MJMR, Vol. 36, No. 1, 2025, pages (172-180).

Open Access
ISSN:2682-4558

Research Article

Efficacy of the Four-step Integrative Model for Group Psychotherapy on Suicide in Diabetic Children

Hasnaa Tarek Adly[1], Ahmed M. Kamal [1], Salwa Mohamed Rabie[1], Rasha Samir Refaat[1]

[1] Department of Psychiatry, Faculty of Medicine, Minia University, Minia, Egypt

DOI: 10.21608/mjmr.2025.349109.1862

Abstract

Background: The global burden of Type 1 diabetes (T1DM) was found about 8 million individuals worldwide: of these 1·5 million (18%) were younger than 20 years. The Prevalence of suicidal thoughts is 16.2% among individuals with type 1 diabetes compared to 9.2% in the general population. The Egyptian Four-step Integrative Model aims to fulfill the four psychological functions in a healthy way which includes: needs, wants, decisions and rights. The best way describes this model is as an integration of many psychological schools. This study aims to evaluate effect of Four-step Model on suicide risk in diabetic children with Correlation between suicide and depression among diabetic children. **Methods:** Our study included 34 diabetic children. Children were evaluated for suicide using ASQ scale and for depression using Birleson DSRS before and after group psychotherapy. Diabetic children underwent of psychotherapy sessions using the Four Step Integrative Model for six months. **Results:** There is a significant improvement in both depression and suicide after attending the Four-step group psychotherapy. Also, there is positive statistically significant correlation between suicide and depression. **Conclusion:** Our study showed that Four-step Integrative Model of group psychotherapy can have a positive effect on suicide risk in children with T1DM.

Key words: T1DM, Four Step Integrative model, Suicide

Introduction

Type 1 diabetes (T1DM) mellitus is endocrinal disorder that results from destruction of insulin-producing β-cells in the pancreas [1]. The estimated global number of Type 1 diabetes cases was about 8 million; of these 1·5 million (18%) were younger than 20 years [2]. In Egypt, increases were reported in T1DM prevalence over the period from 1994 to 2011 to reach 26.8 per 100,000.[3]

Thirty percent of diabetic patients have a chance of experiencing depressive symptoms which in 10% of them progress to develop major depressive disorder (MDD). These numbers are twice as common as general population without chronic illness [4]. There is a bidirectional relationship between diabetes and depression. Being diagnosed with diabetes carry some diabetes-related stress due to frequent daily self-checking of blood sugar levels and insulin injections added to strict dietary control and lower limb care, physical activity which may actually make diabetics more susceptible to depressive symptoms. On the other hand, psychological and psychosocial effects of depression added to microvascular brain lesions, elevated glutamate levels and antidepressants metabolic side effect can lead to diabetes.[5]

When depression and diabetes coexist, there are numerous negative effects that can occur as increase in suicidal thoughts [6]. Suicide is the second most common cause of death for children and adolescents [7]. Children and adolescents with chronic illnesses are more likely to experience suicidal thoughts, which can have a negative impact on treatment adherence and health outcomes [7]. According to a meta-analysis, the prevalence of suicidal thoughts is 16.2% among individuals with type 1 diabetes compared to 9.2% in the general

population. Every year, about 94,000 diabetic individuals commit suicide worldwide.[8,9]

Four-step Integrative Model is an Egyptian Model for conducting group psychotherapy. The model aims to explore, accept and then fulfill the assumed four psychological levels (that are integrated in every human psyche) in a healthy way. The four levels are: needs, wants, rights and decisions [10]. The Four-step approach can be described as the final product of integration of different psychological schools and psychotherapy models such as Gestalt techniques, Object relations theory, psychoanalysis, self-psychology, Existential philosophy and Transactional analysis [11]. The Four-step Model efficacy to induce change was approved in several studies [10,11, 12] so it was chosen for our study to clarify its impact on suicide risk in diabetic children. The research aim is to study the impact of Four-step integrative model for group psychotherapy on suicide risk with Correlation between suicide and depression among diabetic children.

Patients and Methods

The study is a longitudinal, prospective, interventional study that was held in Pediatric Minia University Hospital on 34 diabetic children from November, 2023 to April, 2024 for six months after taking consent from their care givers.

In the last year (2022) the average number of diabetic children who visited the Pediatric Endocrinology Unit was 110 patients. The sample size in the current study was calculated according to Issac and Micheal formula [13] which was computed as (N = n ×30/100) in which (N= sample size and n= Total number of diabetic patients in past year) so N= (110 ×30 / 100 (= 33 case. So, in order to consider the dropout, rate the research team recruited more sample in order to confirm preserving adequate sample size .

Patients included in the study were both males and females, with T1DM, aged from 8 to 14 years, confirmed diagnosis of a psychiatric disorder with depression according to DSM-5, and finally taking a verbal consent of caregivers to allow their children to participate in the study and the psychotherapy group.

The exclusion criteria were: diabetic children less than 8 years or more 14 years, children with other mental disease (other than depression), Irregular attendance of group sessions (less than 75% of sessions) or caregivers refused to participate in the study.

Procedure of the study:

Diabetic children were recruited from Pediatric Endocrinology Clinic or Inpatient Department. Children were interviewed in order to take full psychiatric history and full medical history then general examination and mental status examination were done. The Psychometric assessment of both suicide and depression was done using Ask Suicide Screening Questions (ASQ) and Birleson Depression Self Rating Scale for children (DSRS-C) respectively.

The ASQ scale is a brief screening tool developed to screen all types of patients presented to emergency department regarding suicide risk. The scale is comprised of 5 questions assessing current suicidal wishes or ideas or past suicidal attempt [14]. The ASQ is a valid screening tool for identifying youth at elevated suicide risk [15]. It has high sensitivity, specificity, and negative predictive values for both medical and psychiatric patients. The ASQ scale has been translated to many languages including Arabic .[16]

Diabetic children were screened for co-morbid depressive symptoms with Birleson Depression Self Rating Scale for children (DSRS-C) which consists of 18 items suitable for children and includes most symptoms of depression recorded in children [17]. DSRS-C is a reliable measure for screening depressive symptoms in young populations [17]. The scale's sensitivity, specificity and test-retest reliability were satisfactory good [18]. The scale has been translated into different languages including Arabic, which indicate how it is adaptable for cross-cultural application .[19]

Diabetic children who were eligible to join the group were told the rules, norms and values of the group after taking informed consent from their caregiver and the child himself to participate in the group therapy. Before starting the group and after its closure the children were asked to administer ASQ scale and Birleson DSRS-C.

The group was conducted using the Four-step Integrative Model for Group Psychotherapy. The group was led by a psychiatric professor who has a good experience on conducting therapy groups using the Four-step with the help of 2 experienced co-therapists. The psychotherapy sessions were

held on Saturdays every two weeks for one and half hour for six months duration .

Out of 52 Diabetic children, only 34 completed the study (19 male and 15 females). 18 (34.6%) of children were excluded from the study because of attending less than 75% of the sessions.

Statistical Analysis

The data were coded before data entry. All data were collected, tabulated and statistically analyzed using SPSS version 26 for windows (IBM Corp, 2019). normal distribution of the data was done using the Shapiro Walk test. Qualitative data were represented as frequencies and relative percentages. Quantitative data were expressed as mean ± SD (Standard deviation) and range. McNamar's test was used to calculate difference between 2 related qualitative variables. Paired sample t test and Wilcoxon sign rank test used to calculate difference between 2 related quantitative variables and ordinal variables, respectively. Pearson and spearman correlation analyses were used to correlate between different parameters for parametric and ordinal data, respectively. The significance Level of p-value $\leq$ 0.05 indicates while p <0.001 indicates highly significant difference .

Ethical consideration

The study protocol was approved by the Institutional Review Board (IRB), Faculty of Medicine, Minia University, with approval number (884:10/2023) dated 9 October 2023. An informed written consent was taken from all children and their caregiver after providing them with all needed data about the study nature and purpose. The privacy and confidentiality of interviews and children's data were preserved by the research team by conducting interviews in safe place, making the group sessions in closed spaces in Pediatric Minia University Hospital, giving every child a code number in the computer sheet which is only accessed by research team.

Results:

The mean age of diabetic children attending group sessions is 12.7 years. More than half of them are males (55.9%). For diabetes duration and number of admissions in hospitals, the means are 4.6 years duration with 4.8 times of hospital admissions. Regarding distribution of diabetic complications, 88.2% of cases suffered from attacks of hyperglycemia and 52.9% of cases of had diabetic ketoacidosis (DKA) **(Table 1) .**

About 65% of our sample of T1D children were suicidal either positive (58.8%) or even strong positive (5.9%) according to ASQ score. On comparing suicide risk before and after attending group therapy there is a statistically significant improvement with p value = 0.004 **(Table 2).**

With closer view of specific items improved after four-step group there is a statistically significant improvement in almost all domains of the questionnaire (wishes of being dead, feeling that family would be better if he is dead, thoughts about killing himself and trials of killing themselves p value =0.01, 0.04, <0.001, 0.001 respectively) **(Table 3).**

Regarding comparison of Birleson DSRS score before and after attending group psychotherapy among diabetic children there is statistically significant improvement of depressive symptoms with p value <0.001 **(Table 4).** Correlation between ASQ score and Birleson DSRS score before and after attending group psychotherapy shows that there is significant moderate positive correlation (r=0.61 & 0.70 respectively) **(Table 5).**

Lastly, regarding correlation between baseline ASQ score and different variables there is a statistically significant moderate positive correlation between ASQ score and age (r=0.65) (p=<0.001) **(Table 6).**

Table1: Demographic and clinical data of the patients Table (1) some socio-demographic and disease characteristics data among diabetic children (n=34)

Variables	Total number (n=34)
Age	
Mean ±SD	12.7±1.4
Range	10-14
Gender	
Male	19(55.9%)
Female	15(44.1%)
Education	
Primary school	11(32.4%)
preparatory school	23(67.6%)
Diabetes duration	
Mean ±SD	4.6±3
Range	1-10
Number of admissions	
Mean ±SD	4.8±2.6
Range	2-10
Complication	
Hypoglycemia	0(0%)
Hyperglycemia	30 (88.2%)
Diabetic ketoacidosis (DKA)	18(52.9%)
Nephropathy	2(5.8%)
Neuropathy	0(0%)
Retinopathy	0(0%)

Table (2) Comparison of ASQ score before and after attending group psychotherapy among diabetic children

Scoring parameter	ASQ scale pre-group	ASQ scale post- group	P value
Negative	12(35.3%)	24(70.6%)	0.004*
Positive	20(58.8%)	10(29.4%)	
Strong positive	2(5.9%)	0 (0%)	

N.B. ASQ: Ask Suicide –Screening Questions, * Significant at p value <0.05

Table (3) Comparison of item score details of ASQ pre and post group psychotherapy

ASQ-suicide risk screening tool		Children (n=34)		P value
		Pre-group	Post -group	
Q1) - In the past few weeks, have you wished you were dead?	No Yes	12(35.3%) 22(64.7%)	19(55.9%) 15(44.1%)	0.01*
Q2)- In the past few weeks ,have you felt that you or your family would be better if you were dead?	No Yes	17(50%) 17(50%)	24(70.6%) 10(29.4%)	0.04*
Q3) - In the past week, have you been having thoughts about killing yourself?	No Yes	19(55.9%) 15(44.1%)	31(91.2%) 3(8.8%)	<0.001*
Q4) - Have you ever tried to kill yourself?	No Yes	25(73.5%) 9(26.5%)	34(100%) 0(0%)	0.001*
Q5) - Are you having thoughts of killing yourself right now?	No Yes	32(94.1%) 2(5.9%)	34(100%) 0(0%)	0.9

N.B. ASQ: Ask Suicide –Screening Questions, * Significant at p value <0.05

Table (4) Comparison of Birleson DSRS score before and after attending group psychotherapy among diabetic children

Scoring parameter	Birleson DSRS pre-group	Birleson DSRS post- group	P value
Mean ±SD Range	21.1±4.9 7-29	16.7±5.7 7-27	<0.001*

N.B. Birleson DSRS: Birleson Depression Self Rating Scale, * Significant at p value <0.05

Table (5) Correlation between ASQ score and Birleson DSRS before and after attending group psychotherapy

		ASQ pre group	ASQ post group
Birleson DSRS pre group	r P	0.61 <0.001*	
Birleson DSRS post group	r P		0.70 <0.001*

N.B. Birleson DSRS: Birleson Depression Self Rating Scale, . ASQ: Ask Suicide –Screening Questions * Significant at p value <0.05

Table (6) Correlation between ASQ score and different Data

		Age	Duration	Admission times	ASQ
Age	r P	1			
Duration	r P	0.03 0.87	1		
Admission times	r P	0.20 0.23	0.64 0.001*	1	
ASQ	r P	**0.65*** **<0.001**	0.04 0.82	0.10 0.56	1

Discussion

Our study aims to evaluate effect of group psychotherapy using the Four-step Model on suicide risk in children with T1DM. The duration of the studied Four-step group was 6 months. This was similar to Bruijniks's study who used cognitive behavioral therapy for six months for depression [20] and Svartberg study who used dynamic and cognitive therapy for cluster C personality disorders [21], but shorter from previous studies which used psychodynamic psychotherapy [22,23]. This duration was appropriate to our study to ensure the lowest rate of patient dropout in addition this study is considered a pilot study for applying the Four-step Model on children as a beginning for more future wide studies.

The initial sample size was 52 diabetic children but 18 (34.6%) were dropped out leaving 34 (65.3%) participants. This is approximate to Straub's study who also study the effect of psychotherapy in 38 child participants [24] but different from Wang's study that study the effect of psychotherapy in 96 geriatric participants not in children as this study [25]. The initial sample size (52) was suitable for starting the group to consider dropout rate for more effective results .

This dropout rate was relatively similar to previous studies done in group psychotherapy as Hamilton et al. and Simon et al. [26, 27] who reported that one-third of individuals who start psychotherapy do not go back for a second session. While Clarkin and Levy [28] reported that 40–60% of clients discontinue psychotherapy. This could be explained as many children were from far areas, added to lack of awareness about the role of psychotherapy and fear of stigma of being under psychiatric treatment.

Both sexes were included in the study with males more than females (19 males, 15 females). This may be explained by higher dropout rate among females (13 female) which may be due to cultural considerations (being a female with stigma of psychiatric illness in a small Upper Egypt community).[29,30]

About 65% of our sample of T1D children were suicidal either positive (58.8%) or even strong positive (5.9%) according to ASQ score. This can be explained by inclusion criteria of our sample as the presence of depression was a perquisite to join the group. the presence of depression in diabetic individuals can lead to suicide .[5]

Suicide risk showed a statistically significant improvement in the form of decline in ASQ scale score in post group assessment. This result supports that the Four-step Model may be effective in inducing positive change in his clients regarding suicide risk. This finding is in agreement with the effect of other psychotherapy models like CBT and DBT in improving suicidal risk.[32 ,31]

Improvement in suicide risk can be contributed to the therapeutic process in the Four-step Model, firstly by focusing on discovering and accepting some of denied, buried or ignored needs like, need to accept diabetes and accept taking regular insulin doses, need to live a good life, need to feel worthy and deserve living. The second step encouraging children to want to fulfill these needs by facing fears that obstruct fulfilling them. Then at the stage of rights children express their basic rights as right to be valued and respected as an individual, right to live one's life freely and in accordance with one's own reality, and right to optimally utilize one's potentials and abilities [33]. Finally, the children are encouraged to take some healthy responsible decisions concerning diabetes and life. This came in agreement with basic principles of existential theory which was focused on the freedoms of choice, decision-making, and responsibility for them.[34 ,10]

Diabetic children showed a statistically significant improvement in depressive symptoms in the form of improvement of Birleson score after attending group psychotherapy. This came to agreement with previous studies Trowell et al. and Blázquez et al. [35 & 36]. This improvement can be explained with the positive effect of the model in helping the child to determine his needs like the need to be seen, recognized by others, loved and feel worthy and accepted and getting rid of negative emotions or thoughts. This improvement lends some strength to our recently implemented model. Since the Four-step Integrative Model takes its principles from several psychiatric and psychotherapy schools .[10]

The positive correlation between depression and suicidality come in agreement with several previous studies as Tuncay & Sarman [37] and Chiang's study [38]. Before therapy high depression scores were correlated to high

suicidal tendencies while after group the improvement in depression score was also correlated to improvement in suicide scores. These findings support the presence of temporal relationship between the two as reported by Shaygan et al. and Van et al., who stated that psychotherapy not only improve depression but also have an independent impact on suicidal ideation .[39,40]

Lastly, there is positive correlation between baseline ASQ score and age (r=0.65, p=<0.001) was in agreement to Shah [41] who reported that there was a significant increase in suicide rates with increasing age. Also, Lawrence et al. and Roaten et al. reported that suicide risk was more in adolescent and preadolescent children [42, 16]. This could be explained by that; with increasing age, increase areas of a person's life experience and interactions with surroundings in many dimensions of life so more conflicts appear.

Conclusion

Our study shows that suicidal ideations or behaviors are common in depressed diabetic children. Group psychotherapy using the four-step model can be effective in improving both depressive symptoms and suicidal thoughts or behaviors. There is positive correlation between suicide risk and depressive symptoms i.e. severe depression is correlated to higher suicide risk and the reverse is true. It's mandatory to monitor both depressive symptoms and suicidal thoughts or behaviors in T1D children especially in older children as there is positive correlation between suicide and age among diabetic children .

List of abbreviations :

•MDD: Major Depressive Disorder
•T1DM: Type 1 Diabetes
•DSM-5: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
•ASQ: Ask Suicide Screening Questions
•DSRS-C: Birleson Depression Self Rating Scale for Children
•CBT: Cognitive Behavioral Therapy
•DBT: Dialectical Behavioral Therapy

Acknowledgment:

The authors express much gratitude to all children and their caregivers' for accepting participation in our research and being aware of the importance of psychiatric support provided for those children during their suffering with diabetes, depression and suicidal thoughts.

References

1.Roep, B. O., Thomaidou, S., Van Tienhoven, R., & Zaldumbide, A. (2021). Type 1 diabetes mellitus as a disease of the β-cell (do not blame the immune system?). Nature Reviews Endocrinology, 17(3), 150-161.

2. Gregory, G. A., Robinson, T. I., Linklater, S. E., Wang, F., Colagiuri, S., de Beaufort, C., ... & Ogle, G. D. (2022). Global incidence, prevalence, and mortality of type 1 diabetes in 2021 with projection to 2040: a modelling study. The lancet Diabetes & endocrinology, 10(10), 741-760.

3.Elheeny, A. A. H. (2020). Oral health status and impact on the oral health-related quality of life of Egyptian children and early adolescents with type-1 diabetes: a case-control study. Clinical oral investigations, 24, 4033-4042.

4. Anderson, R. J., Freedland, K. E., Clouse, R. E., & Lustman, P. J. (2001). The prevalence of comorbid depression in adults with diabetes: a meta-analysis. Diabetes care, 24(6), 1069-1078.

5. AbdElmageed, R. M., & Hussein, S. M. M. (2022). Risk of depression and suicide in diabetic patients. Cureus, 14.(1)

6. Grey, M., Whittemore, R., & Tamborlane, W. (2002). Depression in type 1 diabetes in children: natural history and correlates. Journal of psychosomatic research, 53(4), 907-911.

7. Renaud-Charest, O., Gold, A. S., Mok, E., Kichler, J., Li, P., & Nakhla, M. (2023). suicidal ideation, suicide attempts, and suicide deaths in adolescents and young adults with type 1 diabetes: a systematic review and meta-analysis. Canadian Journal of Diabetes, 47(7), S113.

8. Wang, B., An, X., Shi, X., & Zhang, J. A. (2017). Management of endocrine disease: suicide risk in patients with diabetes: a systematic review and meta-analysis. European journal of endocrinology, 177(4), R169-R181.

9. Delamater, A. M., de Wit, M., McDarby, V., Malik, J. A., Hilliard, M. E., Northam, E., & Acerini, C. L. (2018). ISPAD Clinical Practice Consensus Guidelines 2018: Psychological care

of children and adolescents with type 1 diabetes. Pediatric diabetes, 19.

10. Mahfouz, R., Taha, M., & IsHak, W. W. (2015). The Four-Step Integrative Model for group psychotherapy: Description, development and application in Egyptian culture. Group therapy: Theory, practices and effectiveness. New York, NY: Nova Science.

11. Taha, M., Mahfouz, R., & Arafa, M. (2008). Socio-cultural influence on group therapy leadership style. Group analysis, 41(4), 391-406.

12. Abdelhameed, M., Mahfouz, R., Kamal, A., & Taha, M. (2016). Digging out insights and behavioral correlates of false and true femininity in borderline personality disorder patients attending four-step integrative model group psychotherapy. European Psychiatry, 33(S1), s232-s232.

13. Isaac, S., & Michael, W. B. (1995). Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences. Edits publishers.

14. Horowitz, L. M., Bridge, J. A., Teach, S. J., Ballard, E., Klima, J., Rosenstein, D. L., & Joshi, P. (2012). Ask Suicide-Screening Questions (ASQ): a brief instrument for the pediatric emergency department. Archives of pediatrics & adolescent medicine, 166(12), 1170-1176.

15. Aguinaldo, L. D., Sullivant, S., Lanzillo, E. C., Ross, A., He, J. P., Bradley-Ewing, A., ... & Wharff, E. A. (2021). Validation of the ask suicide-screening questions (ASQ) with youth in outpatient specialty and primary care clinics. General hospital psychiatry, 68, 52-58.

16. Roaten, K., Horowitz, L. M., Bridge, J. A., Goans, C. R., McKintosh, C., Genzel, R., ... & North, C. S. (2021). Universal pediatric suicide risk screening in a health care system: 90,000 patient encounters. Journal of the Academy of Consultation-Liaison Psychiatry, 62(4), 421-429.

17. Birleson, P., Hudson, I., Buchanan, D. G., & Wolff, S. (1987). Clinical evaluation of a self-rating scale for depressive disorder in childhood (Depression Self-Rating Scale). Journal of child psychology and Psychiatry, 28(1), 43-60.

18. Birleson, P. (1981). The validity of depressive disorder in childhood and the development of a self-rating scale: a research report. Journal of child Psychology and Psychiatry, 22(1), 73-88.

19. Vinh, N. A., & Ut, N. T. (2024). 22. Using Birleson Depression Self-Rating Scale to Measure Depressive Symptoms among Urban Adolescents in Hanoi, Vietnam. Tạp chí Nghiên cứu Y học, 177(4E14), 176-184.

20. Bruijniks, S. J., Lemmens, L. H., Hollon, S. D., Peeters, F. P., Cuijpers, P., Arntz, A., ... & Huibers, M. J. (2020). The effects of once-versus twice-weekly sessions on psychotherapy outcomes in depressed patients. The British Journal of Psychiatry, 216(4), 222-230.

21. Svartberg, M., Stiles, T. C., & Seltzer, M. H. (2004). Randomized, controlled trial of the effectiveness of short-term dynamic psychotherapy and cognitive therapy for cluster C personality disorders. American journal of Psychiatry, 161(5), 810-817.

22. Leichsenring, F., & Rabung, S. (2008). Effectiveness of long-term psychodynamic psychotherapy: A meta-analysis. Jama, 300(13), 1551-1565.

23. Kvarstein, E. H., Nordviste, O., Dragland, L., & Wilberg, T. (2017). Outpatient psychodynamic group psychotherapy–outcomes related to personality disorder, severity, age and gender. Personality and Mental Health, 11(1), 37-50.

24. Straub, J., Metzger, C. D., Plener, P. L., Koelch, M. G., Groen, G., & Abler, B. (2017). Successful group psychotherapy of depression in adolescents alters fronto-limbic resting-state connectivity. Journal of affective disorders, 209, 135-139.

25. Wang, C. C., Tzeng, D. S., & Chung, W. C. (2014). The effect of early group psychotherapy on depressive symptoms and quality of life among residents of an apartment building for seniors. Psychogeriatrics, 14(1), 38-46.

26. Hamilton, S., Moore, A. M., Crane, D. R., & Payne, S. H. (2011). Psychotherapy dropouts:

Differences by modality, license, and DSM-IV diagnosis. Journal of Marital and Family Therapy, 37(3), 333-343.

27. Simon, G. E., & Ludman, E. J. (2010). Predictors of early dropout from psychotherapy for depression in community practice. Psychiatric Services, 61(7), 684-689.

28. Clarkin, J. F., & Levy, K. N. (2004). The influence of client variables on psychotherapy. Bergin and Garfield's handbook of psychotherapy and behavior change, 5, 194-226.

29. Larson, B. K. (1991). Women's work and status in rural Egypt. NWSA Journal, 3(1), 38-52.

30. Dickerscheid, J. D. (1990). Profiles of rural Egyptian women: Rules, status and needs. International Journal of Sociology of the Family, 1-20.

31. Méndez-Bustos, P., Calati, R., Rubio-Ramírez, F., Olié, E., Courtet, P., & Lopez-Castroman, J. (2019). Effectiveness of psychotherapy on suicidal risk: a systematic review of observational studies. Frontiers in psychology, 10, 277.

32. Calati, R., & Courtet, P. (2016). Is psychotherapy effective for reducing suicide attempt and non-suicidal self-injury rates? Meta-analysis and meta-regression of literature data. Journal of psychiatric research, 79, 8-20.

33. Serlin, I. A., & Criswell, E. (2014). Humanistic psychology and women. The handbook of humanistic psychology: Theory, research and practice, 27-40.

34. Koole, S. L., Greenberg, J., & Pyszczynski, T. (2006). Introducing science to the psychology of the soul: Experimental existential psychology. Current Directions in Psychological Science, 15(5), 212-216.

35. Trowell, J., Joffe, I., Campbell, J., Clemente, C., Almqvist, F., Soininen, M., ... & Tsiantis, J. (2007). Childhood depression: a place for psychotherapy: an outcome study comparing individual psychodynamic psychotherapy and family therapy. European child & adolescent psychiatry, 16, 157-167.

36. Blázquez, F. P., Medina, P. M., & Guerrero, A. G. (2014). Gaudiebility Group Therapy in depressed patients: a pilot study. International journal of psychology and psychological therapy, 14(1), 59-69.

37. Tuncay, S., & Sarman, A. (2024). Determination of the relationship between depression and suicide in young adolescents. Journal of child and adolescent psychiatric nursing, 37(3), e12473.

38. Chiang, Y. H., Ma, Y. C., Lin, Y. C., Jiang, J. L., Wu, M. H., & Chiang, K. C. (2022). The relationship between depressive symptoms, rumination, and suicide ideation in patients with depression. International journal of environmental research and public health, 19(21), 14492.

39. Shaygan, M., Hosseini, F. A., & Negad, S. S. (2023). Temporal relationships between changes in depression and suicidal ideation: A mediation analysis in a randomized double-blinded clinical trial. Psychology and Psychotherapy: Theory, Research and Practice, 96(2), 364-382.

40. van Bentum, J. S., van Bronswijk, S. C., Sijbrandij, M., Lemmens, L. H., Peeters, F. F., Drukker, M., & Huibers, M. J. (2021). Cognitive therapy and interpersonal psychotherapy reduce suicidal ideation independent from their effect on depression. Depression and anxiety, 38(9), 940-949.

41. Shah, A. (2007). The relationship between suicide rates and age: an analysis of multinational data from the World Health Organization. International Psychogeriatrics, 19(6), 1141-1152.

42. Lawrence, H. R., Burke, T. A., Sheehan, A. E., Pastro, B., Levin, R. Y., Walsh, R. F., & Liu, R. T. (2021). Prevalence and correlates of suicidal ideation and suicide attempts in preadolescent children: A US population-based study. Translational psychiatry, 11(1), 489.