RESEARCH ARTICLE

EVALUATION OF COVID-19 PANDEMIC- RELATED DEPRESSION IN GERIATRIC PATIENTS AT PRH, LONI: A CROSS SECTIONAL STUDY

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Manuscript Info

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Abstract

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Question:Has COVID-19 Pandemic affected the psychological health of the elderly patients at PRH, Loni?

Design: Descriptive

Participants: 300

Intervention: Non Interventional

Outcome measures: Geriatric Depression Scale (GDS- 15) Score

Results: The average of males having significant depression determined, using Geriatric Depression Scale (GDS-15) was 3.56 whereas for females, it was 3.48. The difference in scoring depression between males and females was 1% percentage wise.

Conclusion: On an average 41.8% of geriatric patients at PRH, Loni suffered from depression according to GDS- 15 score grading, during the time span of 3 months i.e. from January 2021 to March, 2021. Both inpatients as well as outpatients visiting PRH, Loni were included in the study with equal number of participation of males and females. This study concluded that males suffered from depression slightly higher than females. From the three categories of depression, mild depression had the highest rating than moderate and severe types of depression which was higher in females than in males. Broadly speaking, mild depression was the highest amongst older adults aged between 60 to 80, out of which females were moreover affected than males with a difference of 2.1%. Moderate depression amongst males was 4.6% and in females was comparatively higher with the percentage of 5.3%. The gender difference in the scoring was 2.1%. The percentage of Severe depression was 0.6% in males and was nil in females despite having a slightly higher rate of depression, in general at PRH, Loni.

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Introduction:-

Prevalent studies propose that 14% to 20% of the older population living in the community, experience depressive symptoms, with higher rates among the elderly in hospital settings (12% to 45%) and even higher in long-term care facilities (an estimated 40%).[1] Depression is a medical health condition; a mood disorder involving feelings of

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sadness, loss, anger, or frustration interfering daily life for weeks or longer. They also impact mood, behavior and physical functions like sleep and appetite. Some of the common symptoms observed are lack of interest, restlessness, fatigue, difficulty in making decisions, excess or lack of sleep and extreme weight fluctuations. According to the American Psychological Association, in comparison to younger adults, elderly face more difficulties in reaction time and memory loss while carrying out activities of daily living.[2]Emotional regulation also plays an important role in one's well-being; emotional regulation, also termed as "emotional self-regulation," has been defined by Gross as the set of cognitive processes that influence the type of emotional response, along with, how any individual experiences and expresses these emotions. Emotional regulation is a complex process that involves the initiation, inhibition, or modulation of entire emotion functioning.[3]

The Geriatric Depression Scale is a screening tool designed to assess the depressive symptomatology in elderly people which can be used to monitor an old individual's emotional state in relation to a treatment or change in their physical health. It empirically evaluates the psychometric properties detecting major depression in the older population. The initial form of Geriatric Depression Scale (GDS) consisting of 30 items was formulated by Yesavage JA et al. in 1983. The short form of GDS comprising 15 items (GDS-15), which is competent for the diagnosis of depression in elderly, is simpler, brief, and time-effective than GDS-30. Because of these characteristics, GDS-15 has been validated and is being widely used in various diverse populations all over the world.[4]

Brodaty et al. found that 52% of the population had first onset at age of 60 or older, whereas 71% of the older population experienced depression at home care facilities.[5] Due to which the older population have higher distinctive risk factors and presentation of depression. Geriatric depression acts as both a disease as well as a risk factor.[6] The subjects participating in such studies can draw out a required sample size by various methods one being Sample Size Calculator by United Bristol Healthcare NHS Trust.[7]

According to the World Health Organisation (WHO) the rate of depression of patients over 55 years of age with depression have four times higher death rate than those without depression mostly due cardiac or neurological disease or disorder.[8] Depression is one of the most common illness in elderly population, among elderly people, chronic diseases, restricted mobility, bereavement, elderly abuse, isolation and loss of income are some of the major risk factors.[9] Depression not only reduces the quality of life of a person but also further aggravates disability by influencing the prognosis of any illness. As a result of which, elderly persons with depression have significantly higher rate suicidal as well as non- suicidal mortality.

Along with this the under-recognition of the depressive symptoms that is inability to verbally express their moods, attributing to the normal aging process, endorsing cognitive-affective symptoms of depression including loss of pleasure, dysphoria and worthlessness.[10]The somatic symptoms associated with depression tends to be more in elderly patients, while feelings of dysphoria or sadness are reported to be less.[11] Depression is an intermediary in the pathway of most diseases of geriatric age group, which makes it an important risk factor for all chronic diseases.

The research question was:
1. Has COVID-19 Pandemic affected the psychological health of the elderly patients at PRH, Loni?

Method:-
Design
1. **Study Setting –** Pravara Rural Hospital, Loni
2. **Study Type** - Descriptive Study
3. **Sampling Method –** Convenient Sampling
4. **Sample size –** 300 patients[7]
5. **Participants –** Geriatric patients at PRH, Loni
6. **Tools & Materials –** Tool – Pre- validated Geriatric Depression Scale (GDS- 15)

Materials:-
1. Pen
2. Paper
3. Writing Pad

Inclusion Criteria:
1. Elderly male and female patients visiting PRH, Loni during the period of January, 2021 to March , 2021.
2. Elderly patients who can communicate independently.
3. Elderly patients who can communicate in Marathi or English language comfortably.

Exclusion Criteria:
1. Critically- ill elderly patients.
2. Elderly patients who are under the treatment of sedative drugs.
3. Elderly patients who are diagnosed with mental disorders and are declared 'Not Fit' forverbal evaluation.

Outcome measures
Primary outcome: On an average 41.8% of geriatric patients at PRH, Loni suffered from depression according to GDS- 15 score grading, during the time span of 3 months i.e. from January 2021 to March, 2021.

Secondary outcome: Both inpatients as well as outpatients visiting PRH, Loni were included in the study with equal number of participation of males and females. This study concluded that males suffered from depression slightly higher than females. From the three categories of depression, mild depression had the highest rating than moderate and severe types of depression which was higher in females than in males.

Data analysis
Figure 1 depicts the sample size was drawn from a sample pool of 2000 geriatric people residing at Loni village, considering 35% of its population admitted at Pravara Rural Hospital, according to the Hospital records.[7]

The data analysis included the application of Geriatric Depression Scale (GDS-15) in the form of a questionnaire to all the subjects at PRH, Loni and was done manually by the Examiner. The data analysis summarized the collected data; analytical and logical reasoning by mean and standard deviation derivation, which determined the patterns and inter-relationships between the subjects, promoting the derivation of conclusion.

To develop a conclusion, the outcome measure was determined by deriving the GDS score; the entire data was configured and analyzed via percentage and statistical presentation augmenting the conclusion/inference which is been drawn.

Results:-
Flow of participants, therapists, centres through the study
An average was derived from a total of 300 participants, who were equally divided into males and females. The average of males having significant depression determined, using Geriatric Depression Scale (GDS-15) was 3.56 (SD 2.35) whereas for females, it was 3.48 (SD 2.24). As observed, there is a slight difference in the score amongst males and females. This indicates males admitted at PRH, Loni had higher rate of depression in comparison to females amid COVID-19. The difference in scoring depression between males and females was 1% in terms of percentage, as given in Figure 2.

The rate of depression was further categorized as mild, moderate and severe according to the score of GDS-15 scale; score 5-8 was indicative of mild depression, score 9-11 was indicative of moderate depression and 12-15 indicated severe depression. Broadly speaking, Table 1 tells that mild depression was the highest amongst older adults aged between 60 to 80, out of which females were moreover affected than males with a difference of 2.1% as per Figure 3.Moderate depression that is the GDS-15 score lying between 9 to 11 amongst males was 4.6% and in females was comparatively higher with the percentage of 5.3% according to Figure 4 . The gender difference in the scoring was 2.1%. Severe depression with the GDS score lying between 12 to 15 was quite less in comparison to mild and moderate rate of depression. The percentage of Severe depression was 0.6% in males and was nil in females despite having a slightly higher rate of depression, in general at PRH, Loni.

Research question 1
Has COVID-19 Pandemic affected the psychological health of the elderly patients at PRH, Loni?

Discussion:-

The results of this study show that, the number of elderly males depressed compared to females were slightly more, although females had a higher rate of mild and moderate level of depression at PRH, Loni. There might be a variety of factors considering aged males to be more prone to develop depression than in females. One of them being the head of a joint family (patriarchy is quite common in rural setups) [12], looking out for the needs of his family and overcoming any social, psychological, and monetary problems. Others being retirement, change in housing, certain kind of illness persistence or death of spouse. Social factors like poor accessibility to health services, isolation and lack of interest leads to loss of moral support. Nonetheless, physical impairments like cognitive degradation, loss of strength and balance or functional impairment, restraining activities of daily living also contribute to the development of depression.

According to a study performed among South Indian Urbans by Konda P., Sharma P., Gandhi A. et al. the prevalence rate was 23%.[6] whereas the rate of depression was comparatively quite high in my study with the rate of 41.8% This discrepancy might be because of two possible factors, one being the geographical area and the location of the place of study; the study was performed in the a rural setup where the residents of these rural areas had quite a different set of difficulties faced by them such as poor medical, transportation and communication facilities with lack of variety in job opportunities along with scarcity of basic needs. Secondly, the study setup was in a rural hospital where the prevalence rate of depression is even higher (12% to 45%)[1]. According to a study, done by Wiese B. on "Geriatric depression: The use of antidepressants in the elderly" the higher prevalence rate of depression at hospital setups was due to functional declines, and a higher likelihood of developing comorbid physical illness with reduced recovery from illness.

Although the statistics show a slightly higher rate of depression amongst males than in females, this disparity is quite marginal. Supporting various theories of females having higher rate of depression than in males and being a predisposing risk factor of developing depression[1], the reason being women face more stressful events, have higher sensitivity towards such events[8]; the rate of depression depicts that females have a higher rate of depression than males (mild and moderate) whereas severe depression was as minute as 0.6% in males compared to females. Despite females having higher rate of depression than in males, males are bound to suffer from severe depression in comparison to females since the suicidal rates are higher in males, according to a study conducted by Freeman A., Mergl R., Kohls E. et al. along with higher use of intentional drug overdose and Serious Suicide Attempt (SSA)[9]

According to a research done by Sloan D. and Sandt A., on gender difference in depression[13] women are twice as likely to experience depression compared to males. On the contrary, my study showed that, on an average, men suffered from depression slightly higher than females. But in terms of level of depression, females were mildly and moderately more depressed in comparison to males. The contributing characteristics are reproductive factors such as menstrual cycle, pregnancy and menopause with some evidence that estrogen impacting theneurotransmitter system, along with this, women have a greater exposure to both acute and chronic stressful events leading to biological consequences that further aggravate the risk of developing depression.[11]

The major strength of this study was that the study was performed amid global pandemic of COVID-19, where the expected response from the subjects was assumed to be quite less. Although, the count of inpatients of geriatric population admitted at PRH, Loni was less significantly affected by this pandemic, because of which I was able to collect the required data with ease. But the geographical area consideration was small in this study as well as the subjects faced a language barrier, for which a Marathi translated version of GDS -15 Scale was used. Larger the area of study, better can be the accuracy of the study, which can help in understanding the wholesome picture of the study undertaken. The expanse of the knowledge can be further enhanced by involving urban geriatric population not only in hospital settings but also at home care facilities. Online communication can also provide us an excellent platform to deliver an extensive data with higher number of participations, supporting precision of the study.

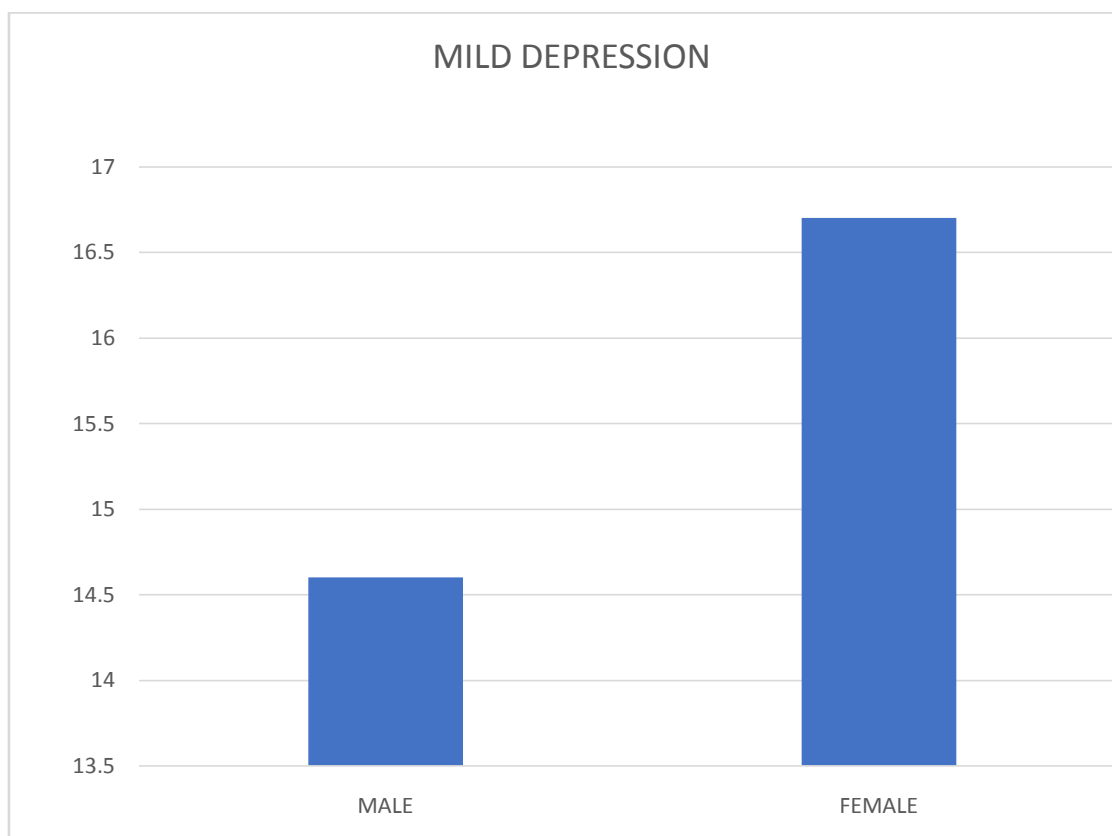**Table 1:-** Level of Depression in Males and Females (%).

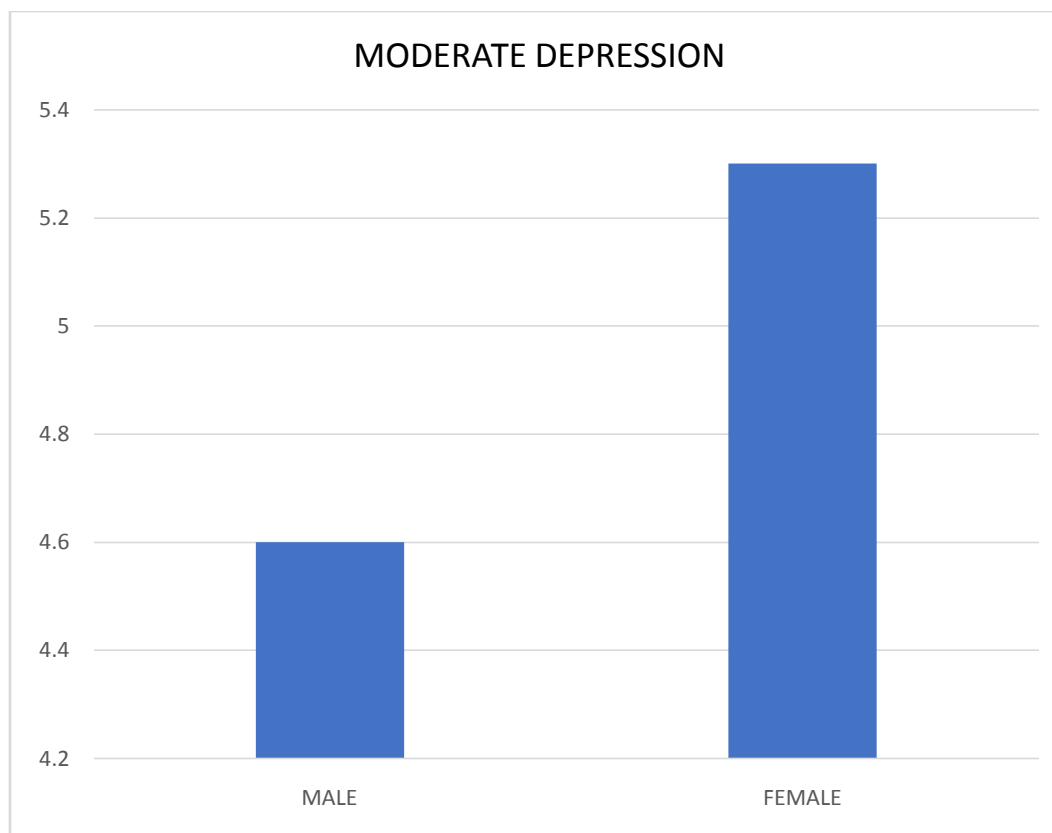|	MALE	FEMALE
MILD	14.6	16.7
MODERATE	4.6	5.3
SEVERE	0.6	0
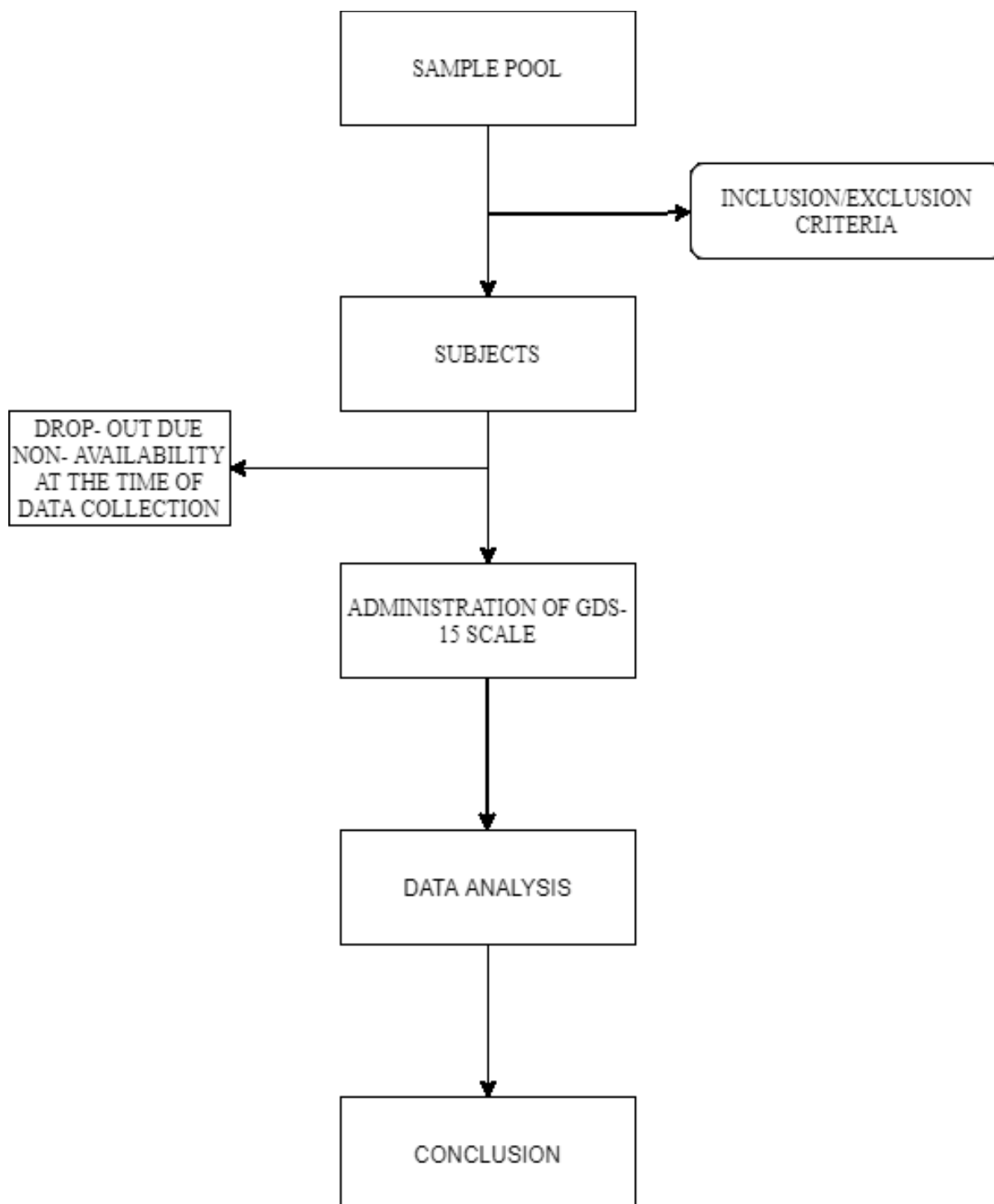
Figure 1:- Flow chart of Procedure of Data Analysis.
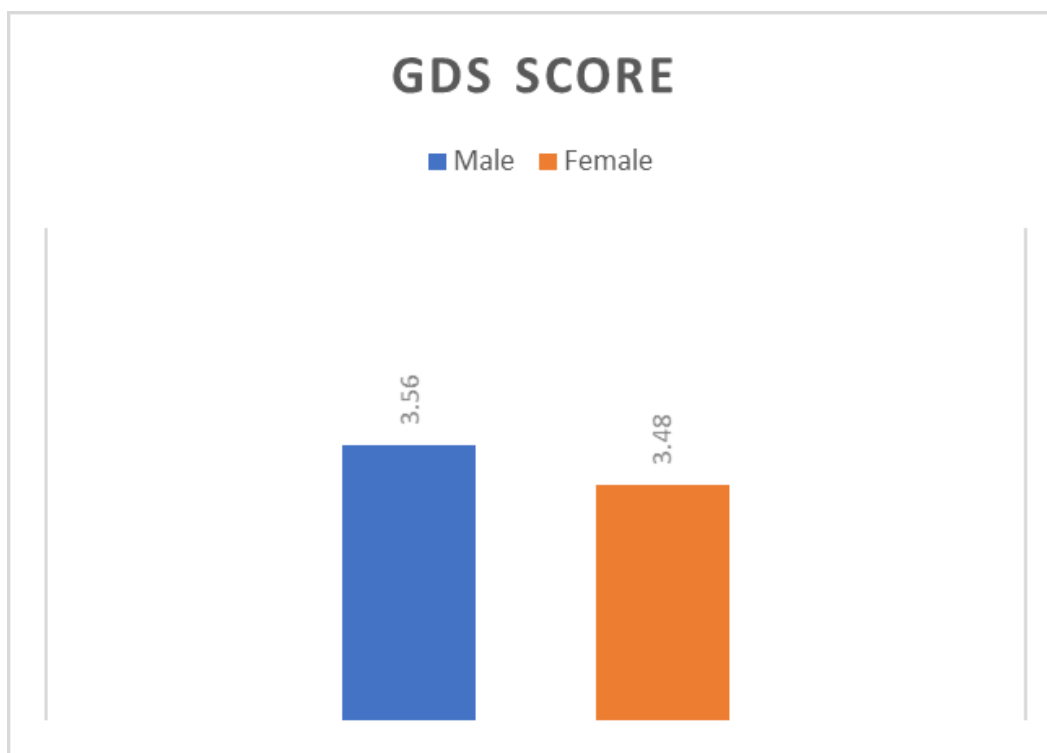
Figure 2:- Average of Males and Females suffering from depression.

Figure 3:- Males and Females suffering from mild depression (%).

Figure 4:- Males and Females suffering from moderate depression (%).

Acknowledgement:-

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