Original Research Article • DOI: http://dx.doi.org/10.2478/medu-2019-0020 Medical University • 2(4) • 2019

Medical University

THE INCIDENCE OF DEPRESSION AND THE DECREASE OF QUALITY OF LIFE IN PATIENTS WITH MODERATE-SEVERE INFLAMMATORY ACNE

C.A. Verdeja-Robles[1], C.E. Velazquez-De la Rosa[1], A. Gutiérrez-Morgas[1]

[1]*Universidad Popular Autónoma del Estado de Puebla (UPAEP); Clínica Médica Universitaria, Puebla, México*

Abstract

Objective: to know the prevalence of depression in patients with moderate-severe acne vulgaris.
Hypothesis: the incidence of depression increases in patients with moderate-severe acne vulgaris and will therefore decrease the quality of life.
Background: acne is a very frequent dermatosis in the outpatient clinic, it is not considered a life-threatening disease. It has been associated with negative emotional status. Also, suffering from it for a long time has been associated with depression, anxiety and frustration. The complications of acne in the psychosocial aspect are related to academic or vocational performance, self-esteem and adolescents' quality of life.
Materials and Methods: the type of study was retrospective cross-sectional descriptive observational study. The sampling was carried out at the facilities of the Popular Autonomous University of the State of Puebla, taking into account any person within the institutional organisation within the range of 12-20 years of age, with a total of 50 participants. The Hamilton assessment scale of depression and the Cardiff Acne disability index were applied to all patients with dermatological diagnosis of moderate-severe vulgar acne in a period between February-October 2019.
Results: a total of 50patients were analysed, of which 28 were women aged 12 to 20 years and 22 men (28 women and 13 men) and severe acne in 9 patients, all over 17 years of age and male. According to the degree of depression, 28% (n = 14) of the patients were obtained without some degree of depression; 60% (n = 30) with minor depression; 12% (n = 6) with moderate depression. Regarding the quality of life: 40% (n = 20) of the patients showed good quality of life, 46% (n = 23) regular quality of life and 14% (n = 7) showed poor quality of life.
Conclusion: orderly study of the psychic impact of acne and other skin diseases on people suffering them is recent and is carried out through questionnaires that try to measure the impact the diseases have on the patients' quality of life.

Keywords

acne vulgaris • disease • skin • impact • self-esteem • psychological • isolation • dermatological • appearance

JUSTIFICATION AND PROPOSAL APPROACH

- What is the prevalence of depression in patients with moderate-severe acne vulgaris?
- How much does moderate-severe acne vulgaris affect the patient's life quality?

HYPOTHESIS

- The incidence of depression increases in patients with moderate-severe acne vulgaris and will therefore decrease life quality

OBJECTIVES

- General objective: to know the prevalence of depression in patients with moderate-severe acne vulgaris
- Specific objectives: to determine the relationship between depression and decreased lie quality in patients with moderate-severe acne vulgaris

Introduction

Acne is a very frequent dermatosis in the outpatient clinic and is not considered a life-threatening disease. However, it is associated with negative emotional burden and its long-term progression has been associated with depression, anxiety and frustration. This results in poor quality of life when the patient does not receive treatment at early stages.

Corresponding author: C.A. Verdeja-Robles
E-mail: cesaralonso.verdeja@upaep.edu.mx

sciendo

Depression is a syndrome that manifests in emergence of affective symptoms (pathological sadness, decay, irritability, subjective feeling of discomfort and impotence in the face of life's demands) and symptoms of cognitive, volitional or even somatic type. There is deterioration in appearance and personal appearance, slow movements, low tone of voice, sad or poor facial expression, easily evoked or spontaneous crying, low concentration, pessimistic ideation, hypochondriac complaints, alterations in the sleep rhythm. In addition, the emotional climate in the family and the patient's social and economic situation should be considered. Depression affects 350 million people around the world and, usually beginning at young ages, it is among the leading disabling diseases and has become a priority target of care worldwide [1-4].

Quality of life is defined as the "individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their objectives, expectations, standards and concerns" (1994). Today, the quality of life related to healthcare can be understood as values related to health, disease and treatment outcomes. It is also a dynamic and changing process that includes continuous interactions between the patient and their environment [4, 5].

Values of health-related quality of life measured through scales help healthcare personnel identify and assess the effect of the disease on the individual's daily life activities. Application of such studies on treatment and quality of life in dermatology is recent. However, it is particularly interesting in this field as skin diseases generally have strong effects on social relationships, psychological status and daily life activities [6-8].

Acne vulgaris is a chronic inflammatory disease of the pilosebaceous unit. It is a worldwide dermatosis. In this context, it is estimated that within 9.4% of the population affected by this disease, the groups with the highest incidence are adolescents and young adults. Such individuals have had acne before the age of 21 in 80-90% of the cases. In addition, it constitutes one of the most common dermatological diagnoses.

The pathogenic factors involved are increase in sebum production by the sebaceous glands, alterations in keratinization, colonization by Propionibacterium acnes and activation of innate immunity followed by increase of inflammatory factors.

In clinical terms, signs of non-inflammatory acne include seborrhea, comedones with closed and open heads. The inflammatory acne has papular, pustular and cystic lesions which, in turn, are divided into Ibero-Latin American grades published in 2014. The grades are mild, moderate and severe [9-12].

Topical medications are the mainstay of mild-to-moderate acne treatment. The most prescribed ones are retinoids, such as tretinoin, adapalene and tazarotene. They are considered as penetration facilitators for other topical medications and decrease free fatty acids in microcomedones. Benzoyl peroxide has keratolytic and antimicrobial effects on strains of Propionibacterium acnes [13, 14].

Systemic retinoids, such as isotretinoin, have keratolytic and anti-inflammatory effectiveness. However, they are contraindicated during pregnancy due to their teratogenicity. The duration of treatment is usually up to 24 weeks depending on the severity of the acne or its relationship with concomitant diseases, such as polycystic ovarian syndrome in the case of female patients. Systemic antibiotics (doxycycline, minocycline clindamycin, trimethoprim with sulfamethoxazole or erythromycin) reduce colonization of Propionibacterium acnes. Oral contraceptives are part of acne treatment for women as long as their prescription is not contraindicated [15].

Complications of acne in the psychosocial aspect are related to academic or vocational performance, self-esteem and teenagers' quality of life. Recently, some research have given greater weight to the study of emotional and psychosocial effects of acne despite the enormous work done to determine pathophysiology, risk factors and acne treatment.

Regarding life quality, some authors compare acne with chronic diseases, such as asthma, epilepsy, diabetes, low back pain, arthritis and coronary ischemic disease due to its great psychological effects on those suffering from them.

Disability in terms of quality of life in acne is considered in accordance with the severity of deteriorations assessed in quality of life and results in low self-esteem, isolation and restriction of activities.

Self-esteem is favorable or unfavorable attitude towards oneself. Currently, assessment of self-esteem is very relevant in the social context, especially for those who live relying on appearance and body image. In tenagehood, this social pressure regarding physical appearance is very intense, thus they live to be accepted in the standards that society itself dictates, whether with school groups, friends, social networks or even family.

Acne is also accompanied by feelings of shame, depression, negative self-attitude or physical appearance and poor satisfaction with one's own body image [16]. A British study that recruited adults with dermatosis improved patients' self-esteem by prescribing isotretinoin. It was concluded in this study that acne treatment should be adequate in time and quality to avoid psychosocial complications [17].

Therefore, the Cardiff Acne Disability Index (CADI) was developed. It features understandable language and few points to assess, designed to be easily answered by the patient [18-20]. It is necessary to study the psychosocial effect and quality of life in young people with acne using validated and age-appropriate measures [21].

Materials and Methods

Study type: Retrospective cross-sectional descriptive observational study

Population and sample: The sampling will be carried out at the facilities of the Popular Autonomous University of the State of Puebla, taking into account any person who is within the institutional organizational chart (students, teachers, administrative, surveillance and maintenance personnel) that are are between the range of 12-20 years of age, with a total of 50 participants.

Inclusion criteria:

- Age between 12 and 20 years old
- Students or professors of the UPAEP who come as patients to the CMU
- Patients with moderate-severe inflammatory acne vulgaris

Exclusion criteria

- Patients > 20 years old
- Patients outside the UPAEP university community

Process:

The Hamilton assessment scale of depression and the Cardiff Acne disability index were applied to all patients with dermatological diagnosis of moderate-severe vulgar acne within the period of February-October 2019.

Results

A total of 50 patients were analyzed, including 28 women and 22 men aged 12 to 20 years (28 women and 22 men). Severe acne was registered in 9 patients; all over 17 years of age and male (see Figure 1).

According to the degree of depression, 28% (n = 14) of the patients were observed to have any degree of depression; 60% (n = 30) with minor depression; 12% (n = 6) with moderate depression (see Figure 2).

Regarding the life quality: 40% (n = 20) of the patients showed good life quality, 46% (n = 23) regulate quality of life and 14% (n = 7) poor life quality (see Figure 3).

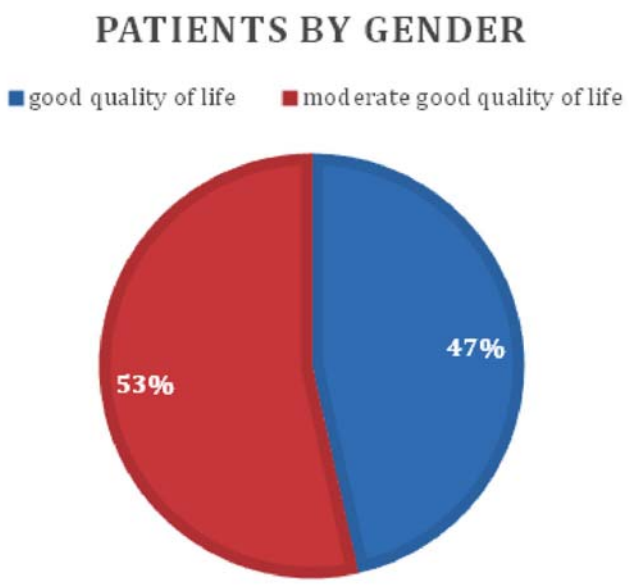

Figure 1. Patients by gender

Discussion

In this study, the majority of patients were female (56%), which does not coincide with what was reported by Santamaría-González and Valdés-Webster as acne was more frequent in men in that study. However, both studies agree that the perception of quality of life was better and studies compared subjects with and without acne with lower perception of life quality. In our study, we did not compare healthy and sick subjects with acne, but only patients with acne [21].

In another study in Malaysia with more than 400 patients found a higher prevalence of acne in male patients and our study in female patients. In that study, the authors used CADI, with results similar to ours in terms of quality of life in patients with acne because they associated poor quality of life in patients with more severe acne [22].

In more recent reviews, we found that there were 200 teenagers with acne evaluated using four measurements in a Nigerian study. These were clinical degree and severity of acne, CADI, RSES self-esteem assessment (Rosenberg self-esteem scale). It was highlighted in their results that the quality of life was affected generating shame, frustration and aggressive attitude as their consequence. They concluded that the more severe the acne and residual spots are, the worse the quality of life of teenagers is [23-25].

Also, in a Turkish case-control study they used the global system to stage acne (global acne grading system), the dermatological quality of life index for children, the pediatric quality of life questionnaire (PedsQL, pediatric quality of life questionnaire) where their results and conclusion were that the SQD between the genders of the case and control group and also found no notable differences between the severity of acne and psychosocial changes. [26-27].

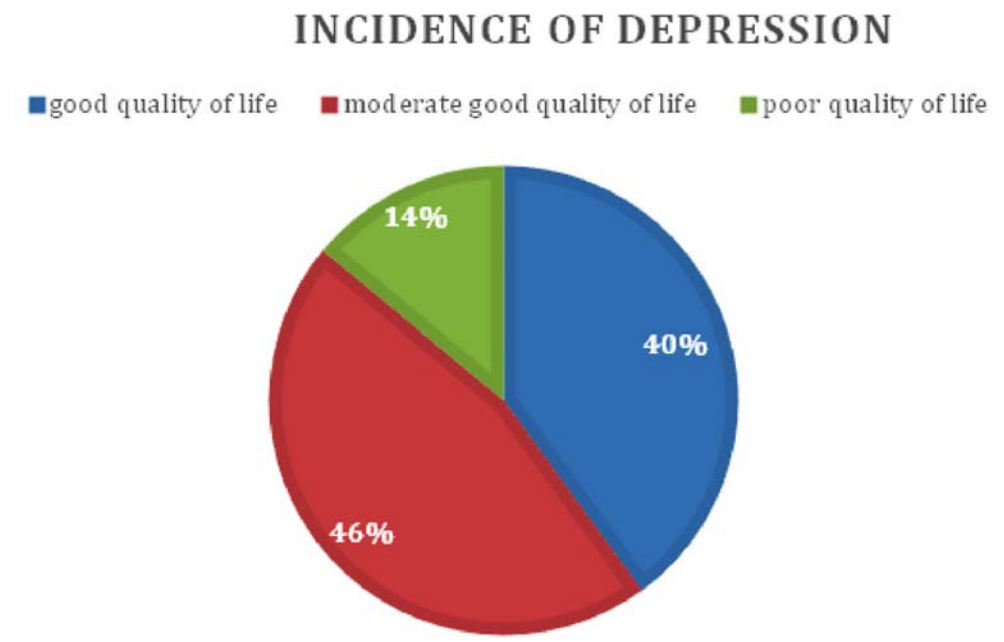

Figure 2. Incidence of depression

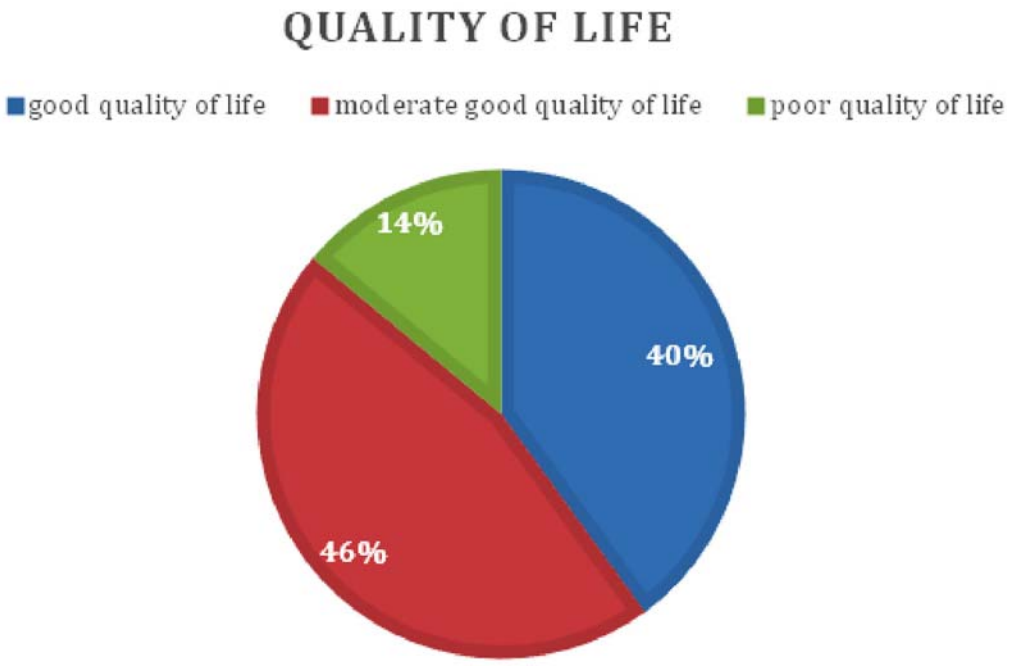

Figure 3. Quality of life

Conclusion

The ordered study of the psychic impact of acne and other skin diseases on people who suffer from them is recent and is carried out through questionnaires that try to measure the impact it has on the patient's quality of life

Acne is a very frequent disease in our daily practice, where we face the cutaneous manifestation, but also with the psychic repercussion that it has on each patient and teaches us that we must be successful in terms of treatment.

Depression and quality of life in patients with acne are directly related to the administration of opportune and effective treatment.

Specifically, it is concluded that in this patients group with inflammatory acne, depression and quality of life are directly affected by the underlying disease, so that with these clinical tools primary care doctors can provide patients with comprehensive management by promoting healthy practices, primary prevention and opportune referral to dermatologists in severe cases or poor response to treatment.

Conflict of Interest Statement

The authors do not have any conflict of interest.

References

1. Shoshana B, María AL, Rebeca R. Depresión: Knowledge status and the necessity of public politics and action plans in mexico. Salud Pública Mex 2013;55:74-80.
2. Birmaher B, Ryan ND, BRent D, Kaufman J et al. Childhood and adolescent depression: A review of the past ten years. Part 1. J Am Child Adolesce Psychiatry. 1996;35:1427-1439.
3. García-HErrera P, Nogueras , Muñoz C. Clinical practice guide for the treatment of depresion in first contact attention. Distriti Sanitario Málaga UCG Salud Mental Hospital Regional Universitario Carlos Haya Málaga 2011;47-49.
4. Romero-Márquez R, Romero-Zepeda H. Healthcare related quality of life reflections. Rev Med Inst Mex Seguro Soc 2010;48(1):91-102.
5. Schwartzmann L. Healthcare related life quality: conceptual aspects, Science and nursery (Mexico) 2003;2:9-21
6. Quintero C, Lugo L, García H, Sánchez A.Kidscreen questionary validation of quality of life in children and teenager health from Medellin, Colombia. Revista Colombiana de Psiquiatria 2011;40(3):470-487.
7. Halioua B, Beaumont MG. Quality of life in dermatology. Int J Dermatol 200;39:801-806
8. Casas L. Teenager's life quality. Revista cubana de pediatría 2010;82(4): 112-6.
9. Argote A, Mora O, Gonzalez L, Zapata J. Phisiophatological aspects of acne. Rev Asoc Colomb Dermatol 2014;22:200-208.
10. Tompson A. Acne. JAMA 2012;313(6):640-641.
11. Bhambri S, Del Rosso JQ. Pathogenesis of acne vulgaris: recent advances. J drugs dermatol 2009;8:615-618
12. Kaminsky A, Florez-White M, Arias MI. Acne clasification: Ibero-american consensus, 2014. Med cutan iber lat am 2015;43(1):18-23.
13. Orozco B, Campo ME, Anaya LA et al. Colombian guides for the treatment of acne: a revision based in evidence by the Colombian group of Acne studies. Rev Asoc Colomb Dermaol 2011;19:129-158.
14. Ortiz SD, Toledo BM. Clinical practice guide: summary of evidences and recomendations: diagnosis and treatment of acne. Ciudad de Mexico SSA-224-09:2009;35-35
15. Del Rosso JQ, Leyden JJ. Status report on antibiotic resistance: implications for dermatologist. Dermatol Clin. 2007;25:127-32.
16. Kameran H, Bilal M. Quality of life in patients with acne in erbil city. Health and Quality of life Outcomes 2012;10:1-4.
17. Kallet SC, Gawkrodger DJ. The psychological and emotional impact of acne and the effect of treatment with isotretinoin. Br J dermatol 1999;140:273-282.
18. Purriños M; Hamilton Depression Rating Scale. Servizo de Epidemioloxia. Dirección Xeral de Saudé Pública. Disponible en: http://www.meiga.info/escalas/depresion-Escala-Hamilton.pdf
19. Bobes J, et al. Comparative psicometric evaluation from spanish versions of 6, 7 , 21 items from Gamilton valoration scale for the evaluation of depresion med clin 2003;120(18):693-700.
20. Ramos-Brieva J, Cordero A. Validation of the spanish version of Hamilton's scale for depresion Actas Luso-esp neurol psiquiatr 1986;14:324-334.
21. Santamaría-Gonzalez V, Valdés-Webster RL. Juvenile inflamatory acne. Evaluació de la calidad de vida con la encuesta. Rev Cent Dermatol Pascua 2007;16:7-13.
22. Arshad H, Khairani O, Samsul A. Prevalence of acne and its impact on the quality of tlide in shcool-aged adolescents in Malaysia. J Prim Health Care 2009;1:20-25.
23. Rubio-García L, Pulido-Díaz N, Jimenez-Lopez JL. Isotretinoine and the depression symptoms in patients with severe and recurrent acne. Rev Med Inst Mex Seguro Soc 2015;53:54-59.
24. Jelena P, Natasa M, Janki j, et al. Prevalence and quality of life in high school pupils with acne in Serbia. 2013;70(10):935-939
25. Oladayo AA, Ifeanyi EO, Olatunde OF, Muphy OM, et al. The impact of acne an facialpost-inflammatory hyperpigmentation on quality of life and self-esteem of newly admitted Nigerian Undergraduates. Clin Cosmetic Investigat Dermatol 2018;11:245-252.
26. Eyuboglu M, Kalay I. Evaluation of adolescents diagnosed with acne vulgaris for quality of life and psychosocial challenges. Indian J Dermatol 2018;63:131-135.
27. Fabbroncini G, Cacciapouti S, Monfrecola. Qualitative Investigation of the impact of acne on health-related quality of life (HRQL): Development of Conceptual Model.Dermatol Ther2018;8:85-99.

Supplementary materials

Annexed A. Hamilton Depression Rating Scale (HDRS)

HAMILTON DEPRESSION RATING SCALE (HAM-D)

(To be administered by a health care professional)

Patient Name _____ **Today's Date** _____

The HAM-D is designed to rate the severity of depression in patients. Although it contains 21 areas, calculate the patient's score on the first 17 answers.

☐ **1. DEPRESSED MOOD**
(Gloomy attitude, pessimism about the future, feeling of sadness, tendency to weep)
0 = Absent
1 = Sadness, etc.
2 = Occasional weeping
3 = Frequent weeping
4 = Extreme symptoms

☐ **2. FEELINGS OF GUILT**
0 = Absent
1 = Self-reproach, feels he/she has let people down
2 = Ideas of guilt
3 = Present illness is a punishment; delusions of guilt
4 = Hallucinations of guilt

☐ **3. SUICIDE**
0 = Absent
1 = Feels life is not worth living
2 = Wishes he/she were dead
3 = Suicidal ideas or gestures
4 = Attempts at suicide

☐ **4. INSOMNIA - Initial**
(Difficulty in falling asleep)
0 = Absent
1 = Occasional
2 = Frequent

☐ **5. INSOMNIA - Middle**
(Complains of being restless and disturbed during the night. Waking during the night.)
0 = Absent
1 = Occasional
2 = Frequent

☐ **6. INSOMNIA - Delayed**
(Waking in early hours of the morning and unable to fall asleep again)
0 = Absent
1 = Occasional
2 = Frequent

☐ **7. WORK AND INTERESTS**
0 = No difficulty
1 = Feelings of incapacity, listlessness, indecision and vacillation
2 = Loss of interest in hobbies, decreased social activities
3 = Productivity decreased
4 = Unable to work. Stopped working because of present illness only. (Absence from work after treatment or recovery may rate a lower score).

☐ **8. RETARDATION**
(Slowness of thought, speech, and activity; apathy; stupor.)
0 = Absent
1 = Slight retardation at interview
2 = Obvious retardation at interview
3 = Interview difficult
4 = Complete stupor

☐ **9. AGITATION**
(Restlessness associated with anxiety.)
0 = Absent
1 = Occasional
2 = Frequent

☐ **10. ANXIETY - PSYCHIC**
0 = No difficulty
1 = Tension and irritability
2 = Worrying about minor matters
3 = Apprehensive attitude
4 = Fears

HAMILTON DEPRESSION RATING SCALE (HAM-D)

(To be administered by a health care professional)

11. ANXIETY - SOMATIC
Gastrointestinal, indigestion
Cardiovascular, palpitation, Headaches
Respiratory, Genito-urinary, etc.
0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating

12. SOMATIC SYMPTOMS - GASTROINTESTINAL
(Loss of appetite , heavy feeling in abdomen; constipation)
0 = Absent
1 = Mild
2 = Severe

13. SOMATIC SYMPTOMS - GENERAL
(Heaviness in limbs, back or head; diffuse backache; loss of energy and fatiguability)
0 = Absent
1 = Mild
2 = Severe

14. GENITAL SYMPTOMS
(Loss of libido, menstrual disturbances)
0 = Absent
1 = Mild
2 = Severe

15. HYPOCHONDRIASIS
0 = Not present
1 = Self-absorption (bodily)
2 = Preoccupation with health
3 = Querulous attitude
4 = Hypochondriacal delusions

16. WEIGHT LOSS
0 = No weight loss
1 = Slight
2 = Obvious or severe

17. INSIGHT
(Insight must be interpreted in terms of patient's understanding and background.)
0 = No loss
1 = Partial or doubtfull loss
2 = Loss of insight

TOTAL ITEMS 1 TO 17: _____
0 - 7 = Normal
8 - 13 = Mild Depression
14-18 = Moderate Depression
19 - 22 = Severe Depression
≥ 23 = Very Severe Depression

18. DIURNAL VARIATION
(Symptoms worse in morning or evening. Note which it is.)
0 = No variation
1 = Mild variation; AM ( ) PM ( )
2 = Severe variation; AM ( ) PM ( )

19. DEPERSONALIZATION AND DEREALIZATION
(feelings of unreality, nihilistic ideas)
0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating

20. PARANOID SYMPTOMS
(Not with a depressive quality)
0 = None
1 = Suspicious
2 = Ideas of reference
3 = Delusions of reference and persecution
4 = Hallucinations, persecutory

21. OBSESSIONAL SYMPTOMS
(Obsessive thoughts and compulsions against which the patient struggles)
0 = Absent
1 = Mild
2 = Severe

* Adapted from Hamilton, M. *Journal of Neurology, Neurosurgery, and Psychiatry*. 23:56-62, 1960.