CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3627224

Available online at: http://www.iajps.com Research Article

CORELATION OF MAJOR DEPRESSION WITH BECK'S SCORING

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Article Received: November 2019 **Accepted:** December 2019 **Published:** January 2020

Abstract:

Background: *Depression is a mental disorder which demonstrates itself through the loss of happiness, feeling of low self-esteem, disturbance in the sleep cycle, disturbance in appetite, continuous feeling of fatigue as well as reduced activity. Beck depression inventory is the most effective method to diagnose major depression in adults as well as in children. In this method, items are added to generate the total score.*

Aim: *To establish a relationship between major depression and Beck's scoring*

Methodology: *After obtaining approval from the relevant departments, this research was conducted in the physiology department, Shaikh Zayed FPGMI Lahore in cooperation with Punjab Institute of Mental Health Lahore. A comparative cross-sectional study was designed from April to December in 2015. There were two groups, each having 30 participants.*

Result: *There were two groups, each having 30 participants. Through standardized form Beck's Depression Inventory, Depression scores were calculated. There were 46.67% males while 53.33% of females .Beck's scoring showed the results were statistically highly significant (p-value<0.0001). All normal participants had normal severity while all participants in the depressive group had extreme severity of depression .*

Conclusion: *The effectiveness of beck's Depression Inventory in the screening of patients of major depression disorders in outdoor patients was established.*

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Please cite this article in press Qudsia Umaira Khan et al., ***Corelation Of Major Depression With Beck's Scoring.,*** *Indo Am. J. P. Sci, 2020; 07(01).*

INTRODUCTION:

Depression is a mental disorder which demonstrates itself through the loss of happiness, feeling of low self-esteem, disturbance in the sleep cycle, disturbance in appetite, continuous feeling of fatigue as well as reduced activity.[1] Depression is considered a great contributor to the worldwide burden of many diseases.[2] children, as well as adolescents, are more susceptible to mental disorders due to any disaster or due to loss of their loved ones, any personal injury, etc. [3] The symptoms of depression include irritating behavior, loss of interest in everything, feeling of sadness, loss of weight or gain of weight, and stubbornness, etc. Risk factors that play a vital role in depressive disorder are poverty, lack of attention as well as lack of education[4] In primary care patients, the rate of depression lies between three to five percent [5].

Major depression is a public health problem; among depressed people, hyperactivation of HPA (hypothalamic pituitary adrenal axis) along with cortisol is observed. The activity of HPA, as well as cortisol, may influence the onset of depression in many people [6]. Symptoms of major depression include inappropriate guilt, negative thoughts, low self-worth, insomnia, etc. Major depression may be concerned with changes in the function of the thyroid gland [7]. Obesity is the most widespread somatic cause of major depression [8]. Cortisol is one of the significant risk factors of the risk factors that depend upon genetic variants as well as psychological traits.[9]

Beck depression inventory is the most effective method to diagnose major depression in adults as well as in children. In this method, items are added to generate the total score. If the score of the person is high, it means he has severe depression. While the low score indicates minor depression or normal states. Beck depression inventory-II is applied in clinical practice as well as in research.

Interpreting the beck depression inventory

Subsequently filling form according to obtained data of the participant, all marks or numbers in 21 questions are added; thus, whole numbers are obtained with the help of addition.At the dextral half of the each question, the numbers of each question are marked. Addition of total number or marks is 63. So, we can say that a person can score highest marks, i.e. 63, while the minimum score he/she can get is zero. If the score of a participant is between seventeen to eighteen, then therapeutic management is required for that participant.

MATERIALS AND METHODS:

After obtaining approval from the relevant departments, this research was conducted in the physiology department, Shaikh Zayed FPGMI Lahore in cooperation with Punjab Institute of Mental Health Lahore. A comparative cross-sectional study was designed from April to December in 2015. The total time period of the study was eight months. Total participants included in the study were sixty. Thirty of them were normal, while the other thirty were depressed. On outdoor assessment, depression was diagnosed. Depression was also clinically verified by diagnostic criteria by beck's inventory as well as DSM4.

Inclusion criteria:

All the patients with severe depression based on outdoor analysis as well as verified by Beck's inventory. Normal participants of both genders that were above seventeen were also included.

Exclusion criteria:

Patients of Cushing syndrome, hyperaldosteronism or the patients that were consuming exogenous steroids disease were omitted from the study.

Size of sample:

There were two groups, each having 30 participants. The size of the sample of both normal and depressive group was estimated with the help of subsequent formula; by keeping 90% power of study as well as keeping a level of significance 5%.

Sample technique:

Sampling technique is convenient as well as non-probability.

Collection of data :

The total participants were sixty , and these were distributed into two groups. These groups were arranged by beck's score of depression. There were 30 participants or subjects in each group. The score of normal participants was almost 1-20, while the score of severely depressed participants was 40 and above 40.

- Group no.1; control group or normal n=30
- Group no.2 severely depressed group n=30

This study was conducted with the permission of Ethical review committee,. Patients who fulfilled the specific inclusion criteria were involved in the study. Some of them were hospital admitted while others were outsiders. Patients were included by taking written informed agreement for the ethical involvement in this study project.

- To collect general information related to patients such as physical health, depression history in the family, or other diseases, a questionnaire was developed. Patient's personal information, e.g. Name of the patient, weight, age, education, height and employment status, were also included in the form. Questionnaire sample is attached in appendix A.
- By using the adult weighing machine that is available in outdoor, weights of the patients were measured.
- By using stadiometer, height was measured.

- By calculating height and weight, body mass index was calculated by the following formula.

$$BMI = \frac{weight\ in\ (kg)}{height\ in\ (m)2}$$

- With the help of sphygmomanometer, BP of the participant was checked, the temperature was recorded by clinical thermometer and pulse was recorded manually.
- Through standardized form Beck's Depression Inventory, Depression scores were calculated. All the questions that were included in the questionnaire were asked, and the patient answered friendly. Family of the patients also helped in answering the questions such as their eating or sleeping habits etc.

Evaluation of Depression using Beck's Inventory

Depression level	Aggregate Score
Normal	1-10
Frame of alteration	11-16
Mild depression	17-20
Moderate depression	21-30
Severe depression	31-40
Extreme depression	Over 40

RESULTS:

Comparison of age (years) in Normal and depressive group

	Study groups	Least value	Highest value	Mean	Standard deviation	p-value
Age (years)	**Normal**	20.00	48.00	35.73	6.89	0.178
	Depressive	18.00	70.00	39.10	11.65	

Minimum age of normal category was 20 years, while the maximum age was 48 years. Mean age of normal participants was 35.73 ± 6.89 years. Minimum age of the depressive group was 18 years, while the maximum age was 70 years. The mean age of this group was 39.10± 6.89 years. The statistical difference in the mean ages of both groups was zero.($p\ value = 0.178$)

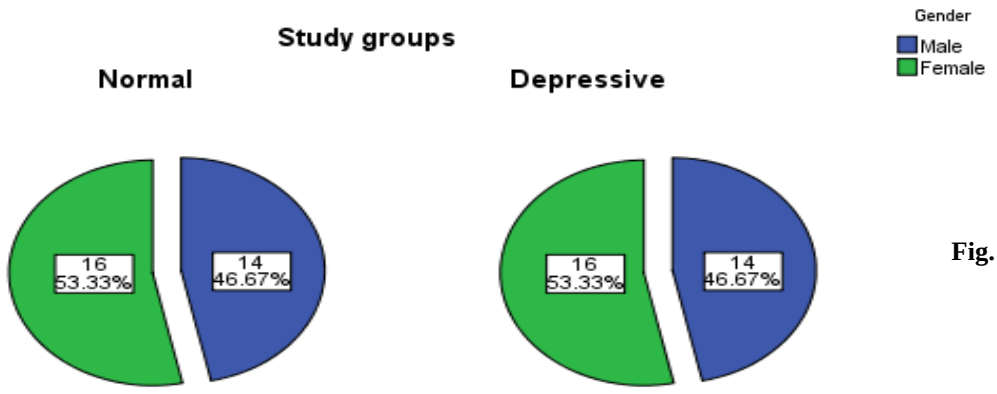

Fig.

Comparison of males & females in study groups

There were 46.67% males while 53.33% of females. In other words, there were 14 males in normal as well as a depressive group while 16 females in the normal and depressive group.

		Study groups		p-value
		Normal	depressive	
Status of depression	Normal	30	0	<0.0001
	Extreme depression	0	30	

The results were statistically highly significant (p-value<0.0001). All normal participants had normal severity while all participants in the depressive group had extreme severity of depression.

DISCUSSION:

Major depression is a public, neural illness in which acute social, as well as individual costs, are involved. Beck depression inventory is a technique major depression by focusing on symptoms such as pessimism, sadness, failures of past, lack of self-esteem, thoughts of suicide, insomnia and self-dislike. [11] Beck depression inventory II is the self -report instrument which is used in the clinical as well as research settings to check the severity of depression in a person.[12] Beck's depression inventory was developed by Beck et al., it has relied upon negative cognition distortion theory. Beck et al. developed it in 1960. [13] Questionnaire of the BDI is formed by various clinical attitudes as well as symptoms that occur regularly in depressed and non -depressed psychiatric patients [14]

In this research, there were sixty participants. Thirty of them were normal, while thirty were depressed. Total marks were sixty-three while the minimum number was zero. Results of beck scoring inventory confirmed that thirty participants, which were diagnosed depression clinically, were depressed, and thirty were confirmed as normal participants. There was no statistical difference in the ages of both normal and depressed subjects. The p-value was 0.178. The results were very substantial.

The study was conducted to determine the effectiveness of beck's Depression Inventory in the screening of major depression disorders in outdoor patients. Sixty males, as well as sixty females, were included in the study. Included patients were planned for routine visits with specialized physicians. The consistency of the beck depression inventory was very high. Major depression was diagnosed by the mood module that was from primary care evaluation. BDI score was not associated with age, sex, ethnicity, or medical doses. [15]

In Toronto general hospital, authentication of beck depression inventory was examined by DSM_I11 to diagnose depression in the sample of renal dialysis. In study ninety-nine, medically ill patients, that were subjected to end-stage renal disease were included. For diagnosis of major depression in renal dialysis patients, optimal sensitivity (0.92), maximized youden's index of validity (0.72), as well as negative predictive value (0.99), was produced on beck depression inventory. The threshold level was b 15, a maximum threshold level of beck depression inventory decreases sensitivity, but it didn't increase the positive predictive value [16]

Questionnaires play an important role in screening major depression. Modern studies suggest that scientists should focus on the mean of the total score as well as on dynamic relation between symptoms of depression. The analysis revealed that BDI-II symptoms are indirectly or directly linked to patterns of progressive influence. [17]

A study was conducted in Pakistan in which depression was diagnosed in patients with diabetes mellitus using beck depression inventory-II. Responses of all questions by patients were recorded, and after calculating the total score of the survey, it was concluded that some patients were normal, while some of them had severe depression. The results were also compared with the duration of diabetes. Patients with 0-5 years were normal, while patients with old diabetes, such as from five to ten years were depressed. It was stagnant in the patients having ten years of diabetes. [18]

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