MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.36478/makrjms.2024.9.9.15

OPEN ACCESS

Key Words
Anxiety, depression, stress, adult females

Corresponding Author
Rupali P. Thakur,
Department of Community Medicine, Burdwan Medical College, West Bengal, India
rupalithakur23@gmail.com

Author Designation
[1]Medical
[2,3,4]Associate Professor
[5,6]Professor and HOD

Received: 2 July 2024
Accepted: 3 August 2024
Published: 6 August 2024

Citation: Sayantan Das, Jayati Das, Rupali P. Thakur, Aditi Das, Arnab Mondal and Harshal Tukaram Pandve 2024. Depression, Anxiety and Stress among Adult Females in an Urban Slum of Burdwan Municipality, West Bengal: A Cross-sectional Study. Res. J. Med. Sci., 18: 9-15, doi: 10.36478/ makrjms.2024.9.9.15

Depression, Anxiety and Stress among Adult Females in an Urban Slum of Burdwan Municipality, West Bengal: A Cross-sectional Study

[1]Sayantan Das, [2]Jayati Das, [3]Rupali P. Thakur, [4]Aditi Das, [5]Arnab Mondal and [6]Harshal Tukaram Pandve

[1]Department of Intern Burdwan Medical College, West Bengal
[2]Department of Physiology, Deben Mahata Govt. Medical College and Hospital Purulia, West Bengal, India
[3]Department of Community Medicine, Burdwan Medical College, West Bengal, India
4Department of Physiology, Burdwan Medical College, West Bengal, India
[5]Department of Microbiology, Raiganj Govt. Medical College, Raiganj, West Bengal, India
[6]Department of Community Medicine, PCMC's Postgraduate Institute and YCM Hospital, Pimpri, Pune, Maharashtra, India

Abstract
Stress, anxiety and depression are correlated with each other. They are leading causes of the global health-related burden. Residents of urban slum and females are even more vulnerable to them. The present study aims to assess the level of stress, anxiety and depression among the adult females residing at urban slum. To determine the prevalence and perceived reasons of depression, anxiety and stress among adult females residing in an urban slum. Community based cross sectional study was conducted among adult female residents of Kalabagan slum during August 2022 to October 2022 using DASS scale by personal Interviews and Review of relevant records. Mean, SD, Proportions, percentages was used for descriptive analysis, chi square test was used as test of significance. 132 adult females from urban slum area were included in study. Out of total 22% had stress, 28% were depressed and 22% had anxiety. Family problems, major medical events and deaths in family members and children's screen time were perceived reasons of depression, anxiety and stress., while marital status is found to be significantly associated with stress. Adult females in the study were found to be facing high burden of depression, anxiety and stress.

INTRODUCTION

Stress, anxiety and depression are correlated with each other. Anxiety is the reactive expression of stress whereas depression is manifestation of long-standing stress[1]. Depression is a mood disorder which is characterized by short-term emotional responses to a serious health condition associated with impaired daily functioning accompanied by symptoms, such as sadness and frustration, feelings of guilt, insensibility, and loss of interest[2]. Mental disorders are among the leading causes of the global health-related burden. The Global Burden of Diseases, Injuries and Risk Factors Study (GBD) 2019 showed that the two most disabling mental disorders were depressive and anxiety disorders, both ranked among the top 25 leading causes of burden worldwide in 2019[3]. This burden was high across the entire lifespan, for both sexes, and across many locations[4]. Perhaps more importantly, no reduction in the global prevalence or burden was detected for either disorder since 1990, despite compelling evidence of interventions that reduce their impact[5]. The emergence of the COVID-19 pandemic in 2020 has resulting effects on mental health via its direct psychological effects and long-term economic and social consequences[6]. COVID-19 continues to spread across most of the world's populations[3,4] with significant health consequences and mortality among those who become infected[7]. Social restrictions, lockdowns, school and business closures, loss of livelihood, decreases in economic activity and shifting priorities of governments in their attempt to control COVID-19 outbreaks all have the potential to substantially affect the mental health of the population. The necessity for up-to-date information on the global prevalence and burden of mental disorders incorporating the mental health impacts of COVID-19 in a way that informs health system responses has never been more urgent[8]. According to previous research reports, during similar viral outbreaks, a significant increase in the risk of mental health problems including anxiety, depression and traumatic stress[9,10]. No previous study has looked into the precise effect of the COVID-19 pandemic on the mental health among general population. In this context, the present study aims to assess the level of stress, anxiety and depression among the adult females of 18 years and above residing at urban slum which is urban field practice area of BMCH, West Bengal with following specific objectives.

Aims and Objectives:

- To determine the prevalence of depression, anxiety and stress among adult females of 18 years and above residing in an urban slum of Burdwan, West Bengal
- To ascertain the perceived reasons including the COVID 19 experiences with depression anxiety and stress among all study subjects.
- To find out association of socio-demographic factors with depression, anxiety and stress among study subjects, if any.

MATERIALS AND METHODS

Study type and Design: Community based descriptive type of study with Cross-sectional design

Study Area: There are total 144 slums in Burdwan municipality, under the administrative division in Purba Burdwan district in the state of West Bengal. The study was conducted at Kalabagan slum which is the urban field practice area of Community Medicine Department of Burdwan Medical College and it is feasible to conduct the study in this area. Kalabagan slum is located at 2 km from BMCH with approximately 128 households and 627 populations.

Study Population: All adult females 18 years and above residing at Kalabagan slum of Burdwan Municipality.

Inclusion Criteria:

- Females who gave their consent to participate in the study
- Females who were residing at least for last 6 months in the study area

Exclusion Criteria:

- Females who were not available at home after three visits.
- Females who were seriously ill

Sample Size and Selection Criteria: Considering prevalence of depression among adult females as 80% based on a previous study done at Purba Barddhaman[11], 95% confidence interval and relative allowable error of 10%., using the formula=2××(100-) 2 the minimum calculated sample size comes out to be 62. Where, Za=standard normal deviate (1.96 assuming 95% confidence interval)
p = prevalence of characteristic (80%)
L = allowable error = 10% relative of p = 8.0
However, considering 10% non-response, the final sample size will be 69.

By complete enumeration all the adult females of 18 years and above who are residing at Kalabagan slum were interviewed at household level.

Study Period: 2 months., August 2022-October 2022

Study Tools: Predesigned, Pretested, Semi-structured questionnaire includes.

- **Part 1:** Socio demographic factors
- **Part 2:** Some identified stressors of depression anxiety and stress
- **Part 3:** DASS Scale

Dass Scale: This is a mental health questionnaire aimed at revealing the severity of behavioral and emotional symptoms correlated with anxious and depressive disorder and with stress. It was designed by University of New South Wales, Australia to measure emotional states like depression, anxiety and stress. It comprises of set of 3 self-report scales and each scale contains 7 items which were further subdivided into subscales with the similar content. Based on scores, the severities of the emotional states were graded as normal, mild, moderate, severe, and extremely severe. The scale consists of 21 items comprises seven self-report items that are rated on a four-point scale from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Depression symptoms related items (d): 3,5,10,13,16,17,21-The depression subscale assesses core depressive symptomatology of dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia Anxiety symptoms related items (a): 2,4,7,9,15,19,20-core anxiety symptomatology of autonomic arousal, skeletal muscle effects, situational anxiety and the subjective experience of anxious affect Stress symptoms related items (s): 1,6,8,11,12,14,18-chronic, nonspecific arousal, namely, difficulty relaxing, nervous arousal, being easily upset or agitated, irritability and over reactance and impatience.

Techniques: Personal Interview of the selected study subjects.

Statistical Analysis: All the data were entered in the Microsoft excel sheet. Data was checked for consistency and completeness, then analyzed using SPSS version 23.0 software. Categorical variables were summarized by proportions and percentage and association was explored by Chi square. Continuous variables will be summarized by mean and standard deviation and association was tested with parametric test.

Ethical Considerations: Ethical clearance from Institution Ethics Committee of Burdwan Medical College and Hospital, Purba Burdwan was taken. Participation in the study was voluntary and informed consent was obtained from the study subject. Confidentiality and anonymity was strictly maintained.

RESULTS AND DISCUSSIONS

In the present study total 132 female study subjects participated in the study. Among the study population the median age is 30 years, 54.5% were below 30 years rest 45.5% were above 30 years of age.

The study included 132 females of which, 54.5% were below 30 years. Majority 78.8% were married, 12.9% were separated/widow and 8.3% were single. Maximum number females belonged to class IV socioeconomic status (51.5%) and 55.3% belonged to nuclear family. Among the study population 41.7% have received education till higher secondary (std 5-12) whereas 39.4% of the study population was illiterate. Among the study population 70.5% were homemaker and 6.8% were unemployed while 22.7% were private employee and no one is employed by Government. Among the study population 8.3% have history of DAS (depression anxiety stress) medication.

Section B: Prevalence of depression anxiety and stress among all study subjects

Stress was present among 22% of study subjects. Of which 11.4% were having Mild Stress, 6.8% Moderate Stress & 3.8% have Severe Level of Stress. Among the study population 28% were having depression. 14.4% with Mild Depression, 9.1%. Moderate Depression while 3.8% have Severe Level of Depression 0.8% having Extremely Severe Level of Depression. Anxiety was present in 22% females. 8.3% Mild Anxiety, 8.3% Moderate Anxiety while 2.3% have Severe Level of Anxiety and 3.0% have Extremely Severe Level of Anxiety.

Association of perceived reasons including the COVID 19 experiences Stress, Anxiety and depression among all study subjects was also studied. Any family problem which disturbs the females (chi- square value at df 1=11.492 and p- value=0.002), any chronic illness affecting the females (chi- square value at df 1=9.933 and p- value=0.005), any death or major event in family which still disturb them (chi-square value at df 1=11.884 and p-value=0.002) and their child's usage of mobile/ laptop for >3 hours (chi-square value at df 1=4.098 and p-value=0.050). were found to be significantly associated with depression.

There were significant association found between Chronic Illness (chi- square value at df 1=13.444 and p-value=0.001) and Major Medical Events (chi- square value at df 1=12.153 and p-value=0.002) with Anxiety. Relationship Problem (chi- square value at df 1=4.127 and p-value=0.056) and Family Problem (chi-square value at df 1=12.402 and p-value=0.001) were found to be significantly association with Stress.

Association of socio-demographic factors with Stress, Anxiety and depression among all study subjects was studied in depth.

Table. 1 Distribution of the study population according to the depression anxiety and stress prevalence (n=132)

Parameter	Frequency	Percentage
Stress		
Normal	103	78
Mild	15	11.4
Moderate	9	6.8
Severe	5	3.8
Extremely severe	0	0
Depression		
Normal	95	72.0
Mild	19	14.4
Moderate	12	9.1
Severe	5	3.8
Extremely severe	1	0.8
Anxiety		
Normal	103	78.0
Mild	11	8.3
Moderate	11	8.3
Severe	3	2.3
Extremely severe	4	3.0

Table no. 2 Distribution of the study population according to Association of socio-demographic factors with Depression among all study subjects n=132

Parameters	Depression				
	Present (%)	Absent (%)	Total (%)	Chi-square value at df 1	p- value
Occupation					
Unemployed	26 (25.5)	76 (74.5)	102(100)	1.435	0.253
Employed	11 (36.7)	19 (63.3)	30(100)		
Total	37 (28)	95 (72)	132(100)		
Socioeconomic status					
Upper	2 (40.0)	3 (60.0)	5(100)	0.369	0.619
Lower	35 (27.6)	92 (72.4)	127(100)		
Total	37 (28.0)	95 (72)	132(100)		
Marital status					
Married	22 (21.2)	82 (78.8)	104(100)	11.492	0.002
Single/separated/widow	15 (53.6)	13 (46.4)	28(100)		
Total	37(28.0)	95 (72.0)	132(100)		
Type of family					
Joint	21 (28.8)	52 (71.2)	73(100)	0.044	0.848
Nuclear	16 (27.1)	43 (72.9)	59(100)		
Total	37 (28.0)	95 (72.0)	132(100)		
Age					
<30 years	13 (18.1)	59 (81.9)	72(100)	7.812	0.006
>30 years	24 (40.0)	36 (60.0)	60(100)		
Total	37 (28.0)	95 (72.0)	132(100)		
H/O DAS medication					
Yes	6 (54.0)	5 (45.5)	11(100)	4.182	0.073
No	31 (25.6)	90 (74.4)	121(100)		
Total	37 (28.0)	95 (72.0)	132(100)		
Educational status					
Illiterate and primary (std 1-4)	28 (40.0)	42 (60.0)	70(100)	10.584	0.002
Secondary and above	9 (14.5)	53 (85.5)	62(100)		
Total	37 (28.0)	95 (72.0)	132(100)		

Table no. 3 Distribution of the study population according to Association of Socio-demographic factors with Anxiety among all study subjects n=132

Parameters	Anxiety				
	Present (%)	Absent (%)	Total (%)	Chi-square value at df 1	p- value
Marital status					
Married	16 (15.4)	88 (84.6)	104(100)	12.402	0.001
Single/separated/widow	13 (46.4)	15 (53.6)	28(100)		
Total	29 (22.0)	103 (78.0)	132(100)		
H/O DAS medication					
Yes	6 (54.5)	5 (45.5)	11(100)	7.428	0.014
No	23 (19.0)	98 (81.0)	121(100)		
Total	29 (22.0)	103 (78.0)	132(100)		
Educational status					
Illiterate & primary (std 1-4)	22 (31.4)	48 (68.6)	70(100)	7.778	0.006
Secondary and above	7 (11.3)	55 (88.7)	62(100)		
Total	29 (22.0)	103 (78.0)	132(100)		
Occupation					
Unemployed	19 (18.6)	83 (81.4)	102(100)	2.924	0.130
Employed	10 (33.3)	20 (66.7)	30(100)		
Total	29 (22.0)	103 (78.0)	132(100)		
Socioeconomic status					
Upper	1 (20.0)	4 (80.0)	5(100)	0.12	1.000
Lower	28 (22.0)	99 (78.0)	127(100)		

Among the study population there were significant association between Marital status and Depression (Chi-square value at df 1=11.492 and p-value=0.002), Age and Depression (Chi-square value at df=7.812 and p-value=0.006), Educational Status and Depression (Chi-square value at df=10.584 and p-value=0.002) while Occupation, Socioeconomic Status, Type Of Family and h/o DAS Medication does not show any significant association with Depression.

Among the study population there were significant association between Marital Status and Anxiety (Chi-square value at df 1=12.042 and p-value=0.001), h/o DAS Medication and Anxiety (Chi-square value at df 1=7.428 and p-value=0.014) Educational Status and Anxiety (Chi-square value at df 1=7.778 and p-value=0.006) while Occupation, Socioeconomic Status, Type of Family and Age does not show any significant association with Anxiety.

Distribution of the study population according to Association of sociodemographic factors with Stress among all study subjects (n=132) was also studied. Among the study population there were significant association between Marital Status and Stress (Chi-square value at df 1=9.04 and p-value=0.005) while Occupation, Socioeconomic Status, type of Family, age, h/o DAS Medication and Educational Status does not show any significant association with Stress.

In the present study the range of age is (18 years to 80 years) with a mean age of 34.3 years. A study conducted among rural women of Puducherry., the mean age was 34.9 years[17]. Another study conducted among Malaysian women., the mean age was 33.4 years. These studies showed a similar age distribution with our study[12].

In the present study the prevalence of depression, anxiety and stress is 28.0%, 22.0% and 22.0% respectively. Another study conducted among Malaysian women using DASS-21 where prevalence of depression, anxiety and stress was 17.2%, 25.1% and 0.9% respectively[12]. A study conducted among rural women of Puducherry using DASS-21 where the prevalence of depression, anxiety and stress is 14.9%, 10.6% and 5% respectively[17] Two previous studies, the Chennai Urban Rural Epidemiology Study (CURES) done in Tamil Nadu, South India and another study from Vidharba, in Central India, has shown the prevalence of depression in females as 16.3% and 16.7% respectively[21,22]. Though both of these studies used patient health questionnaire (PHQ-9) to screen depression, it is notable that the estimated prevalence of depression is comparable to our study which used DASS-21. There is a greater prevalence among our study population this might be due to social and cultural differences from the above-mentioned studies.

In the present study stress is significantly associated with relationship problem (chi-square value=4.127 p-value=0.056). In another study among Tunisian women's significant association found between domestic violence (causing relationship problem) and stress[23].

In the present study family problem is significantly associated with depression (chi-square value=11.492 p-value=0.002) and stress (chi-square value=12.402 p-value=0.001). In another study among working and non-working women's there was a significant association present with depression[16]. In another study among Tunisian women's significant association found between domestic violence (causing relationship problem) and stress as well as depression[23]. Yet in another study done in Iran having a high-risk family member (being a family problem) is associated to both stress and depression[24].

In the present study chronic illness is significantly associated with depression (chi-square value=9.933 p-value=0.005) and anxiety (chi-square value=13.444 p-value=0.001). As chronic illness of the subject of study as well as of her family members can cause depression and anxiety in her. Even major medical events is associated to both depression (chi-square value=11.884 p-value=0.002) and anxiety (chi-square value=12.153 p-value=0.002). As chronic illness of both the subject of study as well as her family members can cause depression and anxiety in her. In a study among elderly population in Chennai showed a higher prevalence of depression in chronic illness maximum with hypertension[25]. Another study done among care givers of schizophrenia patients showed a high prevalence of anxiety[26]. Another study among caregivers of inpatients suffering from chronic debilitating and terminal illnesses showed high prevalence of both anxiety and depression[13]. In a study among Malaysian women's showed association of depression and anxiety with hospital admission for surgical procedure[12].

In the present study child's use of mobile phone/laptop is significantly associated with depression in mothers (chi-square value=4.098 p-value=0.005). In another study done in South Korea it showed a strong association between these two factors[27]. Another study Smart phone Addiction and Depression among Low-Income Boys showed strong association[28]. This shows us that child's smart phone addiction can cause depression in mother both directly as well as indirect by causing depression in child thus affecting mother.

In the present study we did not get any significant association of COVID 19 stressing factors with depression, anxiety, stress as this study is conducted after 2 years of onset of covid 19 pandemic and after

1 year of 2nd national wide lockdown which shows us that the disrupted lives of our study population are returning to normalcy as like pre pandemic period and also due to stringent action of the government authorities during the pandemic only 4.5% population affected by major medical events, 29.5% population job was lost during the pandemic due to closure of rice mill which was later recovered on opening of mills and also during the pandemic period they got regular grant from the mill owner and also the decrease in social interaction of pandemic period gradually recovered in 1 year that might be the reason we did not got a significant association.

In the present study there was a decreased prevalence of stress, depression and anxiety in married subjects when compared to single/widow/separated. In another study done among correctional officers at rural district of Kedah, Malaysia showed a high prevalence of stress among singles than married[31] other studies done among rural population in Chennai, among women's in Puducherry and elderly population in Kolkata also showed a significant prevalence of depression among single/widow/separated than married population[21,17,19]. Yet in another study done in Vietnam there was high prevalence of anxiety in single/widow/separated than married population[30].

In the present study there was decreased prevalence of depression in <30 years of age group than >30 years age group (p-value=0.006) but no such associations were obtained with stress and anxiety. In another studies conducted in Chennai similar findings were obtained[21] and in Kolkata similar findings of increasing prevalence of depression with increase in age[19]

In the present study we found that there is increased prevalence of depression and anxiety among illiterates and low level of educational status (till primary) than those with educational status of secondary and higher (p-value=0.002, 0.006 respectively). In another studies conducted in Chennai, Kolkata, Puducherry, Malaysia[21,1719,12] similar trend with depression was observed while HUNT study conducted in Norway show similar trend with both anxiety and depression[29]

In present study we did not get any significant association of occupation, socioeconomic status and type of family with depression, anxiety and stress. In a study conducted in Bangalore Karnataka among working and non-working women's no statistically significant difference in the level of anxiety, stress and depression among working and non-working women obtained[18] and also in a study conducted among women's in a slum of burdwan municipality does no shows a significant relationship. Though in literature there are many studies present which shows relation between these factors as study earlier done in a slum of burdwan municipality showed a higher prevalence in joint family[11] while a study done in Kolkata showed a higher prevalence in nuclear family[19S]. In a study done at Vidharba, India showed economic status below poverty line and indebtedness were associated with depression[22]

In present study we also got a higher incidence of anxiety in population with history of depression anxiety and stress related medicine uptake.

CONCLUSIONS

Adult females in a slum area of Burdwan Municipality are facing high burden of depression, anxiety and stress. This study has found significant association between depression with single/ separated/ widowed relationship and illiterate educational status. These findings might have important policy implications for reducing morbidity due to depressive disorders among adult women. Further large-scale studies are recommended in future to support and strengthen the evidence generated in the current study.

REFERENCES

1. Wahed, W.Y.A. and S.K. Hassan, 2017. Prevalence and associated factors of stress, anxiety and depression among medical fayoum university students. Alex J. Med., 53: 77-84.
2. Vos, T., S.S. Lim, C. Abbafati, K.M. Abbas and M. Abbasi et al., 2020. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis for the global burden of disease study 2019. Lancet, 396: 1204-1222.
3. GBD 2019 Mental Disorders Collaborators. 2022. Global, Regional, and National Burden of 12 Mental Disorders in 204 Countries and Territories, 1990-2019: A Systematic Analysis From the Global Burden of Disease Study 2019. Lancet Psy., 9: 137-150.
4. Patel, V., D. Chisholm, R. Parikh, F.J. Charlson and L. Degenhardt *et al*., 2016. Addressing the burden of mental, neurological, and substance use disorders: Key messages from disease control priorities, 3rd edition. Lancet, 387: 1672-1685.
5. Kola, L., B.A. Kohrt, C. Hanlon, J.A. Naslund and S. Sikander *et al*., 2021. Covid-19 mental health impact and responses in low-income and middle-income countries: Reimagining global mental health. Lanc Psy., 8: 535-550.
6. Santomauro, D.F., A.M.M. Herrera, J. Shadid, P. Zheng and C. Ashbaugh *et al*., 2021. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet, 398: 1700-1712.

7. Matsuishi, K., A. Kawazoe, H. Imai, A. Ito and K. Mouri *et al*., 2012. Psychological impact of the pandemic (H1N1) 2009 on general hospital workers in kobe. Psyc Clin. Neur., 66: 353-360.
8. Bukhari, E.E., M.H. Temsah, A.A. Aleyadhy, A.A. Alrabiaa and A.A. Alhboob, *et al*., 2016. Middle east respiratory syndrome coronavirus (mers-CoV) outbreak perceptions of risk and stress evaluation in nurses. J. Infec. Dev. Ctries., 10: 845-850.
9. Noor, A and A.K. Tanwani., 2009. Pitfalls in salivary gland fine- needle aspiration cytology. Int J of Pathol 7: 61-65.
10. Latif, N.I.A., N.A.M. Ismail, S.Y.E. Loh, A.G.N. Azurah and M. Midin,*et al*., 2022. Psychological distress and COVID-19 related anxiety among Malaysian women during the COVID-19 pandemic. Int. J. Env. Res. Pub Hea., Vol. 19 .10.3390/ijerph19084590.
11. Anandi, B.S. and M.M. Dhadave, 2018. Anxiety and depression among caregivers of inpatients suffering from chronic debilitating and terminal illnesses. Int. J. Of Com Med. And Pub Hea., 5: 1903-1908.
12. Behmanesh, F., F. Moharreri, A. Soltanifar, M. Hamzeh and E. Heidari, 2017. Evaluation of anxiety and depression in mothers of children with asthma. Elec. Physi, 9: 6058-6062.
13. Timmerans, A.I., J. Widdershoven and J. Strijbos, 2016. Educational level as a predictor for anxiety and depression in ICD-patients. Bachelors thesis.Medical and Clinical Psychology.
14. Balaji, A., V. Sarumathi and N.A. Saranya, 2014. Comparative Study on Depression among Working and Non-Working Women in Chennai, Tamil Nadu, India. Research and Reviews: Jour Med Hea Sci., 3: 73-76.
15. Srinivasan, M., M.M. Reddy, S. Sarkar and V. Menon, 2020. Depression, anxiety, and stress among rural south Indian women—prevalence and correlates: A community-based study. J. Neur Rural Pract., 11: 78-83.
16. Atale, N., A. Bhavishya and D.D. Joshi, 2021. level of stress, depression and anxiety in working and non-working women between the age group of 25-45: a comparative study. Inte Jou Rec Sci Res., 12: 43624-43626.
17. Pandit, D., N. Manna, M. Datta, S. Biswas and B. Baur,et al., 2013. Depression and associated socio-demographic factors among geriatrics-an experience from a tertiary hospital. IOSR Jour Den Med Sci., 8: 35-38.
18. Tran, T.D., T. Tran and J. Fisher, 2013. Validation of the depression anxiety stress scales (dass) 21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. BMC Psychi., Vol. 13, No. 24 .10.1186/1471-244x-13-24.
19. Poongothai, S., R. Pradeepa, A. Ganesan and V. Mohan, 2009. Prevalence of depression in a large urban south Indian population — the Chennai urban rural epidemiology study (cures-70). Plos one, Vol. 4, No. 9 .10.1371/journal. pone .0007185.0
20. Chauhan, S. D. Rathod and D.S. Joshi., 2011. FNAC of swellings of head and neck region. Ind J of Appl. Basic 13: 1-6.
21. Sediri, S., Y. Zgueb, S. Ouanes, U. Ouali, S. Bourgou, R. Jomli and F. Nacef, 2020. Women's mental health: Acute impact of COVID-19 pandemic on domestic violence. Arch. Wom Heal., 23: 749-756.
22. Khademian, F., S. Delavari, Z. Koohjani and Z. Khademian, 2021. An investigation of depression, anxiety, and stress and its relating factors during COVID-19 pandemic in Iran. BMC Publ Heal., Vol. 21 .10.1186/s12889-021-10329-3.
23. Farhana, M., P. Lakshmi and S. Nambi, 2019. A Study to Assess the Prevalence of Depression in Elderly in an Old Age Home. IOSR Jour Den Med Sci., 18: 19-22.
24. Kumar, A.K., G.R.Babu and A.M. Kumar, 2019. Prevalence of anxiety and depression among the primary caregivers of patients with schizophrenia who attended Psychiatry Outpatient Department at Rajah Muthiah Medical College and Hospital, Chidambaram. IAIM, 6: 63-75.
25. Mun, I.B. and S. Lee, 2021. The impact of parental depression on children's smartphone addiction: A serial mediation model with parental neglect and children's self-esteem. Social Sci. Comput. Rev., 41: 217-233.
26. Lee, J., H. Lim, J. Allen, G. Choi and J. Jung, 2021. Smartphone addiction and depression among low-income boys since COVID-19: The moderating effect of being an only child. Healthcare, Vol. 9, No. 10 .10.3390/healthcare9101350.
27. Bjelland, I., S. Krokstad, A. Mykletun, A.A. Dahl, G.S. Tell and K. Tambs, 2008. Does a higher educational level protect against anxiety and depression? the hunt study. Social Sci. amp Med., 66: 1334-1345.
28. Le, H.T., A.J.X. Lai, J. Sun, M.T. Hoang and L.G. Vu et al., 2020. Anxiety and depression among people under the nationwide partial lockdown in Vietnam. Front. Pub Heal., Vol. 8 .10.3389/ fpubh.2020.589359.
29. Mohd, Z.I. and H.I. Noor, 2010. A study of occupational stress and coping strategies among correctional officers in Kedah, Malaysia. Jurnal Kes Masy., 16: 66-74.