001 [8,9,10]) and hence poor insight about their condition is a marked factor among the depressive elders. It is very essential to prevent or treat depression among elders as it may usually result in poor outcomes. It is observed that adults with depression have increased risk factor for morbidity than adults without depression (American Psychiatric Association. (2013) [11]).

Factors influencing depression among elders: There are various factors influencing depression among elders like medical disorders, such as post-cerebrovascular accident, who may appear with psychomotor impairment, contracted interest in activities and poor insight about their sickness, Adults with Parkinson disease and post-myocardial ischemia may develop depression. Depression is also commonly influenced by medications for Anti-hypertension, anti-Parkinson drugs, anticancer drugs, Hormonal agents, Benzodiazepines, corticosteroids, cimetidine. Along with these psychological factors like Neuroticism, pessimistic thinking, may associate the disorder with their suicidal thoughts and Social factors like isolation, bereavement, functional decline and disability are associated with depression (Rajesh R tampi, et.al. (2022)[12]). Another causation of depression may be common also among long term caregivers of patients with behavioural issues and with limited social supports (American Psychological Association (2013) [13]). Previous research also observes that the depression is a long-lasting disorder and tendency of recurrence is higher (Mitchell, A. J. et.al. (2005) [14]). Hence finding out the root cause of depression is very essential to prevent future relapse. Presence of these causes, may also be a reason for poor treatment response or medication tolerance.

Need for diagnosing depression at early stage: Previous research show that the personal and environmental factors influence the onset of depression (Clyburn, L. D et.al. (2000) [15]. Mulsant BH et.al (1999) [16]) in their study reported that, prevalence of depressive symptoms is 15%. By this report we can understand that any individual suffering with depression presents the symptoms and it is possible to diagnose the condition with any measurement scale. There are various standardised scales which measures the symptoms of depressions, which are generally used in health care set up.

Identifying depression in old age: Finding depressive symptoms among elders should be a complete assessment in any health care set up. There is a need for in-depth history taking, especially with an informant, which includes suicide risk evaluation, functional measurement and a cognitive screening. Commonly used scales are, Geriatric Depression Scale (GDS), the Cornell Scale for Depression in Dementia (CSDD), the Hamilton Rating Scale for Depression (HAM-D), the Montgomery-Asberg Depression Rating Scale (MADRS), and the Zung Self-Rating Depression Scale (SDS) (Rajesh R tampi, et.al. (2022), American Psychological

Association (2013) [12, 13]). Present study will analyse few of the assessments to meet the objectives.

The finding will help to expand our facts about the depressive symptoms and its assessments aiming to promote positive mental health among the elders.

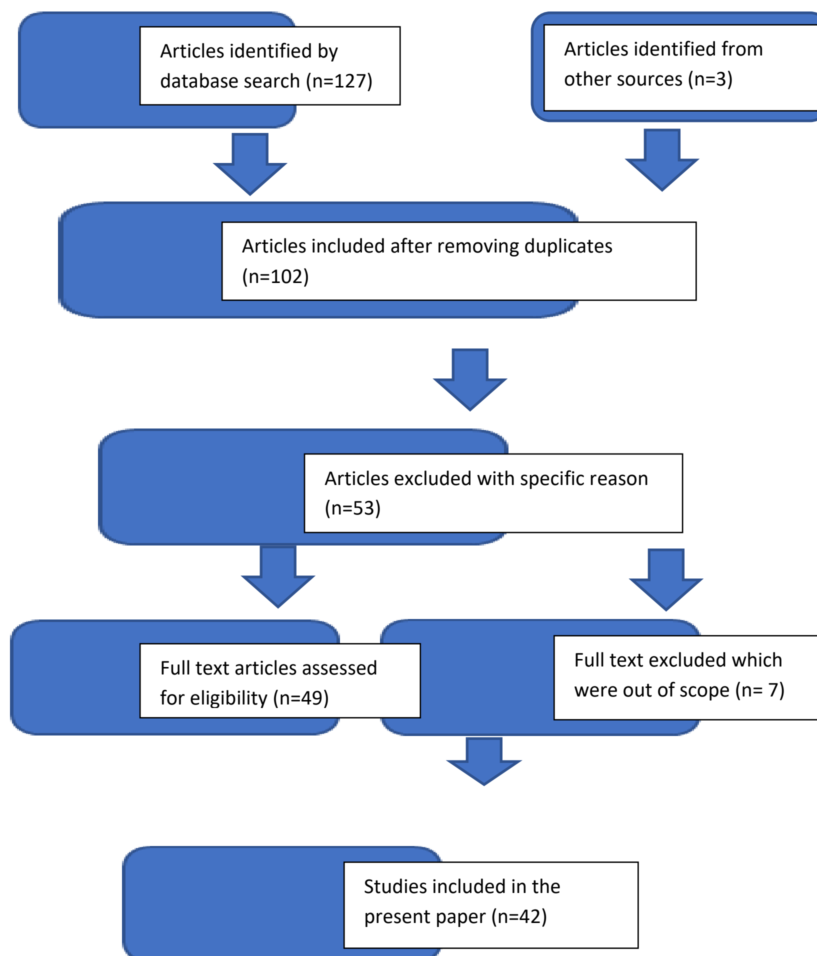
Objectives of the Study

1. Understanding the indications of depression among older adults.
2. Identifying studies on various assessment scales to find depression among older adults.
3. Analysing extrapolative utility in measuring depressed symptoms in the elderly.

METHODOLOGY

The present article follows a rapid review format to understand various assessments used to diagnose the depression among elders. Along with this, the present study also tries to find the significance of these assessments to diagnose the depressive symptoms at the earliest, to prevent any psychological distress among elders. With these objectives, the data is collected through electronic search which included the key words aided for the search was depression among elders, assessment of depression, symptoms of depression, elders in India, and factors influencing depression.

Table of literature review



The articles which are electronically retrieved were manually screened and then selected as per the objectives and specific criteria. These selected articles were then analysed and reviewed for evidences and limitations in diagnosing the depressive symptoms among elders.

a. ***Research agenda***:

- How the assessments diagnose depressive symptoms among elders.
- What is the limitation of these assessments in diagnosing depression among elders.
- What are the other factors influencing depression among elders.

b. ***Theoretical frame work***: Depression is a health condition that interferes and makes it difficult for a person to have a regular social life.

- ***Behaviourist theory*** implies on the behaviourism of the individual, and the importance of environment in shaping the behaviour. So, it clearly indicates that environmental factors contribute to the cause of depression.
- ***Operant conditioning by Skinner*** says that the absence of positive reinforcement from environmental causes depression, like loss of job, relationship, or any negative events. It could be referred as a learning in which the behaviour occurs after the event is demonstrated.
- ***Psychodynamic theory by Freud*** said that mostly the cause of depression was biological factors and they emphasized on the importance of psychology and psychiatry. In accordance, it was also believed that suppressed anger lowers persons self-esteem and increases the susceptibility to depression. They further modify and opines that excessive super-ego is the cause of depression.
- ***Beck's Model of depression*** states factors like bad perception of self, loss of object, deprivation of narcissistic feeling, loss of social connections influence depression
- ***Cognitive approach*** *of explanation to depression* includes, explanation on systematic negative bias in thinking, i.e. it emphasizes peoples beliefs over their actions.
- it focuses on people's beliefs rather than their behaviour. It is a triad with three forms which influences depression i.e. negative thoughts about self, world and future.
- ***Humanistic approach by Maslow,*** explains the importance of human needs among which self-actualization is the most important. He explains that if the needs are blocked due to some cause, then it leads to depression.

The components of the theory measures the severity of depression. This will assist in measuring beliefs and expectations, trauma of past, negative thoughts of present and assumptions of future, rejection, criticism, social loss etc. The assessments, should excavate all the factors influencing the onset of depression, like though patterns, inference of the events, process of abstractions, magnifying or minimising the solution, personalising the events, persistence of thoughts etc. Also, the assessments should interpret the cognitive process and the development of depression. Hence the present study attempts the extrapolative utility on assessment of depressive symptoms to diagnose the onset of depression and to do the needful.

c. Results of the study:

Factors influencing depression among elders: As discussed above, several factors influence the onset of depression among elders. It may be biological, medical, co-morbidity or psycho social factors. Various studies are conducted to verify these factors in relation to the cause of depression among the elders. One of the studies conducted by Shreyank Kotian et.al (2021) [17]. highlights that disturbing events have an effect on their cognitive deterioration. 55.4% of the respondents, according to their study suffer cognitive impairment and a significant

relationship was found among those who are physical abused in childhood with cognitive impairment (36.4%).

Myeong Ja Moon (2010) [18]) in the research revealed that, along with physical symptoms, sleep pattern was 59% of the total variance in depression, and that social support, sleep pattern, and self-esteem have direct substantial effects on satisfaction with life and explain for 50% of the total variance in life satisfaction. However, life satisfaction is one of the factors that cause depression.

Anand Prakash et.al. (2019) [19]), mentions in their study that health related factors like poor conditions of physical health, specific co-morbidity, cancer, heart disease, thyroid, dementia, diabetics, insomnia triggers depression. Along with this few pharmacology related factors, and cognitive impairment aggravate depressive symptoms. Demographic and psychosocial factors like, stressful life events, grief and loss, affiliation, breakdown of familial integration and support, changes in family functioning which leads to loss of social status and significance, loneliness, few personality features like low level of dominance and high level of neuroticism is associated with the depression. Another study by Kotian S.S et.al (2021)[20]) also found the depression score was found significant in educational level and the type of occupation they were engaged in past.

The significant association of these factors will give in-depth base of framing a tool to measure depressive symptoms

Literature analysed for assessment of depression: Effective assessment is very important to diagnose the depressive symptoms and to determine possible treatment options and to find the prognosis. The following are few instruments that are used by researchers and clinicians, which are used as both interview and self-report, and provide evidence base of systematic reviews.

Geriatric Depression Scale: The scale measures depressive mood, satisfaction in life, suicidal ideation or suicide attempts which is reported while assessing depressive symptoms and positive affect using exploratory factor analysis with a two component structure.

Article by Bruce Friedman et.al. (2005) [21]), highlights the utility of the GDS, to the trained specialist and researchers. The report said that among the 960 functionally impaired and cognitively intact community dwellers who are over the age of 65, of Countries in Western New York, West Virginia and Ohio, the components of the depression showed positive affect and the Cronbach alpha coefficient somewhat moderate acceptably high internal consistency reliability. The mood, life-satisfaction and suicide ideation were found to be significantly associated. The tool evaluated both the positive affect and depressive symptoms. Additionally, with criterion validity, it evaluated an acceptable sensitivity and specificity in the distinction between patients with depression and those who weren't. However, there was no discernible difference between the patients with low and severe functional disability in terms of internal consistency reliability and concept validity. The inference showed that although there is an impressive psychometric property of the GDS, there was a significant weakness in obtaining a weak correlation with history of suicide attempts.

Linda GM et.al (2008) [22]) in her study the psychometric properties of the GDS-15 were assessed in order to identify the best screening cut-off points and performance to identify major depression as well as differential item functioning to comprehend the variability of

item responses across socio demographics in an elderly home care setting. The outcome showed that the cut-off produced sensitivity and specificity of 71.8% and 78.2%, respectively. This investigation made clear how serious the medical burden was. According to the author, depression was twice as likely to be detected in those with a cluster of illnesses. Additionally, the study found no variation in item responses across sociodemographic groups. As a result, it was recommended that the GDS-15 may be used to properly screen for depression in the very old, sick, and varied population.

CSSD (Cornell Scale for Depression in Dementia): This scale was created specifically as a screening tool, not a diagnostic one. This scale measures specially the dementia effected patients, with antidepressant treatment to find the level of depression. It basically describes the patient's behaviour which is observed by the caretaker during a weeks' time When a symptom arises because of a physical impairment or sickness, it is not rated under the scoring system, which includes the interpretations of unable to evaluate, absent, mild or intermittent, and severe Mood-related indications, behavioural disturbance, bodily signs, cyclic functions, and ideational disturbance are some of the areas of interpretation.

a) The Cornell scale is the only depression assessment measure that has been validated in both demented and non-demented geriatric individuals, according to G S Alexopoulos et.al (1988) [23]). This scale has been shown to have strong internal consistency (0.98) and interrater reliability (0.74), and it highly correlates with research diagnostic criteria for psychiatric illnesses linked to different levels of depression intensity (0.81).
b) Andrea S. Schreiner et al. (2003)[24]) examined the usefulness of cut-off scores for the Cornell Scale for Depression in Dementia and the Geriatric Depression Scale among Japanese participants in another investigation. The depressed participants were also given the Hamilton Depression Rating Scale. The study's findings demonstrated that the GDS had a sensitivity of 0.973, specificity of 0.959, false positive rate of 0.894, and false negative rate of 0 with a cut-off score of 6. The scale CSDD produced a sensitivity of 1, specificity of 0.919, FPR of 0.942, and FNR of 0 with a cut-off of 5. The authors noted that subthreshold depression may be missed when comparing the cut-off score of the Hamilton depression Rating scale.

Hamilton Rating Scale for Depression (Ham-D) is a clinician administered assessment scale with 17 items originally, now updated with 21 items including the subtype of depression. This scale's goal is to gauge the severity and evolution of depression symptoms. Depending on the version, a score of 0 to 7 is considered to be within the normal range, whereas a score of 20 or higher denotes moderate severity and necessitates enrolment in a clinical study. Limitation of this scale is that the atypical symptoms like hyper-somnia, hyperphagia are not assessed as reported by Hamilton M, (1960) [25])

a. According to Sharp's (2015) [26]) review of the literature, internal, inter-rater, and retest reliability estimations are sufficient for the overall score but less so for individual items. According to the author, the interviewer's training has an impact on the inter-rater reliability. The meta-analysis indicates that when HRSD is compared to Beck Depression Inventory, the scale was more responsive to change upon retesting following therapeutic interventions and could therefore be utilized successfully in clinical trials. However, HRSD has its limitation for interring the vital structures feelings of worthlessness and anhedonia. This was probably because, the scale is not updated with the diagnostic criteria of 4th Edition (DSM-IV) (Andrea S. Schreiner et al. (2003) [24])

b. Kelly J. Rohan et al. (2016) [27]) conducted yet another study in which they examined the Hamilton Rating scale for depression's protocol. It featured guidelines for item scoring and methods for rater training. The study's authors described an algorithm that they used in a longitudinal clinical experiment with 177 depressed patients to identify false interviews and settle rater disagreements. According to the findings, the inter-rater reliability was between 0.923 to 0.967. 5.6% of interviews only satisfied the requirements for a between-rater discrepancy. The majority of the disparities involved HAM-D components including low mood, work and activities, middle insomnia, hypochodriasis, and atypical components like fugitiveness and hypersomnia. The author concluded, the clinicians might need to tailor the scale accordingly.

Zung Scale for Self-Rating Depression (SDS): The 20-item Zung Self-Rating Depression Scale (SDS), which rates each item on a 4-point scale, is used to assess depression. The time it takes to administer the scale is between 5 and 10 minutes. According to this definition, mild to moderate depression, moderate to severe depression, and severe depression are, respectively, in the age ranges of 50–59, 60–69, and over 70 (Zung, 1967). The widespread influence, physiological equivalents, other abnormalities, and psychomotor activities are all rated together with other aspects of depression.

a. A study by Jari Jokelainen et al. (2019) [28]) that examined 520 Finnish people examined the psychometric qualities of the Zung Self-Rating Depression Scale. The Beck Depression Inventory (BDI-21) screening parameters capability of SDS was also assessed in the study. The outcome showed that the cut-off points of 39 had sensitivity and specificity parameters of 79.2% and 72.2%, respectively. Additionally, it demonstrated that there is no statistically significant difference between the cut-off points of 39 and 40 for the diagnostic accuracy indices. According to the analysis of receiver operating parameters, the BDI-21 and SDS under the curves were 0.85 and 0.89 respectively. As a result, the authors concluded that, when compared to BDS-21, the SDS was more useful for diagnosing depressed symptoms in the respondents.
b. CKW Schotte et al. (1996)[29]) highlighted two key findings in their investigation. SDS also showed that it displayed sematic forms of item presentation, they claimed, and that the reversed scoring of the symptom negative items produced higher mean item scores. As a result, they claimed that the SDS's construct validity to assess depressed symptomatology was called into question because of the existence of negatively keyed items. In order to minimize the acquiescence response set, the study advises reconsidering the usage of balanced instruments.

Beck Depression Inventory (BDI-21)**:** The BDI-21, which also assesses the severity of depression and its behavioral symptoms, is frequently used to screen for depression. It is appropriate for those ages 13 to 80. In order to minimize the acquiescence response set, the study advises reconsidering the usage of balanced instruments.

a. In one of the studies conducted by Kadri Suija et.al. (2012)[30]) analysed the psychometric properties of BDI-21 and compared with Whooley screening tool among the older adults in Finland. They reported that the BDI-21's cut-off point of 11 and sensitivity and specificity of 88.0% and 81.7%, respectively, accurately detected depression. The sensitivity and specificity of Whooley screening questions were, 62.5% and 66.7% respectively, and hence it was concluded that the BDI-21 is suitable to diagnose depression among older adults.

b. Daniel L Segal et.al. (2008)[31])in their study used BDI-21, to evaluate the psychometric attributes to measure depression among community dwelling older and younger adults. They opined that BDI-II had excellent psychometric support as a screening tool.
c. The finding from another study by A McPherson et.al. (2010) [32]) also reveal that BDI is a consistent and effective instrument for even alcohol- dependent population. The study proved that the factor analysis showed the structure of the inventory is constant with two or three component theories, depending on the population. The internal consistency reliability emphasized alpha coefficient consistency was higher than the required scores, and the correlation coefficient was above the advised threshold. Hence BDI could be effectively used as the screening tool among the alcohol dependent population.

Center for Epidemiologic Studies Depression Scale (CES-D): (Radloff (1977) [*33*]) reports that CES-D is a self-report instrument used in primary care settings that measures depression symptoms using a 4-factor, 20-item model. It comprises 20 self-report questions and is utilized with all age groups. Numerous studies show the scale's consistency with validity and reliability as well as its application to populations of all sexes and cultures.

a. Study conducted by Rebecca M Saracino et.al (2018) [34]) in out-patient clinics of cancer centre. Among the total 663 participants, 25.9% was diagnosed with clinically significant depressive symptoms. The result showed that the Confirmatory factor analysis of the CES-D indicated that, regardless of age, the scale gained the same response with the symptoms of depressive disorders. It also validated the proposed associated four-component model.
b. The long-discussed problems with CES-D items and factor structures were also the subject of a different study by R Nicholas Carleton et. al. (2013) [35]). The researcher evaluated the findings and proposed that it is a novel best fitting model for affect, anhedonia, and somatic symptoms using a variety of samples, including undergraduates, community, rehabilitation, clinical, and NHANES (community samples, data gathered by National Centre for Health Statistics). Additionally, they stated that several items might benefit from further revision and that the item collection is valid for use in research and therapeutic settings without biases related to sex or social issues.

Montgomery-Asberg Depression Rating Scale (MADRS), This Scale evaluates the severity of depression in people who are at least 18 years old. It lasts 20 to 30 minutes and includes 10 things that are scored on a 7-point scale. It is a modification of the Hamilton Depression Rating Scale and is more responsive to long-term change.

a) Lena et.al. (2013) [36]) in their study evaluated MADRS factor structure and cross-temporal and cross-gender factorial invariance among the depressed outpatients who attended pharmacotherapy and psychotherapy for depression. The research demonstrated a good fit to the four-factor model of neurovegetative symptoms, detachment, negative thoughts, and time and gender invariance. However, the study's limitations were lack of complete description of patient clinical characteristics. The authors further reported that the study supported the use of MADRS and its subscales focused on the affective, cognitive, social and physical elements of depression across gender.
b) Srushti et.al. (2021)[37]), in a cross-sectional observational study, among those with post-stroke depression patients in India, to compare the MADRS to the Hamilton Depression Rating Scale in terms of concurrent validity, test-retest reliability, and

inter-rater reliability found that there was moderate correlation of 0.619 between the two measures. This is because, HDRS contains Anxiety Somatic items and genital symptoms which are not found in MADRS. The authors also interpreted that MADRS has excellent test re-test reliability (0.980) as well as internal consistency measured by Cronbach's alpha (>0.9). As a result, the scale is a valid and trustworthy measure for evaluating post-stroke depression. However, the respondents of this study, were under medications, which might have affected the reliability which was considered as limitation of the study.

Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR)

For people 18 and older, the QIDS-SR assesses the severity of depression symptoms. The Inventory of Depressive Symptomology (IDS, 2000) contains 16 measures. The DSM-IV diagnostic criteria are met by these symptoms. Respondents evaluate their actions and attitude over the course of the previous week using a 4-point Likert-type scale. The report takes between five and seven minutes to complete.

a) Brown et al. (2008) [38]) did a study to assess the psychometric qualities of the QIDS-SR, which measures depressed symptoms in asthma patients. The study result showed that the scale showed good reliability (0.87). it also showed high sensitivity which indicates concurrent validity and the scale is acceptable tool for the assessment of depression amongst asthma patients. This demonstrates that the scale is a beneficial clinical tool in delivering comprehensive treatment to asthma patients and might be utilized for patients reporting somatic complaints and pharmaceutical side effects.
b) Rush et.al. (2003)[39]) evaluates the QIDS-SR's psychometric characteristics, in a research conducted among 596 adult out patients with persistent major depressive disorder that is not psychotic. The QIDS-SR's internal consistency was excellent (0.86), and it also showed strong concurrent validity by being sensitive to symptom change. Hence the authors recommend the use of scale as the concise assessment of the intensity of depression symptoms in both clinical and research settings.

Patient *Health Questionnaire (PHQ-9)*

A self-report tool called the Patient Health Questionnaire (PHQ) is used to identify depression symptoms. It takes one to five minutes to finish, and a physician reviews the responses after about the same amount of time. The PHQ-9 is offered in a variety of tongues.

a) Kurt Kroenke et.al. (2001)[40]) Conducted a study to find the validity of PHQ-9 with an implication of guiding treatment decisions. The outcome demonstrated a decline in the functional status of the 6SF-20 subscales with PHQ-9 measurement as depression severity rose. This demonstrated that the respondents' sick days, symptom-related difficulty, and use of medical services all rose. With the sensitivity and specificity of 88% in both, and the result showed similarity in the primary care set up and obstetrics-gynaecology samples. Hence the authors concluded that PHQ-9 could be utilised as both clinical and research tool for the diagnosis of depression.
b) Another review was done on the research conducted by Jeroen De Man et.al. (2021)[41]), which addresses the contextual and methodological gaps of PHQ-9, and its implication in India. Another scale GAD-7 was also compared during the research. The analysis's findings supported the respondent's somatic and cognitive components, as well as full or partial invariance across age, gender, and educational attainment. It also showed result for the status of diabetes over time. The entire scales should be used cautiously, according to authors, and subscales are not advised. However, the constancy of the scale indicates the use for the Indian population in align with global trend.

The following table briefly explains the analysis of the reviewed literature.

SL.No	Field of research	focus	outcome	References
1.	Geriatric depression scale	Measures depressive mood, satisfaction in life, suicidal ideation or suicide attempts	The mood, life-satisfaction and suicide ideation were found to be significantly associated. The tool evaluated both the positive affect and depressive symptoms.	Bruce Friedman et.al. (2005) [21]),
2.	Geriatric depression scale	Assessed psychometric properties of the scale, to identify the best screening cut-off points and to find the differential item to understand the variability of item responses across socio-demographics	The study found no variation in item responses across socio-demographic groups. The study suggested, the scale could be used among very old, sick and varied population.	Linda GM et.al (2008) [22])
3.	Cornell Scale for Depression in Dementia	Assessment measure for depression in both demented and non-demented geriatric measure	Strong internal consistency (0.98) and interrater reliability (0.74), and it highly correlates with research diagnostic criteria for psychiatric illnesses linked to different levels of depression intensity (0.81).	G S Alexopoulos et.al (1988) [23])
4.	Cornell Scale for Depression in Dementia	To study the usefulness of cut-off scores on depression among dementia patients	Scale showed sensitivity of 1, specificity of 0.919, FPR of 0.942, and FNR of 0 with a cut-off of 5. However, the subthreshold depression may be missed when comparing the cut-off score of the Hamilton depression Rating scale.	Andrea S. Schreiner et al. (2003)[24])
5.	Hamilton Rating Scale for Depression (Ham-D)	to gauge the severity and evolution of depression symptoms	Limitation of this scale is that the atypical symptoms like hyper-somnia, hyperphagia are not assessed	Hamilton M, (1960) [25])
6.	Hamilton Rating Scale for Depression (Ham-D)	To find the internal, inter-rater and retest reliability estimations.	the scale was more responsive to change upon retesting following therapeutic interventions and could therefore be utilized successfully in clinical trials. However, HRSD has its limitation for interring the vital structures feelings of worthlessness and anhedonia.	Sharp's (2015) [26])
7.	Hamilton Rating Scale for Depression (Ham-D)	to identify false interviews and settle rater disagreements.	the inter-rater reliability was between 0.923 to 0.967. The majority of the disparities were components including low mood, work and activities, middle insomnia, hypochodriasis, and atypical components like fugitiveness and hypersomnia.	Kelly J. Rohan et al. (2016) [27])

SL.No	Field of research	focus	outcome	References
8.	Zung Scale for Self-Rating Depression (SDS):	Examined the psychometric qualities of the scale.	The sensitivity and specificity parameters of 79.2% and 72.2%, respectively. The SDS was more useful for diagnosing depressed symptoms in the respondents.	Jari Jokelainen et al. (2019) [28])
9.	Zung Scale for Self-Rating Depression (SDS):	to assess depressed symptomatology	SDS's construct validity to assess depressed symptomatology was called into question because of the existence of negatively keyed items as the reversed scoring of the symptom negative items produced higher mean item scores.	CKW Schotte et al. (1996) [29])
10.	Beck Depression Inventory (BDI-21)	To analyse the psychometric properties of BDI-21	BDI-21's cut-off point of 11 and sensitivity and specificity of 88.0% and 81.7%, respectively, accurately detected depression	Kadri Suija et.al. (2012)[30])
11.	Beck Depression Inventory (BDI-21)	to evaluate the psychometric attributes to measure depression among community dwelling older and younger adults	BDI-II had excellent psychometric support as a screening tool.	Daniel L Segal et.al. (2008)[31])
12.	Beck Depression Inventory (BDI-21	BDI is a consistent and effective instrument for even alcohol- dependent population.	The internal consistency reliability emphasized alpha coefficient consistency was higher than the required scores, and the correlation coefficient was above the advised threshold. Hence BDI could be effectively used as the screening tool among the alcohol dependent population.	A McPherson et.al. (2010) [32])
13.	Center for Epidemiologic Studies Depression Scale (CES-D):	Diagnosis of clinically significant depressive symptoms.	the Confirmatory factor analysis of the CES-D indicated that, regardless of age, the scale gained the same response with the symptoms of depressive disorders	Rebecca M Saracino et.al (2018) [34])
14.	Center for Epidemiologic Studies Depression Scale (CES-D):	Validation for use of the scale in research and therapeutic settings.	Is the best fitting model for affect, anhedonia, and somatic symptoms using a variety of samples, including undergraduates, community, rehabilitation, clinical, and NHANES	R Nicholas Carleton et. al. (2013) [35]).
15.	Montgomery-Asberg Depression Rating Scale (MADRS),	Evaluation of MADRS factor structure and cross-temporal and cross-gender factorial invariance among the depressed outpatients.	the study supported the use of MADRS and its subscales focused on the affective, cognitive, social and physical elements of depression across gender.	Lena et.al. (2013) [36])
16.	Montgomery-Asberg Depression Rating Scale (MADRS),	Assessment of concurrent validity, test-retest reliability, and	MADRS has excellent test re-test reliability (0.980) as well as internal consistency	Srushti et.al. (2021)[37]),

SL.No	Field of research	focus	outcome	References
		inter-rater reliability	measured by Cronbach's alpha (>0.9). As a result, the scale is a valid and trustworthy measure for evaluating post-stroke depression	
17.	Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR)	To assess the psychometric qualities of the QIDS-SR,	the scale is a beneficial clinical tool in delivering comprehensive treatment to asthma patients and might be utilized for patients reporting somatic complaints and pharmaceutical side effects	Brown et al. (2008) [38])
18.	Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR)	To evaluate psychometric characteristics	The QIDS-SR's internal consistency was excellent (0.86), and it also showed strong concurrent validity by being sensitive to symptom change. Hence the authors recommend the use of scale as the concise assessment of the intensity of depression symptoms in both clinical and research settings	Rush et.al. (2003)[39])
19.	Patient Health Questionnaire (PHQ-9)	To find the validity of PHQ-9 with an implication of guiding treatment decisions	PHQ-9 could be utilised as both clinical and research tool for the diagnosis of depression.	Kurt Kroenke et.al. (2001)[40])
20.	Patient Health Questionnaire (PHQ-9)	To address the contextual and methodological gaps of PHQ-9, and its implication in India	The study supported the respondent's somatic and cognitive components, as well as full or partial invariance across age, gender, and educational attainment. The constancy of the scale indicates the use for the Indian population in align with global trend.	Jeroen De Man et.al. (2021)[41])

DISCUSSION

With the increase in mental health problems among the elderly population worldwide, it is necessary to develop various techniques to make sure healthy and quality living. Commonly seen mental health problems among the elders is depression. Depression is more common than usual among elders in India. (Barua, A. et.al. (2011) [42]). Since most of Indian population concentrate in rural areas, and their health seeking options are mostly primary health centers. Hence these primary care doctors have to equip themselves to diagnose the mental health issues which goes undiagnosed because it is sometimes considered to be the normal ageing factors. Researchers main concern during the present study was the usefulness of the tools that will be used to diagnose depressive symptoms of the elders. The tool should include all the factors which influence the depression, and it should be able to detect any symptom which causes depression even among asymptomatic people.

The purpose of the current literature is to examine how well evaluation instruments can be used to identify elder depression. Hence the factors influencing the onset of depressive symptoms was analyzed. Few literatures suggested that there are various factors like stressful life events in the past like abuse, which will have an impact on their self-esteem thereby

declining the cognitive ability. (Shreyank Kotian et.al (2021) [17], Myeong Ja Moon (2010) [18]). Significant association was found by the study on stressful events in past with the cognitive impairment which leads to depression in later life. Social support was found significant factor which lead to lower self-esteem which impacted life satisfaction is another causative factor for depression. Myeong Ja Moon (2010) [18]), Kotian S.S et.al (2021) [20]). Low physical health, co-morbidity like, thyroid, dementia, diabetics was also found to trigger depression, along with pharmacology related factors (Anand Prakash et.al. (2019) [19]). Another factor to contemplate is social support which elders receive at times of need. Decrease in the ability to make new social contacts, or receive their support will lead to aimless life, having impact on the mental health of the elders. This purposeless life will be a prominent factor which has to be perceived during the assessment of depression. Hence, understanding the psycho-social factors are significant in framing any assessment of depression.

In the present study, few tools which measured depressive symptoms were assessed. These are the standardized tools used in different setups to diagnosed depression among the elders. The test scores of the scales assessed in the present paper showed valid conclusion with validation and reliability conducted. The commonly used scale to measure depression is Geriatric depression scale. In one of literature it was mentioned that this scale significantly measures the mood of the person, life satisfaction and suicidal ideation, hence could differentiate between the depressed and non-depressed patients. However, Aseem Mehra et.al, opined that GDS-30 is not a one-dimensional scale hence there is a need to go beyond GDS-30 to evaluate symptoms of depression among elders[43]. Another tool for measuring depression is the Cornell Scale for Depression in Dementia, which is useful as a diagnostic standard for psychiatric disorders linked to different levels of depression.

Hamilton Rating Scale for Depression assessment when analyzed by a research literature, opined that one of the limitations of this scale is that atypical symptoms like hyper-somnia, hyperphagia and feelings of worthlessness and also anhedonia cannot be assessed. Hence the author suggested updation of the scale with diagnostic criteria of 4th Edition. Therefore, tailoring the scale as per the need of the patient is very much needed. Severity of depression and behavioral manifestation could be well diagnosed by Beck Depression Inventory and could be also used for the individual aging between 13 and 80 years. The scale is recommended to use for the alcohol dependent persons also which would be helpful in the clinical setup. As already discussed above, the scale should serve purpose, especially when used in the primary care settings. The Center for Epidemiologic Studies Depression Scale shows consistent validity to be used across gender and cultural populations, according to the review. It is also reported that the scale offers to measure depression without bias on social concerns and could be used in any setup including clinical applications. The present study also reviewed another scale Montgomery-Asberg Depression Rating Scale (MADRS), which focused on affective, cognitive, social and somatic aspects of depression across gender. The advantage of this scale is that it could be used for post-stroke depression. Another instrument that was examined was the Quick Inventory of depressed Symptomatology-Self-Report (QIDS-SR), which might be used to assess depressed symptoms in patients with asthma, as well as somatic symptoms and pharmacological adverse effects. The Patient Health Questionnaire (PHQ) after review is understood that it can be used in both clinical and research set up as a tool for diagnosing the depressive symptoms. However, authors opined that the full scale could be used with careful administering and the subscales are not recommended. The scale was tested for the Indian population.

These scales are used in diverse areas and purposes. Hence the properties of the scale should be considered while using the scale on the subjects. After analysing the various literature referred in the present study, the authors suggest that the scales like Geriatric depression scale, Hamilton Rating Scale for depression, Beck Depression Inventory, Montgomery-Asberg Depression Rating Scale is suitable for the screening purpose. Cornell Scale for Depression in Dementia and Center for Epidemiologic Studies Depression Scale are also effective scale, but few limitations like CES-D lacking internal scale validity and CSSD which makes minimal use of subjective responses makes the scale effective from theoretical point of view, which needs further research. Further, it is noted that the measurement of depression should not solely depend on basis of scores. There are chances of getting depressive scores, when there are somatic symptoms of the patients. Hence this factor also needs to be addressed when administering the tool to the patients. Loneliness and decreased social connections are the prominent factors of the old age due to various reasons. Hence including items to measure the extent of loneliness is also important. The tool of measurement should be easily, less time consuming, and appropriate to be used even in a primary health care set up, so that the symptoms of depression is easily identified. The cut-off scores should also be significant and clear.

Suggestions

The variation in the clinical features of late-life depression thereby suggests that the assessment tool should be tailor made which fits in the particular type of elders which can diagnose the symptoms in depth. The tool should include all the possible factors influencing depression, so that identifying depressive symptom at early stage is easier and could be a factor of prevention. The scale should be simple enough to be used in the primary health care setup with effective validation and reliability.

CONCLUSION

The above review of literature suggests that although depression is common among elders, preventive measures could avoid the onset of depression. Studies showed that there are several psycho-social factors which influence the onset of depression especially among the elders. If these factors could be identified in the initial stage mental illness could be avoided. There are many measures available for the assessment of depression at early stage. These assessments are reviewed and analyzed and their advantages and limitations. The authors of the present study suggest that the above reviewed scales could be used to diagnose depression, and these should be used as per the criteria of the subjects. The scales serve diverse purpose like screening,

REFERENCES

[1] Rodda, J., Walker, Z., & Carter, J. (2011). Depression in older adults. *Bmj*, *343*. Google scholar↗

[2] Grover, Sandeep; Malhotra, Nidhi. Depression in elderly (2015): A review of Indian research. Journal of Geriatric Mental Health 2(1):p 4-15, Jan–Jun 2015. | DOI: 10.4103/2348-9995.161376 Google Scholar↗

[3] Fiske, A., Wetherell, J. L., & Gatz, M. (2009). Depression in older adults. *Annual review of clinical psychology*, *5*, 363-389. Google Scholar↗

[4] Mitchell, A. J., & Subramaniam, H. (2005). Prognosis of depression in old age compared to middle age: a systematic review of comparative studies. *American Journal of Psychiatry*, *162*(9), 1588-1601. Google scholar↗

[5] Glover, J., & Srinivasan, S. (2013). Assessment of the person with late-life depression. Psychiatric Clinics, 36(4), 545-560. Google scholar↗

[6] Mulsant BH, Ganguli M. Epidemiology and diagnosis of depression in late life. J Clin Psychiatry. 1999;60 Suppl 20:9-15. Google scholar↗

[7] Unützer, J., Katon, W., Russo, J., Simon, G., Bush, T., Walker, E., ... & Ludman, E. (1999). Patterns of care for depressed older adults in a large-staff model HMO. The American Journal of Geriatric Psychiatry, 7(3), 235-243. Google scholar↗

[8] Yaffe, K., Blackwell, T., Gore, R., Sands, L., Reus, V., & Browner, W. S. (1999). Depressive symptoms and cognitive decline in nondemented elderly women: a prospective study. Archives of general psychiatry, 56(5), 425-430. Google scholar↗

[9] Comijs, H. C., Jonker, C., Beekman, A. T., & Deeg, D. J. (2001). The association between depressive symptoms and cognitive decline in community-dwelling elderly persons. International journal of geriatric psychiatry, 16(4), 361-367. Google scholar↗

[10] Wilson, R. S., Barnes, L. L., De Leon, C. M., Aggarwal, N. T., Schneider, J. S., Bach, J., ... & Bennett, D. A. (2002). Depressive symptoms, cognitive decline, and risk of AD in older persons. *Neurology*, *59*(3), 364-370. Google scholar↗

[11] American Psychiatric Association. (2013). Desk reference to the diagnostic criteria from DSM-5 [TM]. *(No Title)*. Google scholar↗

[12] Rajesh R tampi, Deena J Tampi,(2022), The assessment of Depression among older adults, Psychiatric times, vol 39, Issue 3

[13] American Psychological Association. (n.d.). Depression Assessment Instruments. American Psychological Association. https://www.apa.org/depression-guideline/assessment.

[14] Mitchell, A. J., & Subramaniam, H. (2005). Prognosis of depression in old age compared to middle age: a systematic review of comparative studies. *American Journal of Psychiatry*, *162*(9), 1588-1601. Google Scholar↗

[15] Clyburn, L. D., Stones, M. J., Hadjistavropoulos, T., & Tuokko, H. (2000). Predicting caregiver burden and depression in Alzheimer's disease. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *55*(1).Google scholar↗

[16] Mulsant, B. H., & Ganguli, M. (1999). Epidemiology and diagnosis of depression in late life. *Journal of Clinical Psychiatry*, *60*, 9-15. Google Scholar↗

[17] Dr.Shreyank Kotian, Dr.Girish Navada,(2021), Impact of stressful events in early life on cognitive impairment among adults- a risk factor for dementia, The Homoepathic Heritage, Nov, 43-7 Google scholar↗

[18] Moon, M. J. (2010). Factors influencing depression in elderly people living at home. *Journal of Korean Academy of Nursing*, *40*(4), 542-550. Google Scholar↗

[19] Prakash, A., Jha, R. N., & Kumari, P. (2019). Psychology of Depression in Elderly: A Review. *EC psychology and psychiatry*, *8*(4), 263-272.Google Scholar↗

[20] Kotian , S. S., & Kotian, S. M. (2021). Understanding dimensions of vulnerability in defining depression among institutionalised elders. *International Research Journal of Modernization in Engineering Technology and Science*, *3*(5), 3213–3216. Google Scholar↗

[21] Friedman, B., Heisel, M. J., & Delavan, R. L. (2005). Psychometric properties of the 15-item geriatric depression scale in functionally impaired, cognitively intact, community-dwelling elderly primary care patients. *Journal of the American Geriatrics Society*, *53*(9), 1570-1576. Google Scholar↗

[22] Marc, L. G., Raue, P. J., & Bruce, M. L. (2008). Screening performance of the 15-item geriatric depression scale in a diverse elderly home care population. *The American Journal of Geriatric Psychiatry*, *16*(11), 914-921. Google Scholar↗

[23] Alexopoulos, G. S., Abrams, R. C., Young, R. C., & Shamoian, C. A. (1988). Use of the Cornell scale in nondemented patients. *Journal of the American Geriatrics Society*, *36*(3), 230-236. Google Scholar↗

[24] Schreiner, A. S., Hayakawa, H., Morimoto, T., & Kakuma, T. (2003). Screening for late life depression: cut-off scores for the Geriatric Depression Scale and the Cornell Scale for Depression in Dementia among Japanese subjects. *International journal of geriatric psychiatry*, *18*(6), 498-505. Google Scholar↗
[25] Hamilton, M. (1960). A rating scale for depression. *Journal of neurology, neurosurgery, and psychiatry*, *23*(1), 56. Google Scholar↗
[26] Sharp, R. (2015). The Hamilton rating scale for depression. *Occupational Medicine*, *65*(4), 340-34. Google Scholar↗
[27] Rohan, K. J., Rough, J. N., Evans, M., Ho, S. Y., Meyerhoff, J., Roberts, L. M., & Vacek, P. M. (2016). A protocol for the Hamilton Rating Scale for Depression: Item scoring rules, Rater training, and outcome accuracy with data on its application in a clinical trial. *Journal of affective disorders*, *200*, 111-118. Google Scholar↗
[28] Jokelainen, J., Timonen, M., Keinänen-Kiukaanniemi, S., Härkönen, P., Jurvelin, H., & Suija, K. (2019). Validation of the Zung self-rating depression scale (SDS) in older adults. *Scandinavian journal of primary health care*, *37*(3), 353-357. Google Scholar↗
[29] Schotte, C. K. W., Maes, M., Cluydts, R., & Cosyns, P. (1996). Effects of affective-semantic mode of item presentation in balanced self-report scales: Biased construct validity of the Zung Self-Rating Depression Scale. *Psychological Medicine*, *26*(6), 1161-1168. Google Scholar↗
[30] Suija, K., Rajala, U., Jokelainen, J., Liukkonen, T., Härkönen, P., Keinänen-Kiukaanniemi, S., & Timonen, M. (2012). Validation of the Whooley questions and the Beck Depression Inventory in older adults. *Scandinavian journal of primary health care*, *30*(4), 259-264. Google Scholar↗
[31] Segal, D. L., Coolidge, F. L., Cahill, B. S., & O'Riley, A. A. (2008). Psychometric properties of the Beck Depression Inventory—II (BDI-II) among community-dwelling older adults. *Behavior modification*, *32*(1), 3-20. Google Scholar↗
[32] McPherson, A., & Martin, C. R. (2010). A narrative review of the Beck Depression Inventory (BDI) and implications for its use in an alcohol-dependent population. *Journal of Psychiatric and Mental Health Nursing*, *17*(1), 19-30. Google Scholar↗
[33] Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied psychological measurement*, *1*(3), 385-401. Google Scholar↗
[34] Saracino, R. M., Cham, H., Rosenfeld, B., & Nelson, C. J. (2018). Confirmatory factor analysis of the Center for Epidemiologic Studies Depression Scale in oncology with examination of invariance between younger and older patients. *European Journal of Psychological Assessment*. Google Scholar↗
[35] Carleton, R. N., Thibodeau, M. A., Teale, M. J., Welch, P. G., Abrams, M. P., Robinson, T., & Asmundson, G. J. (2013). The center for epidemiologic studies depression scale: a review with a theoretical and empirical examination of item content and factor structure. *PloS one*, *8*(3), e58067. Google scholar↗
[36] Quilty, L. C., Robinson, J. J., Rolland, J. P., Fruyt, F. D., Rouillon, F., & Bagby, R. M. (2013). The structure of the Montgomery–Åsberg depression rating scale over the course of treatment for depression. *International Journal of Methods in Psychiatric Research*, *22*(3), 175-184. Google Scholar↗
[37] Dr. Srushti M. Vyas, Dr. Vaibhav G. Chavda, Dr. Dipti C. Padole (2021). "Reliability and validity of Montgomery and Asberg depression rating scale compared with Hamilton Depression Rating Scale to assess post-stroke depression among the Indian population", IJCRT | Volume 9, Issue 10 October 2021 | ISSN: 2320-2882, pp899-907.
[38] Brown, E. S., Murray, M., Carmody, T. J., Kennard, B. D., Hughes, C. W., Khan, D. A., & Rush, A. J. (2008). The Quick Inventory of Depressive Symptomatology-Self-

report: a psychometric evaluation in patients with asthma and major depressive disorder. *Annals of Allergy, Asthma & Immunology*, *100*(5), 433-438. Google Scholar

[39] Rush, A. J., Trivedi, M. H., Ibrahim, H. M., Carmody, T. J., Arnow, B., Klein, D. N., ... & Keller, M. B. (2003). The 16-Item Quick Inventory of Depressive Symptomatology (QIDS), clinician rating (QIDS-C), and self-report (QIDS-SR): a psychometric evaluation in patients with chronic major depression. *Biological psychiatry*, *54*(5), 573-583. Google Scholar↗

[40] Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine*, *16*(9), 606-613. Google Scholar↗

[41] De Man, J., Absetz, P., Sathish, T., Desloge, A., Haregu, T., Oldenburg, B., ... & Williams, E. D. (2021). Are the PHQ-9 and GAD-7 suitable for use in India? A psychometric analysis. *Frontiers in psychology*, *12*, 676398. Google Scholar↗

[42] Barua, A., Ghosh, M. K., Kar, N., & Basilio, M. A. (2011). Prevalence of depressive disorders in the elderly. *Annals of Saudi medicine*, *31*(6), 620-624. Google Scholar↗

Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Kotian, S.S. & Kotian, M.S. (2023). Extrapolative Utility on Assessment of Depressive Symptoms Among Elderly Population. *International Journal of Indian Psychology*, *11(4),* 2101-2117. DIP:18.01.196.20231104, DOI:10.25215/1104.196