REVIEW PAPER

Volume - 11 | Issue - 08 | August - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A COMPARATIVE ANALYSIS OF DEPRESSIVE DISORDERS IN CHILDREN AND ADULTS: META-ANALYSIS OF ETIOLOGY, ASSESSMENT TOOLS AND INTERVENTIONS

Pharmacology

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ABSTRACT

Depressive disorder is one of the most commonly found non-communicable types of clinical disorder having serious impact, not only on the mental health status; but also on the health and socio-economic status of the concerned person. Though reason for depressive disorder is not confined to a particular reason, a wide range of chronic health issues, socio-demographic conditions, and even the family background have major impact on its occurrence. Patterns of intervention management in both adults and children involve psychotherapy with some specifically designed self-help tools. In peculiar cases, depending upon the severity of depression, antidepressants can be used in pharmacotherapy. The current study meta-analysis is a systematic review analysis of depressive disorder causes in both adults and children through the validation of the assessment tools involved in measuring the severity and the types of interventions used by expert clinicians, to provide better cure of diseases.

KEYWORDS

Adult, Assessment tools, Children, Depression, Etiology, Intervention

1.INTRODUCTION

Depression, in clinical terms can be defined as a particular type of mental condition which can be characterized by having lack of interest towards life which leads to loss of hope and positive attitude for everything (Kessler, 2012). According to the World Health Organization, it is a common disorder that affects several people worldwide despite the factors, like age group, gender or socio-economic status (WHO, 2017). The prevalence of depression has now been projected as the second-largest cause for the burden of disease by 2020 (Chapman and Perry, 2008). Some of the classic characteristic features of depression are persistent mood swings, sadness feelings, lack of interest, negative attitude towards life, high levels of stress or anxiety, fear and many more. It is also associated with serious physical health comorbidities (Correll et al., 2017). The classifications of depression are the Diagnostic and Statistical Manual of Mental Disorders, DSM-5 (2014), the American Psychiatric Association and version 10 of the International Classification of Diseases (ICD-10, 1992).

The prevalence rate of depression ranges in between 3-16.9%, with most countries falling somewhere between 8-12% (Andrade et al., 2003). The diagnosis of depression requires factors, like symptoms, patient's life history, patient's surrounding environment. However, accuracy of disorder can only be measured through systematic approach of identification of disorders, which can be done through self-report questionnaires and clinical interview (WHO, 2017). In a community study in British Columbia, prevalence rate of 11.2% for symptoms of depression was seen in elder persons (Steffens et al., 2009).

In this review paper, authors have done a brief comparative study regarding depression, reason and its interventions is being carried out, as to understand the difference in the psychological remedies used in different age groups with different causes of depression.

2.METHODOLOGY

For the process of meta-analysis at the initial stage, three major research databases namely SCOPUS, PubMed, Science Direct were searched in order to collect related articles. After a systematic review of all the databases, 21 research papers each confirming to "depression in adults" and "depression in children" has been deuced for the purpose of data extraction. The articles were selected from the database using relevant keywords, like "Depression", "Assessment tools for Depressive disorders", "Depression & interventions" etc. These collected research papers were inspected thoroughly for further analysis. From the purpose of data extraction in the selected topic, a tabular extraction method was adopted that basically dealt with the etiology, assessment tools and interventions from each study in a way that will help in differentiating both depression in children and adult against the aforementioned factors.

3.RESULT & DISCUSSION

Due to its high prevalence and extreme consequences, depression and its interventions are of major public health concern. Types of depressions, in terms of their severity in adults and adolescents were selected for meta-analysis system study. The major focused factors were – type of etiology, assessment tools and intervention used in both adults and children. As both groups differ from each other by several aspects, viz. age, lifestyle, habitat, immune system, socio-economic status, pressure from society, hence measuring level of severity of depression, its causes and types of intervention provided also varied greatly.

For the data extraction, the key data – the selected papers – were screened and analysed on the following set of particulars: details of the authors; year of publication; cause of depression; assessment tools used; remedy of depression or interventions and outcomes. These key data sets were summarized in two tables for both adults and children to ease further theme wise analysis (Table 1 & 2).

3.1 Group-1 (Adults)

Most of the depressive disorders found in adults were found to be categorized into Major Depressive Disorder (MDD), Current Depressive Disorder (CDD), Diagnosed Depression Disorder (DDD), and Filicide Depressive Disorder (FDD) depending upon the symptoms diagnosed. Depending upon the severity, depression could be mild depression, moderate depression, moderately severe depression and severe depression.

However, in all the literature studied, mostly one or more than one kind of depression measuring scales were utilized. Some of specific and most commonly utilized depressive disorder tools were: Composite International Diagnostic Interview (CIDI), Quick Inventory of Depressive Symptomatology Self Report (QIDS-SR), Sheehan Disability Scale (SDS), WHO Disability Assessment Scale (WHO-DAS), Hopkins Symptom Checklist Depression Scale (SCL-20), Patient Health Questionnaire-9 (PHQ-9), General Health Questionnaire (GHQ), Hamilton rating scale (HAM-D), Short version of Depression, Anxiety and Stress Scale (DASS) Questionnaire, Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI) and many more. Utilization of more than one measuring tools assured the efficacy of the result, so that the accurate depression level could be easily diagnosed and accordingly, the corrective interventions could be utilized.

3.2 Group-2 (Children)

In case of adolescents, depression was mostly found to be associated with parental disturbance, loneliness, physical punishment, teasing at school, socio-economic factors and other social circumstances. However, in all the literature studied, the children depression disorders were measured through several tools, like Diagnostic Interview Schedule for Children(DISC-2), SCARED CBCL, STAIC Mood and Feelings Questionnaire (MFQ), short-form MFQ (SMFQ), dimensions of depression profile for children and adolescents (DDPCA), Composite International Diagnostic Interview (CIDI), Revised Clinical Interview Schedule (CIS-R), Hospital Anxiety and Depression Scale (HADS), Infant Behaviour Questionnaire (IBQ), Children's Depression Inventory (CDI), Strengths and Difficulties Questionnaire (SDQ), Clinical Interview Schedule-Revised (CIS-R).

4.Etiology

In general cases, the etiology of depression was found to be different in different groups of subjects involved. In several cases, the habitat structure, rather than to be more precise, socio-demographic factors influenced the depression disorder. This difference can be due to socio-economic disadvantages, cultural constraints, violence (Kvrgic et al., 2013; Baradaran et al., 2013) and role of sex hormones (Li Graham, 2017).Another socio-demographic factor is the marital status. The prevalence of depression in individuals living separately or divorced, was found to be higher than compared to the married ones (Scarinci et al., 2002) Another basic cause for major depressive disorder is the several physical impairments associated with clinical disorders.. Prior to these researches, several other diseases were also found to elevate the rates of depression (Glassman et al., 2009).

5.Assessment Tools

In both adults and adolescents, there is several assessment instruments used to evaluate the depression rates. When selecting a particular assessment tool, several factors should be taken into account, like precision, accuracy, time consumption duration, age (in children)

Table-1: Depression cause and intervention for higher aged people in Adults people

Group-1: Adults					
S. No.	Author Name and Year	Cause of depression	Method used for measuring depression	Interventions or remedy for depression	Outcome
1	Kessler et al., 2003	Major depression disorder	Composite International Diagnostic Interview (CIDI) Quick Inventory of Depressive Symptomatology Self Report (QIDS-SR) Sheehan Disability Scale (SDS) WHO Disability Assessment Scale (WHO-DAS)	12 month treatment including self-help (religious guidance, Counselling) and complementary alternative medicine	Screening and basic treatment should be correlated with improvement in the quality of treatment
2	Lowe et al., 2004	Major depression, Dysthymia, or both due to older age	Hopkins Symptom Checklist Depression Scale (SCL-20) Patient Health Questionnaire-9 (PHQ-9)	IMPACT 12 month counselling, Cognitive Behavioural Therapy (CBT)	Patient Health Questionnaire-9 is found to be more responsive in terms of monitoring depressed patients health improvement
3	Akhtar-Danesh et al., 2007	lifetime depression, 12-month depression	Composite International Diagnostic Interview (CIDI)		The study found out a negative relation between age and depression after adjusting some of the socio-demographic factors
4	Reuter et al., 2007	Depressive disorder due to breast and gynaecological cancer	General Health Questionnaire (GHQ) HADS	Psychotherapy (psychological counselling), Cognitive Behavioural Therapy (CBT)	Treatment related to gynaecological and breast cancer can be done outside hospital care so as to decrease stress level
5	Frasure-Smith and Lesperance 2008	Major depressive disorder (MDD) in coronary artery disease (CAD) follow up patients due to anxiety	BDI-II HADS-A		Increase in Anxiety and depression can lead to Major adverse cardiac events (MACE) risk in patients with stable CAD
6	Kauppi et al., 2008	Filicide depression due to traumatic experiences in childhood/ adulthood	ICD-9 DSM-III DSM-III	Clinical therapy, like speech therapy along with counselling of family members	More attention should be given to mothers' own experiences of motherhood childhood
7	Glassman et al., 2009	Major depressive disorder (MDD) after acute coronary syndrome (ACS)	HAM-D	Antidepressant, like sertraline hydrochloride	Severity of MDD after ACS predicts more than a doubling of mortality, so it has to be treated promptly
8	Busch et al., 2013	Current depressive symptoms and Diagnosed depression due to low socioeconomic status	PHQ-9 DEGS1-MH	Self-help through engagement in other work	Depression prevalence rate in Germany is associated with 3 factors • Socioeconomic status (SES) • Age • Gender

9	Chapman et al., 2008	Depression due to type 2 diabetes	CES-D	Developing Affective Health to Improve Adherence (DAHLIA), a self-paced online intervention with 8 skills (1) Noticing and recalling positive events (2) Savoring or capitalizing on positive events (3) Gratitude (4) Mindfulness (5) Positive reappraisal (6) Self-affirmation and recognizing personal strengths (7) Setting attainable goals (8) Performing acts of kindness	The online positive emotion skills intervention was found to be engaging and feasible to complete and shows potential to reduce symptoms of depression
10	Buntrock et al., 2016	Major depressive disorder	CES-D BADS-SF	Unrestricted access to usual care (visits to the primary care clinician) Allowed to web-based guided self-help intervention (cognitive-behavioural and problem-solving therapy supported by an online trainer or allowed to web-based psycho education program	use of a web-based guided self-help intervention compared with enhanced usual care reduces the incidence of MDD
11	Maske et al., 2016	Major depressive disorder (MDD) established by CIDI, self-diagnosed depression and current depressive symptoms	Composite International Diagnostic Interview (CIDI) Self-reported depression diagnosis made by physician or psychotherapist PHQ-9	-	This study results confirm established associations between marital status and social support and depression with high level of consistency across all the three measures investigated
12	Harrington et al., 2016	Depression due to elevated cerebral amyloid-β (Aβ)	Geriatric Depression Scale	Doses of amyloid-β	elevated amyloid-β levels are associated with a 4.5-fold increase in developing depressive symptoms on follow-up in preclinical Alzheimer's disease.
13	Huh et al., 2017	Depression due to childhood trauma	Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Childhood Trauma Questionnaire (CTQ), Cognitive Emotion Regulation Questionnaire (CERQ)-adaptive and maladaptive strategies	Cognitive behavioural therapy	It is found that childhood trauma is associated with adulthood depression/ anxiety symptoms
14	Kalita et al., 2017	Unipolar and bipolar depression	Mini-International Neuropsychiatric Interview (M.I.N.I.) version 6.0 Beck Depression Inventory (BDI)		The severity of depression is higher in unipolar group compared to bipolar type Carefully understanding the symptoms at early age will be helpful in diagnosis of bipolar depression
15	Fitzpatrick et al., 2017	Depression in an university students	PHQ-9 GAD-7 Positive and Negative Affect Scale	Self-help content derived from CBT principles in a conversational format with a text-based conversational agent called Woebot	those in the Woebot group significantly reduced their symptoms of depression
16	Srisurapanont et al., 2017	major depressive disorder	Perceived Deficit Questionnaire for Depression (PDQD) PHQ-9	Antidepressant	In MDD, advanced age and lower education predict objective cognitive dysfunction. Depression predicts subjective cognitive dysfunction.
17	Gustavson et al., 2018	Common mental disorders due to specific phobias and alcohol use disorders	Munich Composite International Diagnostic Interview (M-CIDI)	Attain educational and work activity	Mental disorders are common among young, but AUD and specific phobias are less prevalent over this period.
18	Mirzaei et al., 2019	Depression associated socioeconomic factors	Short version of Depression, Anxiety and Stress Scale (DASS) Questionnaire	life skills training	To develop community-based primary and secondary mental health prevention programs

19	Verma and Mishra, 2020	Depression due to anxiety and stress due to outbreak of COVID 19	Demographics Depression Anxiety Stress Scale (DASS-21)	-	Depression, anxiety and stress among Indian population during the lockdown for COVID 19 were prevalent, which requires urgent attention of mental health experts
20	Ettman et al., 2020	Depression (mild, moderate, moderately severe and severe) due to COVID 19 outbreak	PHQ-9	Psychological counselling	Findings suggest that prevalence of depression in the US was 3-fold higher during COVID-19 due to stress related to lower economic resources and fear of job loss
21	Asuquo et al., 2020	Depression in medical students associated with socio-demographic and other factors	Zung Self-Rated Depression Scale	Emotional support, student-advisor-mentorship therapy through counselling encouragement to participate in extra-curricular activity	Changes in curriculum can help in decreasing the stress level

Table-2: Depression cause and intervention for lower aged people (Children)

For Children					
Sl No.	Author Name and Year	Cause of depression	Method used for measuring depression	Interventions or remedy for depression	Outcome
1	Neighbors et al., 1992	Conduct disorder depression and anxiety due to substance abuse	Diagnostic Interview Schedule for Children(DISC-2)	Admission to community treatment centre	There is a strong co-occurrence of substance abuse and the three psychiatric disorders in juvenile delinquent sample
2	Chassin et al., 1999	Anxiety and Depression due toparental alcohol and drug abuse	DIS (C-DIS III-R)		Direct effects of parent alcoholism on young adult occurs by developing psychopathological disorders
3	Monga et al., 2000	Child Anxiety-Related Emotional Disorders (SCARED)	SCARED CBCL STAIC	K-SADS-P intake	Children with anxiety disorder are more severe than children with depression only or disruptive disorders
4	Glied and Pine, 2002	Depression	CFSAG	CBT	Early identification and treatment session helps in controlling deoression
5	Kuo et al., 2005	Depression due to juvenile justice setting	Mood and Feelings Questionnaire (MFQ) short-form MFQ (SMFQ)	Motivational strategies applied by probation counsellors or health care providers during a detention stay can be done psychotherapy by counsellors	SMFQ is a robust practical tool for identifying depression in detained youth
6	Simonoff et al., 2008	Depression associated with Autism	Social Communication Questionnaire (SCQ)	Clinical assessment	Regular follow ups can help in maintaining mental health
7	Bansal et al., 2009	Depression due to Economic difficulty, physical punishment and, teasing at school and parental fights	GHQ-12 BDI	Psychotherapy by counsellors	Interaction with teachers and parents in a friendly way
8	Qualter et al., 2010	Depression due to Childhood loneliness	dimensions of depression profile for children and adolescents (DDPCA)	Structured intervention programmes designed to help children Suggestion-changes in the hypothalamic–pituitary–adrenal (HPA) axis	HPA changes or depressogenic cognitive biases may play a role in decreasing stress level
9	McKercher et al., 2014	Depression associated with physical activity patterns during childhood and adolescence	Composite International Diagnostic Interview (CIDI)	Constructive extra-curricular physical activities	Good habitual activity during leisure time since childhood can decrease the risk of depression
10	Patton et al., 2014	common mental disorders in adolescents	Revised Clinical Interview Schedule (CIS-R)	Early clinical interventions	clinical and preventive responses could prevent life psychiatric morbidity arising from adolescent-onset disorders

11	Ciarrochi et al., 2015	Effect of hope on growth in adolescence	Children's hope scale Positive and negative affect schedule – expanded form (PANAS-X)	Providing hope in form of optimism, hopelessness, self-esteem, and emotional awareness	It acted as appositive attribute in constructing good mental health
12	Kovacs et al., 2016	Episodic major depressive disorder	Beck Depression Inventory-II (BDI-II)	Psychological therapy	
13	Kwok et al., 2016	Depression	Hospital Anxiety and Depression Scale (HADS)	Intervention program, "Live a Positive Life," was done to enhance hope and gratitude in children in order to reduce their depressive symptoms	Positive psychology intervention helped children cope with current emotional problems and enhance their capability to deal with future stress and adversities.
14	Korczak et al., 2016	Major depressive disorder due to parental disorder issues	CPSP	Medication (FLUOXETINE) and Therapy (CBT)	With polypharmacy treatment severity can be decreased
15	Stein et al., 2018	postnatal depression on children	Edinburgh Postnatal Depression Scale (EPDS) and SCID-CSR Infant Behaviour Questionnaire (IBQ)	CBT plus one of the two other interventions: VFT or PMR (45 min each)	Therapy found to be effective
16	Mishra et al., 2018	Depression due to socio-economic factors	Children's Depression Inventory (CDI)	Psycho-education, family education	Understanding the burden of depression and anxiety in adolescents will help in the therapy process
17	D'Souza et al., 2019	change in behavioural issues in children	Strengths and Difficulties Questionnaire (SDQ)	Repeated screening for early behavioural issues in childhood is important	
18	Li et al., 2019	adolescent depression associated with socio-demographic characteristics	Centre for Epidemiology Studies Depression Scale (CES-D)	psychological intervention	sociodemographic characteristics are potentially associated with adolescent depression
19	Lindberg et al., 2020	Depression due to obesity	International Classification of Diseases 10th revision (ICD-10) or dispensed prescribed medication using the Anatomical Therapeutic Chemical classification system (ATC) (anxiety disorder: ICD-10 F40-42, ATC N05B, N05CD; depressive disorder: ICD-10 F32-F33, ATC N06A	Psychotherapy	Depression is always associated with obesity treatment. Thus, screening for, and treatment of, these conditions
20	Tirfeneh and Srahbzu, 2020	Depression associated with parental neglect among adolescents	PHQ-9 ACEQ Oslo-3 Social Support Scale	Psychotherapy, family education (Parental education)	Teachers involvement in giving emphasis to psychologically unwell students Campaigns can be done to teach about the effect of parental neglect on adolescent's mental health.
21	Kandola et al., 2020	Depression in adolescents	Clinical Interview Schedule-Revised (CIS-R)	Interventions aimed at increasing activity in young people have focused mainly on its physical health benefits, such as improving coordination skills	Increasing light activity and decreasing sedentary behaviour during adolescence could decrease depression

In both adults and adolescents, there is several assessment instruments used to evaluate the depression rates. When selecting a particular assessment tool, several factors should be taken into account, like precision, accuracy, time consumption duration, age (in children) (Bernaras et al., 2018). The most widely accepted assessment tool for depression is Beck Depression Inventory (BDI) (Richter et al., 1998). The accuracy of a screening tool is regulated by patients' interpretation of its emotional terms (Kerr et al., 2001). Similarly, some of the assessment tools, like Hamilton Depression Rating Scale requires more time duration. As these products were built in early years hence they can't cope with current DSM-IV orICD-10 diagnostic criteria (WHO, 1992). Amongst all PHQ-9 was found to be mostly utilized and successful assessment tool in measuring the severity of depression in adults (Fig-1) (Lowe et al., 2004; Srisurapanont et al., 2017). Similarly, when children depressive disorder tools were compared, similar kind of psychotherapy type of assessment tool including questionnaire pattern (PHQ-9) was found to Pbe effective (Fig-2) (Tirfeneh and Srahbzu, 2020).

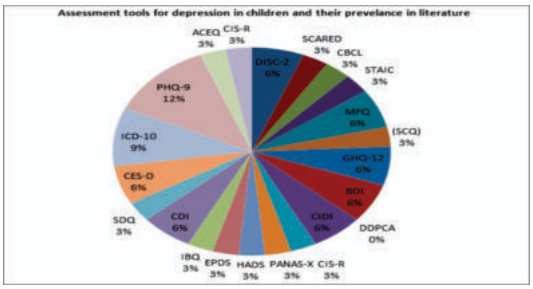

Fig. 1: Prevalence of Assessment Tools in Literature of Adult Depression

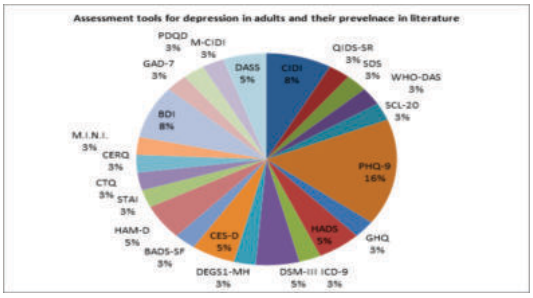

Fig. 2: Prevelance of Assessment Tools in Literature of Childhood Depression

6. Intervention

The majority of available methods of interventions focuses on treatment of depression, target specifically. Several approaches considered, like psychological and psychosocial methods have shown greater efficacy. The first NICE guideline (NICE, 2004a) was about use of psychological and psychosocial treatments available for depression without focusing on actual needs of people with depression when associated with chronic physical health problem. Psychotherapy is considered appropriate for all children, adolescents, and adults diagnosed with depressive disorders. Psychodynamic therapy helps in treating depressed persons by identifying their feelings, improving communications skills with others and gain coping skills. One of the best types is Cognitive Behavioural Therapy (CBT). The rationale for the use of CBT for depression is based on the theory of communicating with the patients and to teach them regarding their inaccurate belief systems. It basically occurs in session systems. CBT has shown mixed results in the treatment of major depressive disorder in all age groups.

7. Conclusion & Future Outlook

Depression can occur almost in all generation without looking into age group, financial and social status, type of health disease associated or any other factor. Current and future research focuses on knowing the biological bases for depression, so as to get a specific target-oriented treatment.Early detection, intervention, and appropriate treatment can promote remission, prevent recurring, and reduce the emotional and financial burden of the disease.

Decades of research into the treatment of depression through psychotherapy, self-help sessions, pharmacotherapy by utilization of several antidepressants, neurobiology and other factors towards treatment of depression have greatly advanced our ability to somewhat manage this disorder. However, a number of challenges remain.

1. First, Depression is a recurrent illness, and repeated episodes are common. So once a patient is cured, there is no guarantee that he would not have this disorder in future.
2. Secondly, many depressed patients do not achieve full remission despite optimized treatment.
3. Finally, little is known about how depression might be prevented.

The present study contains a prime meta-analysis data for providing a cumulative result regarding depressive disorders, its assessment tools and intervention techniques that could provide better medications to patients.

Conflict Of Interest- No Conflict of interest between authors.

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