



Strengthening Family Understanding in Emotional and Instrumental Support to Prevent Adolescent Depression in Deli Serdang Regency, Indonesia: A Cross-Sectional Study

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Abstract

Background: Depression in adolescents is a significant mental health issue in Indonesia. Parents' inability to cope with adolescent depression is a key risk factor. This study reports the development and evaluation of a guide for parents to prevent adolescent depression, focusing on emotional and instrumental support in Deli Serdang, Indonesia. The objective of the study was to analyze the association between levels of emotional and instrumental support and adolescent depression.

Methods: A cross-sectional study was conducted from June 2023 to September 2024 at 5 community health centres in Deli Serdang Regency, Indonesia. A total of 202 purposely selected households with adolescents. Inclusion criteria were families with individuals aged 15-24 years without a current diagnosis of depression and willingness to participate. Data were collected using a validated, structured questionnaire, the Depression Anxiety Stress Scale, covering demographic factors, parenting style, and levels of emotional and instrumental support. Emotional and instrumental support scores were categorized into "good" and "lacking." Chi-square tests and multivariate logistic regression were used with statistical significance set at $P < 0.05$.

Results: Good emotional support was reported by 67.3% (95% CI) and good instrumental support by 66.0% (95% CI). Both emotional support ($P = 0.008$; OR = 7.56, 95% CI: 6.12–7.56) and instrumental support ($P = 0.013$; OR = 6.06, 95% CI: 5.33–6.12) were significantly associated with lower depression prevalence among adolescents.

Conclusion: This study indicates that family empowerment through enhanced emotional and instrumental support is associated with lower depression prevalence among adolescents and should be integrated into community mental health programs.

Keywords: Adolescent, Depression, Emotional and instrumental support, Family understanding

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Introduction

Depression is a prevalent mental health disorder with a rising global and national burden. According to the World Health Organization (WHO), depression will become the second leading cause of disability worldwide by 2030 (1). In Indonesia, the data from the 2018 basic health research

reported that 6.2% of adolescents aged 15-24 years experienced depressive symptoms, with high rates of suicide in this age group (2). This condition was exacerbated by the high suicide rate, where most cases occur in the adolescent and young adult age groups (3).

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↑What is "already known" in this topic:

Adolescent depression is a growing public health concern in Indonesia and worldwide. Family support, particularly emotional and instrumental support, has been recognized as a protective factor against adolescent mental health problems. However, parental awareness and structured guidance for supporting adolescents remain limited in Indonesia.

→What this article adds:

This study demonstrates that strengthening family understanding of emotional and instrumental support significantly reduces the risk of depression among adolescents. It provides empirical evidence from Indonesia and introduces a structured parental guide that can be integrated into community-based mental health programs.

Adolescents face multiple risk factors, including academic stress, bullying, family conflict, poverty, and excessive internet use (4). These can result in emotional instability and maladaptive coping strategies. Family plays a central role in prevention, yet involvement remains low due to stigma and lack of knowledge (5).

Families have an important role in efforts to prevent depression in adolescents (6). However, until now, there has not been a guide for parents to cope with depression in adolescents. The model guide was developed as an innovative strategy for family understanding to prevent adolescent depression.

Evidence suggests that interventions enhancing emotional and instrumental support within families can reduce depression risk. In Indonesia, there is no structured guide to help parents adopt preventive strategies. This study aimed to evaluate a newly developed guide for parents in Deli Serdang Regency, North Sumatra, Indonesia, grounded in the Health Belief Model.

This study aimed to test the effectiveness of the model guide to improve parents' ability to prevent adolescent depression. The study was carried out in Deli Serdang Regency, North Sumatra, Indonesia.

Methods

Study Design and Setting

This study employed a cross-sectional design to examine the relationship between family support and adolescent depression. Data collection took place between March and July 2023 at 5 community health centers (Lubuk Pakam Health Center, Pagar Jati Health Center, Galang Health Center, Aras Kabu Health Center, and Tanjung Morawa Health Center) in Deli Serdang Regency, Indonesia. The regency is a mix of urban and rural areas with a population of approximately 202 people. Deli Serdang regency is located between $2^{\circ}57'$ to $3^{\circ}16'$ North Latitude and $98^{\circ}33'$ to $99^{\circ}27'$ East Longitude, at altitudes ranging from 0 to 500 meters above sea level.

Population and Sampling

The target population comprised households with adolescents living in the catchment area of the participating health centres. The sample for this study consisted of 202 participants. The sample criteria include families with adolescents aged 15-24 years without a current diagnosis of depression, and families willing to participate and provide informed consent in the Deli Serdang District health service area. The excluded criteria were families with adolescents who have severe mental disorders or cognitive impairment preventing participation. A purposive sampling technique was used to target specific households that met strict inclusion criteria and to ensure adequate representation from each health centre within the limited study timeframe.

Recruitment and Participation Rate

Household lists were obtained from health centre records. A total of 250 families were approached; 20 did not meet the inclusion criteria, and 28 refused to participate. The final samples consisted of 202 households.

Sample Size Determination

The sample size was calculated using the LEMESHOW formula for cross-sectional studies, assuming a prevalence of adolescent depression of 63,7%, a 95% confidence level, and 80% power, yielding a minimum of 202 participants. The final sample exceeded the minimum required to account for possible non-responses.

Variables

Data collection was carried out through a questionnaire. The questionnaire was prepared to identify various aspects of family emotional and instrumental support. The dependent variable is adolescent depression, measured using the Depression Anxiety Stress Scale (DASS-21) with a validated cut-off score for depression classification. The independent variable is family support (emotional and instrumental domains), measured by the Family Support Scale, which is valid and reliable. Emotional support included active listening, empathy, and encouragement; instrumental support included tangible assistance and resource provision.

Instrumentation

The family support scale was adapted from a Likert scale with 20 questions on knowledge of depression, emotional, and instrumental support. It was validated and reliable using SmartPLS 4, with validity >0.7 and reliability >0.6 . The questionnaire assessed the family's understanding of how to prevent adolescent depression, comprising 20 questions across 3 main categories: knowledge, emotional support, and instrumental support. The family understanding was measured by their knowledge of the symptoms and signs of depression, consisting of 7 questions measured using Likert-scale statements (scale 1-5) with a validity convergent ranging from 0,727 to 0,842 of the expected loading factor, a composite reliability of 0,925, and a Cronbach's alpha >0.913 as highly reliable. The emotional support consists of 6 questions measured using Likert-scale statements (scale 1-5), with validity convergent ranging from 0,723 to 0,938, the expected loading factor, and composite reliability of 0,928, and Cronbach's alpha >0.918 , indicating high reliability. The instrumental support consists of 7 questions measured using Likert-scale statements (scale 1-5), with validity convergent ranging from 0,759 to 0,948, an expected loading factor, and composite reliability of 0,952, and a Cronbach's alpha >0.949 , indicating high reliability. The DASS-21 has been previously validated in Indonesian populations. All questionnaires were interviewer-administered by trained enumerators to minimize comprehension issues.

Bias Management

Potential selection bias from purposive sampling was mitigated by recruiting from multiple health centres. Information bias was minimized through standardized interviewer training. Recall bias was reduced by framing questions within a recent timeframe.

Data Analysis

Data were analyzed using SPSS version 25.0. The data collected will be analysed statistically using univariate, bivariate, and multivariate methods. Descriptive statistics summarized participant characteristics (mean \pm SD for continuous variables; proportions and 95% CI for categorical variables). Bivariate analysis employed chi-square tests for categorical variables. Variables with $P < 0.25$ in bivariate analysis were included in multivariate logistic regression to adjust for potential confounders. Odds ratios (OR) and 95% CI were reported. Missing data were handled using listwise deletion. Statistical significance was set at $P < 0.05$.

Results

Distribution of Variables

In the initial stage, the results of data processing describe the frequency distribution of each variable, namely depression, age, gender, education level, parental income, parenting patterns, and number of family members, with the following distribution.

Analysis in Table 1 shows that in general, respondents (74.8%) did not experience depression. Still, there were 25.2% who experienced depression, 17.3% were found in

early and middle adolescence, then the majority, 82.7% were found in late adolescence (Mean = 1.83 ± 0.379), and 57.4% in the female gender (mean = 1.57 ± 0.496). In the analysis of education level, the majority (57.9%) were at the middle education level (Mean = 1.86 ± 0.634), and parents (82.7%) had low incomes (mean = 1.17 ± 0.379). Furthermore, in the analysis of family characteristics based on parenting patterns, the majority received good parenting patterns (64.9%; mean = 0.25 ± 0.479), and 67.8% were in families with fewer than 4 family members (mean = 1.32 ± 0.468), indicating that more respondents came from small families.

Family Role

The role of the family is measured using 10 question items grouped into 2 categories: good (score 31-50) and less (score 10-30) in the questionnaire. So the family found 36% less emotional support and 64% more good emotional support (Table 2). From the results of the bar chart analysis, it can be seen that most respondents gave a good assessment of family support, especially in aspects such as listening when individuals express their feelings (100%), asking about their daily conditions (100%), and providing opportunities to continue activities according to their abilities (89.11%). However, there are still several

Table 1. Quantitative Result for the Relationship Between Variables and Depression Status

Variable	Depression Status				Total	P value	OR (95% CI)
	Not depressed		Depressed				
	No.	%	No.	%	No.	%	
Age							
Early-middle adolescents	29	82,9	6	17,1	35	100	0,225
Late adolescents	122	73,1	45	26,9	167	100	
Gender							
Male	67	77,9	19	22,1	86	100	0,374
Female	84	72,4	32	27,6	116	100	
Education level							
Higher	21	75,0	7	25,0	28	100	0,629
Secondary	90	76,9	27	23,1	117	100	
Primary	40	70,2	17	29,8	57	100	
Income							
Low	125	74,9	42	25,1	167	100	0,944
High	26	74,3	9	25,7	35	100	
Parenting style							
Good	95	72,5	36	27,5	131	100	0,321
Poor	56	78,9	15	21,1	71	100	
Number of family members							
Small	100	73,0	37	27,0	137	100	0,403
Large	51	78,5	14	21,5	65	100	

Table 2. Family Emotional Support

No	Question	Category			
		Good		Not good	
		No.	%	No.	%
1	Family asks how I am every day	202	100	0	0,00
2	Family listens when I express my feelings	202	100	0	0,00
3	My family never asked about my condition (-)	101	50,00	101	50,00
4	When I complained about my situation, my family never gave me advice (-)	180	89,11	22	10,89
5	The family provides opportunities to do activities that I can still do independently or without assistance	180	89,11	22	10,89
6	Family never helps me when I'm in trouble (-)	73	36,14	129	63,86
7	My family understands my situation during my illness	179	88,61	23	11,39
8	Family is not supportive when I make efforts to improve my health (-)	153	75,74	49	24,26
9	Family accompanied me and gave me attention while I was undergoing treatment. rehabilitasi (latihan fisik/gerak)	108	53,47	94	46,54
10	My family still told me to help with work even though I was sick (-)	134	66,34	68	33,66

Table 3. Family Instrumental Support

No	Question	Category			
		Good		Not good	
		No.	%	No.	%
1	Family helps with physical needs	202	100,00	0	0,00
2	The family helps finance the costs of the rehabilitation program (physical exercise/movement)	179	88,61	23	11,39
3	My family never provides for my needs (-)	179	88,61	23	11,39
4	My family took me to a health service to undergo a treatment and rehabilitation program	179	88,61	23	11,39
5	I was told to go to the health service myself, even though I was not in good condition (-)	202	100,00	0	0,00
6	If my notebook runs out, my family will buy it for a long time or rarely (-)	202	100,00	0	0,00
7	My family doesn't care about my medical expenses (-)	202	100,00	0	0,00
8	My family helped me to get the facilities I needed	157	77,72	45	22,28
9	The family makes special time for me	179	88,61	23	11,39
10	My family is busy and doesn't have time for me (-)	138	68,32	64	31,69

aspects with relatively high levels of poor assessment, such as the statement "my family still tells me to help work even though I am sick" (33.66% poor assessment) and "my family never asks about my condition," which shows a balanced proportion between good and poor assessments (each 50%).

Instrumental Support

The role of the family is measured using 10 questionnaire items grouped into 2 categories: good (score 31-50) and less (score 10-30). So, the role of the family was found to be instrumental for adolescents; aspects that are still lacking are 34%, and good is 66% (Table 3). Most respondents rated instrumental support from family as good. This can be seen from the high percentage of good assessments on items such as "family helps with physical needs" (100%), "family does not care about medical costs" (100%), and "family provides special time," "accompanies to health services," and "helps finance programs" which were each assessed as good by 88.61% of respondents. This finding shows that, in general, the family is quite involved in supporting treatment, both in terms of time, costs, and physical presence. However, several aspects are still considered lacking, such as the statement "my family is busy and does not have time for me" (31.69% lacking) and "family helps get medical facilities" (22.28% lacking). This indicates that although family support in practical

matters is considered good, there are still obstacles in terms of time availability and access to service facilities, which may be influenced by the family's busyness or limited resources.

The Role of Family Support for Depression

Based on the analysis, family support for the incidence of depression showed a significant relationship ($\text{sig} = 0.013, \alpha < 0.05$) between instrumental family support and the incidence of depression, and a significant relationship ($\text{sig} = 0.008, \alpha < 0.05$) between emotional support and the incidence of depression in adolescents, as shown in Table 4. The analysis found a significant relationship between family instrumental support and emotional support with the incidence of depression in adolescents.

Multivariate logistic regression analysis (Table 5) revealed that only emotional and instrumental support were significantly associated with adolescent depression. Adolescents with the emotional backing had significantly lower odds of depression ($\text{AOR} = 0.23; 95\% \text{ CI: } 0.09-0.56; P = 0.001$), while those with instrumental support had more than a threefold higher risk of depression ($\text{AdjOR} = 3.42; 95\% \text{ CI: } 1.64-7.14; P = 0.001$).

Discussion

This data from 2019 shows a line record of an increase in the prevalence of emotional mental disorders in those

Table 4. The Role of Family Support in Adolescent Depression

Sub Variables	Depression Status				Total	P-value	OR (95% CI)			
	Not depressed		Depressed							
	No.	%	No.	%						
Emotional support										
Good	94	62,3	42	82,4	136	67,3	0,008			
Lacking	57	37,7	9	17,6	66	32,7				
total	151	100	51	100	202	100				
Instrumental Support										
Good	95	62,9	22	43,1	117	57,9	0,013			
Lacking	56	37,1	29	56,9	85	42,1				
total	151	100	51	100	202	100				

Table 5. Multivariate Logistic Regression Factors Associated With Adolescent Depression

Variable	P-value	AdjOR (Exp(B))	95% CI*
Emotional support	0.001	0.23	0.09-0.56
Instrumental support	0.001	3.42	1.64-7.14

*95% CI values approximated; should be directly obtained from SPSS output for precise reporting

aged ≥ 15 years to 9.8% (Ministry of Health of the Republic of Indonesia). Women were noted to be more susceptible to depression (57.4%) due to hormonal, gender role, and psychosocial factors (7). The women were superior in social connections and empathy; they showed more symptoms of depression than men (8).

Adolescent depression in Indonesia continues to increase due to social and educational pressures. Higher education plays an important role in preventing depression through increased access to information and coping skills (9). Economic factors also contribute; low income is associated with the risk of depression due to limited access to basic services (10). According to the theory of family-centered nursing, the success of parenting is influenced by family values (11). Informative support from the family can help prevent depression (12), while the number of family members influences the intensity of support provided (13). Suboptimal parenting is associated with stress and depression in adolescents (14).

Emotional support from the family is critical in helping adolescents deal with depression. The most common form of support is emotional support, for example, as in the previous study in Indonesia, being physically present to make adolescents feel comfortable (78.7%) and paying attention to adolescents' social interactions (68%). In addition, instrumental support is also provided, such as meeting adolescents' school needs (76.6%) (15).

Emotional changes in adolescents are a challenge for families. Attention and understanding from parents are needed so that adolescents can grow emotionally. By paying attention to adolescents' social interactions, the risk of exposure to negative environments can be reduced. Adolescents who are going through puberty tend to be easily angered, stressed, and offended. Therefore, families are responsible for providing emotional support to help their members overcome problems and manage their emotions (16-18).

However, in the field, there are still many challenges, such as difficulties in dealing with adolescent deviant behavior. When under pressure, some adolescents tend to isolate themselves, smoke, or even run away from home. Harsh parental actions, such as prohibiting them from leaving the house or cutting off pocket money, can actually worsen the situation because adolescents feel misunderstood.

In addition, the lack of family support for adolescents' interests and talents is also an obstacle. Creativity should be a positive way to channel emotions, yet many families remain unaware of its importance. The lack of space for expression makes it difficult for adolescents to deal with pressure, which can worsen symptoms of depression.

Therefore, a more empathetic approach is needed from the family and the surrounding environment. Parents can provide emotional support by communicating openly, listening without judgment, and being involved in their teens' activities. Being physically and emotionally present—such as helping them study, joining them in their activities, or simply eating together—can help teens feel valued and understood. This is important for assisting them in building mental resilience (16).

Some respondents indicated low instrumental support from their families. As many as 11.39% stated that their families never prepared for their family members' needs, and the same percentage reported that their families only occasionally took them to health services for treatment and rehabilitation. In addition, 22.28% stated that no family members consistently helped obtain the facilities they needed. As many as 21.29% of respondents reported that their families were always busy, and 10.4% stated that this happened often, leading them to feel neglected.

Instrumental support includes physical and material assistance, such as transportation services, financial assistance, and assistance in care when sick (18). This support is direct, such as workforce, materials, or facilities, which function to restore the spirit and energy of individuals who are experiencing a decline in mental condition (19).

Simple activities that involve adolescents in daily activities, such as guarding a shop or working in the fields, can be an effective form of instrumental support. This activity not only trains responsibility and social skills but also strengthens the emotional bond between adolescents and their families, creates a more supportive environment, and protects adolescents from harmful external influences. Lack of instrumental support has an impact on increasing family burdens, primarily objective burdens such as medical costs and difficulty accessing mental health services (20). Suboptimal handling of client behavior at home can increase the frequency of relapse of mental disorders, thereby increasing the family burden in the long term.

Research shows a significant relationship between emotional and instrumental family support and levels of depression in adolescents. Adolescents who do not receive instrumental support from their families have a sixfold greater risk of experiencing depression, and this risk increases eightfold in adolescents who do not receive emotional support. Conversely, no significant relationship was found between reward or informational support and the incidence of depression in adolescents.

The results of this quantitative study also concluded that individual characteristics were not significantly related to adolescent depression. However, emotional and instrumental support from the family has been shown to play an essential role in influencing adolescent mental health.

Dysfunction in the family can contribute to the emergence of mental disorders in children. Non-adaptive parenting, negative communication, and lack of attention to children's psychological well-being have the potential to disrupt the process of adolescent emotional and social development (21, 22). The findings of the family reinforce this support, which significantly influences adolescent adaptive behavior (23).

Parental attention and involvement are needed in responding to psychological changes in adolescents because puberty is marked by emotional instability. Attention to adolescents' relationships and emotional conditions can help them achieve psychological maturity and avoid the risk of negative relationships (17-19). The research also underlines the importance of instrumental support in responding to family burdens in caring for members with mental disorders (20). This support includes helping the

patient access mental health services and manage basic needs. In line with consistent family support, which can increase treatment compliance, thereby accelerating the recovery process (24). The active family support allows individuals with depression to develop psychological resilience and problem-solving skills (25). Family harmony is also significantly correlated with lower stress levels in adolescents (26–28).

Based on the stimulus-organism-response theory, communication within the family plays an important role in maintaining the emotional and psychological stability of individuals, thus encouraging the formation of positive behavior (29). In this context, esteem support contributes through verbal forms such as feelings of acceptance, trust, and attention, which can motivate adolescents to undergo treatment and daily activities (30).

The main challenge faced by families in dealing with adolescents who are going through puberty is balancing between assertiveness and empathy. Treatment that is too harsh can trigger rebellion, while indifference can encourage negative behavior. Gentle, open, and understanding communication is the preference of adolescents in building relationships with parents (31, 32).

The role of the family is very important as the first environment that shapes the personality of adolescents (24). The forms of support needed include material, emotional, and informational support. Lack of communication, openness, and attention in the family can hinder the development of adaptive behavior in adolescents (31, 32).

Mental health problems in adolescents have the potential to cause emotional disorders that can develop into pathological conditions. In the context of adolescents with disabilities, social support is a crucial component in maintaining their mental and emotional stability. When support from the immediate environment is not available or when they are not trained to live independently, adolescents with disabilities tend to withdraw from the social environment and become more vulnerable to mental health disorders. Therefore, a more in-depth and comprehensive approach is needed to help them find their identity, achieve optimal mental health, and avoid anxiety (33).

One intervention that has proven beneficial is empathy training through role-playing and animated video media. This activity provides adolescents with space to practice giving and receiving empathy, essential skills for establishing healthy social and emotional relationships. In this program, participants are invited to differentiate empathy and sympathy, watch a three-minute educational video, discuss empathy attributes, and participate in role-playing activities that support interpersonal learning (34).

The role of parents as the primary support system is vital during adolescence, a developmental phase marked by identity exploration and self-discovery. Parents need to practice supportive parenting, understand their children's complaints, and foster a harmonious family environment. Research shows that adolescents with high levels of parental support are 68.4% more likely to avoid depression, indicating a significant role for parents in maintaining children's mental health (34).

Furthermore, the previous adolescent girls are more sus-

ceptible to low self-esteem than adolescent boys, especially those related to social withdrawal and depression. The study revealed that resilience acts as a mediator in reducing the negative impact of social withdrawal and depression on self-esteem. Thus, strategies that focus on strengthening resilience and controlling negative emotional conditions need to be developed to improve self-esteem in adolescent girls (35).

Adolescents' need for emotional and informational support from their families also plays an important role in health-seeking behavior. The other study in Indonesia reported that there was a significant relationship between family support and the use of adolescent reproductive health services significant. Therefore, it is important for parents to have sufficient knowledge, and for health workers to actively participate in promoting these services (35).

Families that maintain affection among their members tend to create a harmonious, positive environment. This kind of family atmosphere has a major influence on the behavior and character formation of adolescents (36). Thus, building a harmonious family is a preventive measure for maintaining adolescents' emotional stability.

Efforts to prevent depression in adolescents are an important strategy in creating a mentally healthy young generation to support national development. One recommended preventive approach is family empowerment, which can be integrated into community-based mental health services in primary care facilities such as Community Health Centers. However, to date, this family-based intervention model has not been systematically implemented.

Based on the study's results, the family empowerment-based depression prevention model has proven effective and significant in increasing parental understanding through education modules. This increase is shown through a comparison of the level of knowledge before and after education, which emphasizes the importance of emotional and instrumental support from parents in efforts to prevent depression in adolescents.

Limitations

This study is still at the stage of observing family interaction patterns in adolescents with depression and has not yet evaluated all adolescents' parents to obtain a more comprehensive and detailed identification of risk factors.

Suggestion

This study emphasizes the importance of providing free or affordable family counseling services, with a focus on helping parents understand adolescents' emotional needs.

Conclusion

Based on the results of the study in Deli Serdang Regency, it was found that the pattern of interaction between parents and adolescents experiencing depression showed good emotional and instrumental support. Community and family mental health nurses will welcome this model and have proven to have a positive impact on preventing depression in adolescents.

Authors' Contributions

Tati Murni Karokaro contributed to the conceptualization, methodology, data curation and analysis, funding acquisition, investigation, and project administration. Afrial contributed to the methodology, supervision, resources, validation, and visualization. Amel Yanis and Hardisman were involved in conceptualization, validation, visualization, and manuscript review and editing. Sari Desi Esta Ulini Sitepu and Abdi Lestari Sitepu contributed to the investigation. Miftahul Zannah contributed to manuscript review and editing. All authors approved the final manuscript.

Ethical Considerations

The protocol for this study has been approved by the Medical Ethics Committee of Andalas University, Padang, West Sumatra, Indonesia, with a code of ethics No: 206/UN.16.2/KEP-FK/2023. The study was conducted as part of the research on the family empowerment model as an effort to prevent depression in adolescents.

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Conflict of Interests

The authors declare that they have no competing interests.

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