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Early Screening and Intervention Research on Adolescent Depression

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Abstract: Adolescence has become a key period for the onset of depression, with far-reaching consequences for individuals and society. Adolescent mental health and development benefit greatly from early detection and intervention. This paper evaluates existing depression screening tools/methods and proposes ways for early detection of depression among adolescents in educational settings. Furthermore, it investigates strategies/methods for early intervention in adolescents and makes intervention recommendations across several channels, including family, school, society, and government. This study intends to enhance awareness at multiple levels and give useful references for professionals in the industry.

1. Introduction

According to research, adolescence is a high-risk era for the emergence of depression, which has become an increasingly important worldwide health issue that is receiving extensive attention. Adolescents experience major physical and psychological changes, academic stress, changes in family ties, and social pressures, among other challenges. These factors frequently contribute to common mental problems characterised by chronic poor mood, loss of interest, low self-esteem, and impaired social and academic functioning, which can lead to adolescent depression. This issue affects not only people but also their families, schools, and society as a whole. The detrimental influence on personal mental health and overall development is especially noticeable, resulting in academic underachievement, low self-esteem, difficulty in interpersonal interactions, and pessimistic thoughts about the future. Furthermore, depression is linked to serious repercussions such as self-harm, substance addiction, and suicide, posing a threat to teenagers' safety.

Many organisations and institutions are currently working to improve depression detection and management, which has resulted in some advances in early screening and intervention for adolescent depression. However, there are still numerous issues to be addressed. One of these issues is determining the accuracy and viability of screening methods, as each instrument has unique strengths, limits, and application. Furthermore, additional study and assessment are needed to determine the efficacy and long-term consequences of therapeutic methods. This article will look at screening and intervention strategies for adolescent depression, assisting users in selecting appropriate screening tools, identifying depression concerns in a timely manner, and facilitating the implementation of early intervention procedures. This, in turn, helps teenagers get the help they need and improves their mental health. The information offered in this article can also serve as useful references for educators,

professionals, and researchers, raising public awareness of adolescent depression and mitigating its detrimental influence on individuals and society.

2. Screening for Adolescent Depression

2.1. Existing Tools and Methods

Screening for adolescent depression is critical to early detection and intervention. There are a variety of techniques and evaluation procedures available for screening depression in teenagers. These tools seek to identify probable depression symptoms by gathering information and analysing adolescents' psychological states. Questionnaires and interviews are common screening methods for adolescent depression. This section will go over the current tools and approaches for detecting teenage depression.

Table 1 demonstrates that different depression assessment tools and methods are suitable for different scenarios and purposes. For instance, the Whooley Two-Question Tool is suitable for quick screening[1], while the HAMD, MADRS, and NDI scales are appropriate for detailed evaluation and diagnosis by professionals. The BDI, CES-D, PHQ-9, and CDI scales are applicable for self-assessment or assessment of specific populations. Other scales not mentioned in Table 1, such as the EPDS, CDS, and HAD scales, designed for postpartum depression, geriatric depression, and hospital anxiety and depression assessment, respectively, are not relevant to early screening for adolescent depression and will not be discussed further in this article.[4]

Table 1: Common Forms of Adolescent Depression Screening and a Comparison of their Advantages and Disadvantages

Screening Forms	Tools/Methods	Description	Advantages and Disadvantages	
			Advantages	Disadvantages
Questionnaires	Whooley Two-Question Tool[5]	Consists of two simple questions about low mood and decreased interest.	Simple and easy to use, enables quick screening for potential depressive symptoms.	Lacks detailed assessment of depression symptoms, not suitable for depression analysis or diagnosis.
	HAMD Scale[6]	Includes multiple assessment items covering mood, sleep, cognition, and weight, among others.	Wide coverage of assessment items.	Requires professional administration due to the complexity of the evaluation.
	MADRS Scale[7]	Includes multiple items related to	Well-designed assessment	Complex evaluation process, requires professional rating

		mood, cognition, anxiety, sleep, and appetite.	content, high-quality scale.	and interpretation.
	BDI Scale[9]	Includes multiple items related to mood, self-blame, fatigue, and sleep, among others.	Wide coverage of assessment content, high-quality scale.	Evaluation content is extensive, may be influenced by subjective bias and memory recall.
	CES-D Scale[10]	Includes multiple items related to mood, sleep, appetite, social interactions, and activities.	Allows for self-assessment and easy conclusion drawing.	Evaluation content is extensive, may be influenced by subjective bias and memory recall.
	PHQ-9 Questionnaire[8]	Consists of nine questions covering mood, sleep, appetite, and thoughts of self-harm, among others.	Simple and easy to use, wide coverage of assessment items.	May be influenced by subjective bias and memory recall.
	NDI Scale[11]	Comes in 35-item and 10-item versions, with data collected from medical history, examinations, and observations.	Able to identify endogenous depression.	Relatively complex evaluation process, requires professional rating and interpretation.
	CDI Scale[12]	Includes multiple items related to mood, behavior, and social aspects of symptoms.	Specifically designed for assessing depression in children and adolescents.	Limited by individual understanding and expression, may involve subjectivity and interpretation difficulties.

Interviews	Face-to-face interviews	Involves inquiring about the frequency, severity, and impact on daily life of depressive symptoms.	Allows for further probing and obtaining more detailed descriptions.	Requires the involvement of professionals, time-consuming, and subject to subjective factors of the interviewee.

2.2. Recommendations for Early Screening of Adolescent Depression

Based on the analysis of commonly used screening forms for adolescent depression, as outlined in Table 1, the corresponding tools, applicable scenarios, and assessment focuses are as follows:

The Whooley Two-Question Tool is suitable for quick screening and preliminary assessment of depressive symptoms, especially in general medical settings or non-professional mental health environments.[2] It can be used for large-scale individual screening. The Hamilton Depression Rating Scale (HAMD) is applicable for clinical research to assess the severity of depressive symptoms. The Montgomery-Asberg Depression Rating Scale (MADRS) is suitable for clinical and professional research environments to evaluate the degree of depression and symptom features. The Beck Depression Inventory (BDI) can be used in psychological counselling and clinical research to evaluate individual depressed symptoms and mood states. The Centre for Epidemiologic Studies Depression Scale (CES-D) is appropriate for use in epidemiological studies and large-scale surveys to determine the frequency of depressive symptoms. The Patient Health Questionnaire-9 (PHQ-9) can be used in clinical and medical settings to assess individual depressed symptoms and severity. The Nijmegen Depression Scale (NDI) is appropriate for clinical and research settings to assess people's emotional states and functional limitations. The Children's Depression Inventory (CDI) is used in therapeutic and educational settings to assess emotional states and behavioural traits. Furthermore, professional interviews combined with suitable diagnostic instruments can provide extensive information on depressed symptoms, allowing for early detection, assessment, and intervention to enhance patients' mental health and quality of life.

In conclusion, the methods listed below may be appropriate for early depression screening in teenagers in a school setting. Because of its speed, scalability, and low requirement for qualified experts, the Whooley Two-Question Tool can be used by relevant school psychology teachers to conduct large-scale examinations of teenagers, evaluating whether they have depressive tendencies or symptoms. Adolescents who answer "yes" or "possibly" to one of the questions in the Whooley Two-Question Tool can have their mental health records established. Students can be classified into three categories: normal, requiring early screening based on self-assessment recommendations, or needing referral to specialized treatment institutions for assessment and treatment, allowing for targeted interventions. Since the focus of this study is on early screening for adolescent depression, the following section mainly elaborates on the application of self-assessment recommendations. Self-assessment recommendations can involve the use of self-assessment scales that are easy for operators to administer. Relevant teachers can print out the scales and distribute them to students for them to complete. The collected scales can then be collected and scored uniformly. Four types of self-assessment scales are suitable for teachers' use in schools. Firstly, in cases where the number of students requiring early screening is small, the Beck Depression Inventory (BDI), which is suitable for individual self-assessment, can be selected. The BDI is entirely self-administered by students. Based on the assessment data, teachers can independently screen out adolescents with early depressive problems or seek assistance from specialized institutions. Secondly, when a larger number

of students require early screening, the Center for Epidemiologic Studies Depression Scale (CES-D) can be used for assessment. This assessment scale can be used either before or after the Whooley Two-Question Tool screening. However, considering the complexity of the assessment items and data processing, it is recommended to use the CES-D after the Whooley Tool to reduce the complexity of data analysis and make the survey more targeted. This allows for further refinement and supplementation of the record data. Thirdly, due to the Patient Health Questionnaire-9 (PHQ-9) consisting of only 9 questions and its rapid and simple nature for depression screening, it can be selected directly instead of the Whooley Two-Question Tool. The PHQ-9 can generate record data for student depression surveys. Of course, it is also feasible to use the PHQ-9 after the Whooley Tool. Lastly, considering that the Children's Depression Inventory (CDI) is specifically designed for adolescents and is suitable for use in school environments, it can be used after the preliminary screening with the two-question tool for suspected cases of depression. However, it should be noted that the CDI is not suitable for students who are too young or too old. Additionally, in a school environment, face-to-face communication is also an important tool. Through psychological interviews and communication with adolescents regarding their mental health, it is possible to promptly understand their emotional states and depressive characteristics, providing appropriate guidance for enriching and improving the record data. If there are professional mental health personnel involved, other scales that require professional assessment can also be considered, allowing for a more detailed and comprehensive assessment of depressive symptoms.

3. Early Intervention for Adolescent Depression

Effective intervention should be promptly implemented after identifying adolescent depression. Early intervention refers to the use of targeted scales obtained from the aforementioned analysis for early screening, intervening before or in the early stages of depressive symptoms. By providing appropriate support and resources, it aims to help adolescents establish positive mental health and coping mechanisms, prevent and alleviate the development of adolescent depression, or reduce the severity and persistence of depressive symptoms. Rational intervention strategies and methods should be employed for early intervention in adolescent depression, followed by intervention effectiveness assessment and long-term monitoring.[3]

3.1. Early Intervention Strategies for Adolescent Depression

Early intervention strategies include psychological education, public awareness campaigns, and social support, as shown in Table 2.

From Table 2, it can be observed that educational campaigns require consensus among the government, schools, and relevant social organizations. Based on this consensus, through collaborative efforts, a healthy environment for adolescent growth can be created. Although this strategy is not directly targeted at adolescents, it can establish a harmonious external environment for them and serve as a fundamental strategy to potentially nip adolescent depression in the bud. Additionally, this strategy plays a crucial role in generating capabilities within the social support strategy.

As seen from Table 2, social support strategy is a direct intervention strategy targeting adolescent depression and is the most effective strategy, playing a positive role in early intervention for adolescent depression. Particularly, family support and peer support provide appropriate outlets for the emotional release of adolescents and exert strong counterforce against the formation of adolescent depression. To ensure that community resources work in synergy with the other two support forms, it is essential to rely more on school-led educational campaigns and voluntary promotion to help adolescents become aware of this channel and seek assistance. It can be included as one of the

contents of psychological education strategy. Only when a community education resource is perceived by adolescents as a means of seeking help, can it resonate with other support strategies and have a significant intervention effect.

Psychological education is also a direct intervention strategy targeting adolescent depression. Its implementation requires strong support from government agencies, active organization by schools, and professional implementation by social organizations. In particular, after the release of the "Opinions on Further Reducing the Homework Load and Extracurricular Training Burden of Compulsory Education Students," schools should actively promote psychological education as an important aspect of improving after-school services.[14]

Table 2: Several typical early intervention strategies[13]

Intervention strategies	Manifestations	Features
Educational propaganda	Conveying the symptoms of depression, risk factors, and avenues for seeking help to parents, educators, and community members can be done through various channels such as organizing lectures, seminars, distributing brochures, and utilizing social media.	Education is not directly targeted at adolescents, but through educational campaigns, it can help eliminate misconceptions about depression, reduce the stigmatization and discrimination of depression in society, and create a harmonious external environment for adolescents.
Social support	Family support, peer support, and accessibility to community resources can help adolescents seek and obtain support and understanding, requiring support recipients to have awareness of seeking support.	A positive family environment, healthy peer relationships, and easy access to mental health resources play a significant role in impeding the progress of adolescent depression. However, this places demands on the qualities of families, peers, and communities.
Psychoeducation	Conducting mental health education and skills training for adolescents can be done through school curricula, youth clubs, community workshops, and other avenues.	Professional education assists adolescents in acquiring knowledge and skills related to emotional management, stress coping, and positive mindset. It helps them understand their emotions, enhance emotional regulation abilities, and develop positive mental health habits.

3.2. Intervention Methods

Table 3: Common Intervention Methods and Their Characteristics[13]

Intervention methods	Interventions	Advantages and Disadvantages	
		Advantages	Disadvantages
Intervention by professional organizations	Using cognitive-behavioral therapy (CBT), by helping adolescents recognize and change negative thinking and behavioral patterns, providing problem-solving skills, it can alleviate depressive symptoms and improve their level of mental health.	①Avoids the side effects and dependency of medication. ②Helps understand and address the root causes and triggers of depression. ③Provides techniques and strategies to cope with negative emotions and change negative thinking patterns. ④Increases overall mental health levels.	①Requires significant time and effort. ②Success depends on the active cooperation of the patient.
Family intervention	By improving family interactions, communication, and support, it helps adolescents establish a healthy family environment and support system, thereby alleviating depressive symptoms.	①Improves family relationships. ②Involves family members in the treatment process, increasing its effectiveness.	①Difficulties in specific execution. ②May not address individual internal challenges. ③May intensify family tension and conflicts, further exacerbating emotional distress.
School intervention	School intervention involves providing support and resources in the school environment, such as mental health education programs, counseling services, and school-community collaboration projects.	①Increases awareness of mental health in schools, enhancing the focus on mental health among teachers and students. ②Assists students in coping with academic stress and interpersonal issues.	①May be limited by time and resource constraints, unable to meet individualized treatment needs. ②Privacy and confidentiality concerns may arise.

To adapt to the different early intervention strategies mentioned above, there are various intervention methods available to choose from, as shown in Table 3.

According to Table 3, each method has its unique advantages and applicability. The selection of appropriate intervention methods should consider factors such as the severity of adolescent symptoms, individual differences, feasibility, and accessibility. For example, cognitive-behavioral therapy (CBT) is a widely applied method that primarily focuses on the patient's psychology, using a gentle approach in treatment. It has been proven highly effective in alleviating depressive symptoms in adolescents. However, it can be limited by factors such as professional expertise and treatment duration. Family intervention and school intervention take alternative approaches by guiding patients through external interventions. These interventions often involve medication, which generally yields quick results but can be influenced by environmental factors, potentially leading to social problems beyond depression.

In general, different intervention methods aim to provide support, improve mental health and coping abilities, and promote positive psychological development. In most cases, a combination of multiple intervention methods may yield better results. Therefore, it is important to increase attention to community and school-level interventions, establish comprehensive support systems, and make interventions more accessible and sustainable. Enhancing interdisciplinary collaboration and knowledge sharing can promote the overall development of screening and intervention research for adolescent depression. Through ongoing research efforts and interdisciplinary cooperation, we can continually improve screening and intervention methods, enhance early detection of adolescent depression, and provide more effective support for their mental health and overall development.

To better evaluate intervention effectiveness and further enhance adolescent mental health records, it is essential to assess the effects of interventions for adolescent depression and conduct long-term follow-up studies. These efforts help understand the effectiveness and persistence of intervention methods, as well as the long-term impact on adolescent mental health. Intervention effectiveness assessment typically involves symptom improvement, functional improvement, and psychological health indicators.

4. Conclusion

Adolescent depression significantly impacts their mental health and quality of life, potentially leading to long-term adverse consequences. Therefore, early identification and intervention for adolescent depression are of great significance. This article primarily explores the screening and intervention of adolescent depression and provides an analysis and summary of the existing problems. The main points include: comparing various screening tools available for adolescent depression, providing reasonable early screening strategies as a basis for intervention; comparing and analyzing three early intervention strategies, methods, and effectiveness evaluation for adolescent depression, highlighting the importance of a comprehensive approach and synergy between strategies and methods to achieve proactive intervention for adolescent depression.

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