# Prevalence of depression in schizophrenic patients evaluated by the Calgary Depression Scale in Shebin El-Kom, Menoufiya

Mohamed El-Bahy[a] and Wael M.Y. Mohamed[b]

Departments of [a]Neuropsychiatr and [b]Clinical Pharmacology, Menoufiya Medical School, Menoufiya University, Egypt

Correspondence to Wael Mohamed, Clinical Pharmacology Department, Menoufiya Medical School, Yassin Abd El Ghafaar Street (from Abd El Nasser Street), Shebin El Kom, Menoufiya 110532, Egypt
Tel: +2 048 2223964; fax: +2 048 2326810;
e-mail: wmy107@gmail.com

**Background**
Psychiatric comorbidities are communal among patients with schizophrenia. A significant percentage of patients with schizophrenia show depressive symptoms during the development of their illness.

**Objectives**
The aim of this study was to evaluate the prevalence of depression using the Calgary Depression Scale for Schizophrenia (CDSS) in a sample of Egyptian patients (Shebin El-Kom, Menoufiya) with schizophrenia and without a diagnosis of depression.

**Participants**
In this cross-sectional study, we included outpatients from Menoufiya University Hospital and Shebin El-Kom Educational Hospital, 20–50 years old, with a diagnosis of schizophrenia or schizophreniform disorder that had not been diagnosed with depression.

**Methodology**
We administered the CDSS and the Positive and Negative Syndrome Scale (PANSS) to the schizophrenia patient sample. Also, schizophrenia patients were studied according to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. criteria.

**Results**
A total of 120 patients were recruited and included in the statistical analysis (72 men and 48 women). Sixty-three patients had a total score of 5 or more points on the CDSS, making the prevalence of depression 30%. The prevalence of depression in men ($n=24$) was 33% versus 25% in women ($n=12$). There was no significant difference between men and women in terms of the prevalence of depression. The CDSS had a higher correlation with the depressive factor of the PANSS and a moderate correlation with the general psychopathology subscale of the PANSS. Nonetheless, the correlation of the CDSS total score with the PANSS-negative was low. There was no correlation between depressive symptoms and positive symptoms.

**Conclusion**
Our results suggest that patients with schizophrenia who have not been diagnosed with depression frequently have clinically symptoms of depression, with the possible exception of a contribution from negative symptoms. CDSS is a more specific instrument to measure depressive symptoms in schizophrenia.

**Keywords:**
Calgary Depression Scale, depression, prevalence, schizophrenia

## Introduction

Recently, there has been an increased prevalence of anxiety, depression, and substance abuse disorders in patients with schizophrenia, leading to distortion of its clinical representation [1,2]. A wealth of evidence underscores the comorbidity of depression and schizophrenia [3–6]. Furthermore, a considerable proportion of patients with schizophrenia show depressive symptoms during the course of their illness [6]. It was therefore hypothesized that depressive symptoms are an essential part of schizophrenia [2,7,8]. The reported prevalence of comorbidity of depression among schizophrenic patients is 7–75%, with a modal rate of 25% [2,6,8,9]. Nonetheless, it is important to note that such depressive symptoms may be secondary to other comorbid medical disorders, neuroleptics side effects, or a psychological reaction to the illness [5,6]. From a clinical perspective, depression may be a prodromal of a psychotic relapse or a postpsychotic episode [7,8]. Several studies [2,9,10] have explored the prevalence of depressive symptoms in the long-term treatment of schizophrenic patients. This affliction includes recurrent hospitalization [11], worse functional mutilation [12,13], cognitive deficits [14–19], and poor social abilities [20–22]. It is especially notable that the most frequently used instruments in psychiatry,

the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV) and the 10th revision of the International Statistical Classification of Diseases and Related Health Problem [23], differ in their approach to measurement of depressive symptoms in patients with schizophrenia [24–26]. Not surprisingly, therefore, the presence of specific diagnostic criteria for depression in schizophrenia is called postschizophrenic depression in the ICD-10 manual [23,27]. Nonetheless, DSM-IV does not recognize depressive episodes in the majority of clinically stable schizophrenic patients [28,29]. In addition, DSM-VI encourages measurement of psychopathology in terms of quantitative dimensions, instead of merely as discontinuous categories [30].

## Aim

The present investigation estimates the prevalence of depression in a sample of patients in Shebin El-Kom, Menoufiya with schizophrenia using a specific and validated tool, the Calgary Depression Scale for Schizophrenia (CDSS).

## Methodology

### Study type

This is a cross-sectional study.

### Participants

A total of 120 patients were selected from psychiatric outpatient clinics in Menoufiya University Hospital and Shebin El-Kom Educational Hospital during the period between October 2011 and November 2012. Written informed consent was obtained from all patients in Arabic. The inclusion criteria for all participants were an established diagnosis of schizophrenia, or schizophreniform disorder according to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., Text Revision (DSM-IV-TR) [24], and a score of 3 or less on the following items of the Positive and Negative Syndrome Scale (PANSS): delirium, conceptual disorganization, hallucinatory behavior, postural mannerism, and unusual thought content. The average age of the participants was 38.2 years (SD = 8.4) and 40% ($n$ = 48) were women. There was no history of significant changes in antipsychotic treatment and/or mood stabilizers during the 3 months before the study. The demographic characteristics of the patients are presented in Table 1. Of note, the exclusion criteria were as follows: (a) other DSM-IV Axis I disorders including a major depressive episode, (b) an Axis II disorder, (c) treatment for 3 months before their participation with an antidepressant or more than one antipsychotic, and (d) unstable severe medical disease.

### Measures

*Psychiatric diagnosis according to the DSM-IV-TR*

The following scales were used: the CDSS [31] and the PANSS [32]. We used the Arabic version of CDSS, which is based both on patient report and on clinician

**Table 1 Demographic characteristics**

| Variables | $N$ (%) |
|---|---|
| Total number | 120 |
| Age (mean ± SD) (years) | 38.2 ± 8.4 |
| Sex | |
|   Female | 48 (40) |
|   Male | 72 (60) |
| Diagnosis | |
|   Schizophrenia | 96 (80) |
|   Schizophreniform disorder | 24 (20) |
| Education (mean ± SD) (years) | 9.6 ± 2.9 |
| Marital status | |
|   Married | 25 (20.8) |
|   Not married | 95 (79.2) |
| Duration of illness (mean ± SD) (years) | 12.9 ± 10.3 |
| Antipsychotic treatment | |
|   Typical neuroleptics | 88 (73.3) |
|   Atypical neuroleptics | 32 (26.7) |

observations of depressive symptoms that minimize the poor self-report, especially in patients with cognitive malfunction. Scores of at least 5 [31,33] indicate clinically significant depression. The CDSS is very specific for psychoanalysis of patients with schizophrenia [33,34], and compared with the Hamilton Depression Rating Scale [35], the CDSS is more sensitive in assessment of depression in patients with schizophrenia [36]. We selected the PANSS as it was used to evaluate positive and negative symptoms and general psychopathology [32,37]. The PANSS has four subscales: a positive, negative, general, and a composite index [38].

### Data analysis

Data were expressed as arithmetic mean and SD. Coded and revised data were introduced into an Excel database, and analyzed using SPSS, version 16.0. (SPSS Inc., Chicago, Illinois, USA). The means were compared using the *t*-test and analysis of variance; *P*-values less than or equal to 0.05 were considered statistically significant [39]. The correlation between the CDSS score and the different scales was calculated by the Spearman correlation coefficient.

### Ethical consideration

The participation was entirely on a voluntary basis and patients had an option to quit at any point during the study. All patients were ensured of confidentiality. Menoufiya Medical School Research Ethics Committee approved the study.

## Results

### Participants' characteristics

The demographic characteristics of the selected sample are presented in Table 1. The table shows that a total of 125 patients were recruited; 120 of these patients were included in the statistical analysis after exclusion of five patients who did not fulfill the inclusion criteria. Three of these patients were not within the age range and we could not confirm the diagnosis for the remaining two patients. The mean age of the patients was 38.2 ± 8.4 years, ranging between 20 and 50 years, with men comprising 60% ($n$ = 72) of the sample. At the time of testing, most of the patients had a diagnosis of

schizophrenia (n = 96, 80%), followed by schizophreni-form disorder (n = 24, 20%). Their average years of education were 9.6 ± 2.9, ranging between 0 and 16 years. The average duration of schizophrenia was 12.9 years (95% confidence Interval 13.1–15.2 years). Thirty-six patients had a total score of 5 or more points on the CDSS, making the prevalence of depression 30%. The prevalence of depression was 60% (n = 24) in men and 40% in women (n = 12).

### Depressive symptoms

Table 2 shows a comparison between nondepressed patients and patients with depression; patients with depression had a significantly higher score on the PANSS-total, the general psychopathology subscale of the PANSS (PANSS-GP), and negative symptoms on the PANSS (PANSS-N) compared with nondepressed patients. Nonetheless, there was no significant difference between depressed and nondepressed patients in terms of positive symptoms. As shown in Table 3, the CDSS showed a high correlation with the depressive factor of the PANSS (PANSS-D) and a moderate correlation with the PANSS-GP. However, there was no correlation between depressive symptoms and positive symptoms (r < 0.3). Table 4 shows the CDSS scores out of the patients. The majority of patients (n = 84) scored 4 or less, whereas 36 patients scored at least 5. Analysis of the individual items showed guilty ideas of reference to be the most common, followed by pathological guilt, depression, observed depression, self-deprecation, hopelessness, early wakening, morning depression, and suicide.

### Discussion

The aim of the present study was to examine the relationship between depression and schizophrenia. The incidence of depressive episodes is common in schizophrenia, with a common symptomatology. Consequently, the diagnosis of their comorbidity is challenging for both clinicians and researchers [40]. Within this context, the presence of comorbid depression negatively affects quality of life, underlies psycho pathology and the brutality of associated medical conditions [10]. In addition, pharmacotherapy of schizophrenic patients with depression is different from that of patients with schizophrenia alone [40]. Keeping this in mind, the current study is very important in elucidating the prevalence of this comorbidity. Our findings suggest that depression is an important clinical phenomenon in schizophrenia. Depression appears to be associated with a greater severity of disease and may overlap with negative

symptoms [40]. In terms of the prevalence of depression, we reported it to be 30%, which is in agreement with that reported by Siris and Bench [6] as well as that reported in an international survey of practicing psychiatrists [41]. It is noteworthy that the use of CDSS in our study was advantageous as it is estimated that about 1% of US psychiatrists reported the use of the CDSS [2,41]. Reine et al. [41] and Lançon et al. [28] reported almost the same rate of depression in a sample of schizophrenic patients as our rate. It is noteworthy that we used the same CDSS for assessment of depression. Nonetheless, our prevalence rate of depression is not in agreement with that of Cardoso et al. [42], who reported the prevalence of depression to be 56%. This discrepancy could be explained by the fact that they may have included some patients in the acute phase. Also, in our study, we excluded patients with a diagnosis of depression or patients treated with antidepressants. The prevalence of depression is higher in the prodromal and acute phases compared with the stable phase of the disease [23]. Müller et al. [36] reported a higher rate of depression (70%) using the CDSS in a similar manner, but they included patients with acute schizophrenia, whereas we excluded, in our study, patients with positive symptoms and/or those who received two or more antipsychotics. Superficially, at least our observation was surprising in terms of the presence of depressive symptoms in a sample of patients with stable schizophrenia who were not diagnosed with depression and were not receiving antidepressants. Hence, on the basis of the present data, we suggest that depression in patients with schizophrenia is an under-recognized problem in our medical society. This is in agreement with Lako et al. [26] and D'Antonio and Serper [43]. The CDSS scale is unique in its ability to discriminate between depression and negative symptoms [41,44]. There is evidence that the relationship between depression symptoms measured by the CDSS and other symptoms of schizophrenia appears to differ during different stages of the illness. The CDSS has been validated in different languages (Brazilian, Danish, French, Arabic) [45–47]. When we studied the correlation between CDSS scores and other scales or subscales, the only high correlation was with the PANSS-D. This result is consistent with other studies [46,48] that have also found a good correlation between these two measurements, and it suggests that, with certain limitations (e.g. the PANSS-D does not evaluate important symptoms such as suicide), the PANSS-D provides a correct overall evaluation of depression in patients with schizophrenia [46,48]. Our results show a significant association between the presence of depression and the score of the

**Table 2 Comparison between patients with and without depression according to PANSS**

| Evaluation (mean ± SD) (95% CI) | Total sample (N = 120) | Patients without depression (n = 84) | Patients with depression (n = 36) | P |
|---|---|---|---|---|
| PANSS | | | | |
| Total | 30.8 ± 7.8 | 24.9 ± 9.8 | 8.9 ± 5.9 | < 0.001 |
| Positive | 7.6 ± 2.8 | 9.2 ± 2.4 | 10.3 ± 3.6 | 0.159 |
| Negative | 12.9 ± 6.8 | 11.1 ± 4.3 | 8.3 ± 6.5 | 0.01 |
| General psychopathology | 21.7 ± 6.5 | 12.8 ± 4.1 | 6.8 ± 8.1 | < 0.001 |
| Depressive factor | 7.4 ± 5.9 | 5.7 ± 1.6 | 9.3 ± 2.4 | < 0.001 |

CI, confidence interval; PANSS, Positive and Negative Syndrome Scale.

**Table 3 Correlation between the symptoms of depression (CDSS) and other clinical characteristics**

| Characteristics | N | R | P |
|---|---|---|---|
| PANSS-T | 120 | 0.43 | <0.001 |
| PANSS-P | 120 | 0.22 | 0.049 |
| PANNS-N | 120 | 0.31 | 0.003 |
| PANSS-GP | 120 | 0.54 | <0.001 |
| PANSS-D | 120 | 0.60 | <0.001 |

CDSS, Calgary Depression Scale for Schizophrenia; PANSS, Positive and Negative Syndrome Scale.

**Table 4 CDSS scores and item scores of patients with schizophrenia (n = 120)**

| | Number of patients | Proportion of patients (%) |
|---|---|---|
| CDSS scores | | |
| 0 to ≤4 | 84 | 70 |
| ≥5 | 36 | 30 |
| Item of CDSS | | |
| Guilty ideas of reference | 48 | 40 |
| Pathological guilt | 44 | 36.7 |
| Depression | 40 | 33.3 |
| Observed depression | 35 | 29.2 |
| Self-deprecation | 32 | 26.7 |
| Hopelessness | 25 | 20.8 |
| Early wakening | 17 | 14.2 |
| Morning depression | 13 | 10.8 |
| Suicide | 11 | 9.2 |

CDSS, Calgary Depression Scale for Schizophrenia.

PANSS-GP as well as a moderate correlation between the PANSS-GP and the CDSS in patients with stable schizophrenia (a Pearson correlation coefficient of 0.54), but not in patients in the acute phase. This is in agreement with Reine et al. [41] and Müller et al. [41,49], who found that patients in the stable phase of schizophrenia who had depression on the basis of the CDSS had a significantly higher score on the PANSS-total and especially on the PANSS-GP than patients without depression. In addition, our result was in agreement with that of Lançon et al. [28], who suggested that depression in patients with stable schizophrenia can be a good indicator of the severity of the disease. Martín-Reyes [48] reported a small correlation (r = 0.24) between the CDSS score and the PANSS-N, a result that is similar to that in our study using these two scales. It should be emphasized that our results highlight that measurement tools used to evaluate depressive and negative symptoms may play a role in studying the relationship between these symptoms. Furthermore, Lançon et al. [28], using the CDSS and the PANSS-N, reported a small but significant correlation between these scales in stable patients with no correlation in acute-phase patients with schizophrenia. Finally, Reine et al. [41] did not find significant differences in the PANSS-N score between patients with or without depression on the basis of the CDSS in patients with schizophrenia in a stable phase. The CDSS score in our study showed a significant but little correlation with the PANSS-P. This is in agreement with Lako et al. [26], who reported a low but significant correlation between depressive and positive symptoms. However, Sarro et al. [46] did not report such an

association. Our findings are consistent with the latter studies; however, the low correlation could be attributed to the low severity of positive symptoms in our study as a result of the selection criteria applied.

## Study limitations

Therefore, our study has important methodological limitations including (a) the use of a relatively small sample size in relation to the objectives of the study, (b) the lack of use of HAMD as a comparable scale for measuring depression as they are effective with specific patterns of schizophrenia, (c) lack of reporting on the direction of the relationship between symptoms, as we have discussed for the association between depressive and negative symptoms, and (d) no evaluation of the progression of symptoms with time. The possible exclusion of patients who were receiving antidepressants could have led to an underestimation of the prevalence of depression in our study. Another caveat of this study stemmed from studying only one type of schizophrenia, that is, only in outpatients. Indeed, it would have improved our study if we had defined the level of chronicity of the illness with exact discrimination between different phases of schizophrenia.

## Clinical implications and recommendations

The present study is among the first in our community to underscore the hypothesis that depression is an important clinical phenomenon in schizophrenia. The most striking finding of this study is that it alerts mental health professionals about the depressive symptoms in patients with schizophrenia. Depressive symptoms co-occur with several negative traits of the clinical upshot, including cognitive mutilation, worsening of psychosocial performance, longer hospitalization, lower response to medication, and increased suicide risk. Therefore, the core, underlying notion of our work is that schizophrenia should be defined properly in order to study its depressive features, that is duration rather than course of schizophrenia is a risk factor for depression. Our key recommendation to our fellow psychiatrists who treat patients with schizophrenia and depression is to perform a careful diagnostic assessment, which is essential to tailor suitable medications. From our results, we have a solid foundation that the CDRS showed higher sensitivity in detecting depression, especially among schizophrenic patients, thus helping clinicians to initiate proper psychosocial interventions and medications.

## Conclusion

In conclusion, the present study suggests that patients with schizophrenia who have not been diagnosed with depression frequently have clinical symptoms of depression, with the possible exception of a contribution from negative symptoms. CDSS is a more specific instrument to measure depressive symptoms in schizophrenia and

can distinguish well between depressive and negative symptoms. Thus, CDRS should be considered as an indispensable step in the assessment of schizophrenic patients to identify true positive depression early to provide a proper intervention. The comorbidity of schizophrenia should prove fruitful for future analytical rather than descriptive research.

## References

1  Green AI, Canuso C, Brenner MJ, Wijcik JD. Detection and management of comorbidity in schizophrenia. Psychiatr Clin North Am 2003; 26:115–139.

2  Buckley PF, Miller BJ, Lehrer DS, Castle DJ. Psychiatric comorbidities and schizophrenia. Schizophr Bull 2009; 35:383–402.

3  Hausmann A, Fleichhacker WW. Differential diagnosis of depressed mood in patients with schizophrenia: a diagnostic algorithm based on a review. Acta Psychiatr Scand 2002; 106:83–96.

4  Kendler KS, Gallagher TJ, Abelson JM, Kessler RC. Lifetime prevalence, demographic risk factors and diagnostic validity of nonaffective psychosis as assessed in a US community sample. Arch Gen Psychiatry 1996; 53: 1022–1031.

5  Siris SG. Depression in schizophrenia: perspective in the era of 'atypical' antipsychotic agents. Am J Psychiatry 2000; 157:1379–1389.

6  Siris SG, Bench C. Depression and schizophrenia. In: Hirsch SR, Weinberger D, editors. Schizophrenia. 2nd ed. Oxford, UK: Blackwell Publishing Ltd; 2003.

7  Dan A, Kumar S, Avasthi A, Grover S. A comparative study on quality of life of patients of schizophrenia with and without depression. Psychiatry Res 2011; 189:185–189.

8  Chemerinski E, Bowie C, Anderson H, Harvey PD. Depression in schizophrenia: methodological artifact or distinct feature of the illness. J Neuropsychiatry Clin Neurosci 2009; 20:431–440.

9  Conley RR, Ascher-Svanum H, Zhu B, Faries DE, Kinon BJ. The burden of depressive symptoms in the long-term treatment of patients with schizophrenia. Schizophr Res 2007; 90:186–197.

10  Schennach-Wolff R, Obermeier M, Seemuller F, Jager M, Messer T, Laux G, et al. Evaluating depressive symptoms and their impact on outcome in schizophrenia applying the Calgary Depression Scale. Acta Psychiatr Scand 2011; 123:228–238.

11  An der Heiden W, Konnecke R, Maurer K, Ropeter D, Hafner H. Depression in the long-term course of schizophrenia. Eur Arch Psychiatry Clin Neurosci 2005; 255:174–184.

12  Jin H, Zisook S, Palmer BW, Patterson TL, Heaton RK, Jeste D. Association of depressive symptoms with worse functioning in schizophrenia: a study in older outpatients. J Clin Psychiatry 2001; 62:797–803.

13  Sands JR, Harrow J. Depression during the longitudinal course of schizophrenia. Schizophr Bull 1999; 25:157–171.

14  Brebion G, Smith MJ, Amador X, Malaspina D, Gorman JM. Clinical correlates of memory in schizophrenia: differential links between depression, positive and negative symptoms, and two types of memory impairment. Am J Psychiatry 1997; 154:1538–1543.

15  Brebion G, Amador X, Smith M, Malaspina D, Sharif Z, Gorman JM. Depression, psychomotor retardation, negative symptoms and memory in schizophrenia. Neuropsychiatry Neuropsychol Behav Neurol 2000; 158:758–764.

16  Brebion G, Gorman JM, Malaspina D, Sharif Z, Amador X. Clinical and cognitive factors association with verbal memory task performance in patients with schizophrenia. Am J Psychiatry 2001; 158:758–764.

17  Burt DB, Zembar MJ, Niederehe G. Depression and memory impairment: a meta-analysis of the association, its pattern and specificity. Psychol Bull 1995; 117:285–305.

18  Moser C, Krieg J, Zihl J, Lautenbacher S. Attention and memory deficits in schizophrenia. Cogn Behav Neurol 2006; 19:150–156.

19  Smith MJ, Brebion G, Banquet JP, Allilaire JF. Experimental evidence for two dimensions of cognitive disorders in depressives. J Psychiatr Res 1994; 28:401–411.

20  Bowie CR, Reichenberg A, Patterson TL, Heaton RK, Harvey PD. Determinants of real-world functional performance in schizophrenia subjects: correlations with cognition, functional capacity, and symptoms. Am J Psychiatry 2006; 163:418–425.

21  Bowie CR, Leung WW, Reichenberg A, McClure MM, Patterson TL, Heaton RK, Harvey PD. Predicting schizophrenia patients' real-world behavior with specific neuropsychological and functional capacity measures. Biol Psychiatry 2008; 63:505–511.

22  Bowie CR, Depp C, McGrath JA, Wolyniec P, Mausbach BT, Thornquist MH, et al. Prediction of real-world functional disability in chronic mental disorders: a comparison of schizophrenia and bipolar disorder. Am J Psychiatry 2010; 167:1116–1124.

23  World Health Organization. The ICD-10 Classification of Mental and Behavioral Disorders: diagnostic criteria for research. Geneva: WHO; 1993.

24  American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorder (DSM-IV). 4th ed. Washington, DC: American Psychiatric Press; 1994.

25  Bressan R, Chaves A, Pilowsky L, Shirakawa I, Mari J. Depressive episodes in stable schizophrenia: critical evaluation of the DSM-IV and ICD-10 diagnostic criteria. Psychiatry Res 2003; 117:47–56.

26  Lako IM, Bruggman R, Knegtering H, Wiersma D, Schoevers RA, Slooff CJ, Taxis K. A systematic review of instruments to measure depressive symptoms in patients with schizophrenia. J Affect Disord 2012; 140:38–47.

27  Mulholland C, Cooper S. The symptoms of depression in schizophrenia and its management. Adv Psychiatr Treat 2000; 6:169–177.

28  Lançon C, Auquier P, Reine G, Bernard D, Addington D. Relationships between depression and psychotic symptoms of schizophrenia during an acute episode and stable period. Schizophr Res 2001; 47:135–140.

29  Solanki RK, Singh P, Midha A, Chugh K. Schizophrenia: impact on quality of life. Indian J Psychiatry 2008; 50:181–186.

30  Diagnostic and Statistical Manual of Mental Disorders (DSM-VI), 5th ed. Available at: http://www.dsm5.org/Pages/Default.aspx. [Accessed October 2012].

31  The Calgary Depression Scale for Schizophrenics (CDSS). Arabic version. Available at: http://www.ucalgary.ca/cdss/ [Accessed 2 October 2011].

32  Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. Schizophr Bull 1987; 13:261–276.

33  Addington D, Addington J, Atkinson M. A psychometric comparison of the Calgary Depression Scale for Schizophrenia and the Hamilton Depression Rating Scale. Schizophr Res 1996; 19:205–212.

34  Collins AA, Remington G, Coulter K, Birkett K. Depression in schizophrenia: a comparison of three measures. Schizophr Res 1996; 20:205–209.

35  Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960; 23:56–62.

36  Müller MJ, Müller KM, Fellgiebel A. Detection of depression in acute schizophrenia: sensitivity and specificity of 2 standard observer rating scales. Can J Psychiatry 2006; 51:387–392.

37  White L, Harvey P, Opler L, Lindenmayer JP. Empirical assessment of the factorial structure of clinical symptoms in schizophrenia: a multisite, multi-model evaluation of the factorial structure of the positive and negative syndrome scale. Psychopathology 1997; 30:263–274.

38  Kay SR, Opler LA, Lindenmayer JP. Reliability and validity of the Positive and Negative Syndrome Scale for schizophrenics. Psychiatry Res 1988; 23: 99–110.

39  Armitage P. Statistical methods in medical reasearch. London: Blackwell Scientific Publications; 1971.

40  Siris SG, Addington D, Azorin JM, Falloon IR, Gerlach J, Hirsch SR. Depression in schizophrenia: recognition and management in the USA. Schizophr Res 2001; 47:185–197.

41  Reine G, Lançon C, Di Tucci S, Sapin C, Auquier P. Depression and subjective quality of life in chronic phase schizophrenic patients. Acta Psychiatr Scand 2003; 108:297–303.

42  Cardoso CS, Caiaffa WT, Bandeira M, Siqueira AL, Silva JT, Fonseca JO. Depression in schizophrenia: prevalence and relationship to quality of life. Cad Saude Publica 2007; 23:2035–2048.

43  D'Antonio E, Serper MR. Depression and cognitive deficits in geriatric schizophrenia. Schizophr Res 2012; 134:65–69.

44  Rabany L, Weiser M, Werbeloff N, Levkovitz Y. Assessment of negative symptoms and depression in schizophrenia: revision of the SANS and how it relates to the PANSS and CDSS. Schizophr Res 2011; 126:226–230.

45  Addington D, Addington J, Maticka-Tyndale E, Joyce J. Reliability and validity of a depression rating scale for schizophrenics. Schizophr Res 1992; 6:201–208.

46  Sarro S, Dueñas RM, Ramírez N, Arranz B, Martínez R, Sánchez JM, et al. Cross-cultural adaptation and validation of the Spanish version of the Calgary DepressionScale for Schizophrenia. Schizophr Res 2004; 68:349–356.

47  EL Khouly GH, Mahmoud A, Sadek H, Al Gafary M. Features of depression in Schizophrenia. Arab J Psychiatry 2011; 22:10–18.

48  Martín-Reyes M, Mendoza R, Domínguez M, Caballero A, Bravo TM, Diaz T, et al. Depressive symptoms evaluated by the Calgary Depression Scale for Schizophrenia (CDSS): genetic vulnerability and sex effects. Psychiatry Res 2011; 189:55–61.

49  Müller MJ, Müller KM, Fellgiebel A. Detection of depression in acute schizophrenia: sensitivity and specificity of 2 standard observer rating scales. Can J Psychiatry 2006; 51:387–392.

## الملخص

**أهداف البحث:** يهدف البحث إلى دراسة ظاهرة الاكتئاب في مرضى الفصام في عينه من المرضي المترددين علي العيادات الخارجية بمستشفي جامعة المنوفية والمستشفي التعليمي بشبين الكوم باستخدام مقياس كالجاري للاكتئاب.

**طريقة البحث:** تضمن هذا البحث دراسة 120 مريض بًالفصام من المترددين على العيادات الخارجية للطب النفسي بمستشفي جامعة المنوفية والمستشفي التعليمي بشبين الكوم بمحافظة المنوفية- جمهورية مصرالعربية، تشمل 72 ذكر و48 انثي. جميع المرضى المشتركين في البحث تم إخضاعهم لعدة فحوص وهي: المقابلةالسريرية المصممة للتشخيص (قسم الاكتئاب والفصام) حسب التصنيف العالمى الرابع ومقياس كالجاري للاكتئاب، ومقياس الأعراض الإيجابية والسلبية للفصام.

**نتائج البحث:** أظهرنتائج الفحوص أن نسبة الاكتئاب في مرضي الفصام30% (36مريض) يشمل 24 ذكر و12 انثي.
وقد أظهرت مقارنة نتائج مقياس كالجاري للاكتئاب،ومقياس الأعراض الإيجابية والسلبية للفصام أنه هناك ارتباطًا بين جميع اعراض الفصام ماعداالإعراض الايجابية منها مع عامل الاكتئاب. كما وجد انه هناك ارتباطا قويا بين مقياس كالجاري للاكتئاب وعامل الاكتئاب مقياس الأعراض الإيجابية والسلبية للفصام.
وقد وجد في نتائج مقياس كالجاري للاكتئابان اكثر اعراض الاكتئاب حدوثا في مرضي الفصام هي:" أفكار الذنب الأشاريه" ثم " الشعوربالذنب المرضى " ثم "الاكتئاب" ثم" الاكتئاب الملاحظ " ثم " تدنى تقديرالذات"ثم" الياس" ثم " الاستيقاظ المبكر" ثم " الاكتئاب الصباحي" ثم " الانتحار".

**الاستنتاج:** خلص البحث إلى أن دراسة ظاهرة الاكتئاب في مرضي الفصام تحتاج إلى الاهتمام وذلك لزيادة نسبة حدوث ظاهرة الاكتئاب في مرضي الفصام وذلك في مرضي فصام لم يتم تشخيص اكتئاب سابقا. وأن مقياس كالجاري للاكتئاب لديه مصداقية في تشخيص الاكتئاب في مرضى الفصام .