Journal of Population Therapeutics & Clinical Pharmacology

PREVALENCE AND ASSOCIATED RISK FACTORS OF DEPRESSION AMONG HOUSEWIVES IN RURAL BAHRAICH, UTTAR PRADESH, INDIA

Dr Nripendra Singh[1], Dr Madhu Rendra Kumar[2], Dr Bibhava Vikramaditya[3], Dr Geeta Singh[4]*

[1]Associate Professor, Department of Community Medicine, MSDASMC & MBH, Bahraich
[2]Assistant Professor, Department of Community Medicine, RDJM Medical College and Hospital, Muzaffarpur, Bihar
[3]Assistant Professor, Department of Community Medicine, Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh
[4]*Assistant Professor, Department of Community Medicine, MSDASMC & MBH, Bahraich

*Corresponding Author: Dr Geeta Singh
*Assistant Professor, Department of Community Medicine, MSDASMC & MBH, Bahraich
Email: singhdrg@gmail.com, Ph- 8279640253

Abstract

Introduction: Depression is the most common mental disorder. Women and elderly have shown greater vulnerability to depression. Additional responsibilities due to modernization in rural areas have lead to increased stress and tension among housewives. Limited data is available on depression among housewives in rural India especially Uttar Pradesh. So the present study was planned to assess the prevalence of depression and its associated risk factors among housewives aged 18-59 years in rural area of district Bahraich, Uttar Pradesh.

Objective: To assess the prevalence and risk factors of depression among housewives in rural area.

Methods: The study was done in five villages of Bahraich, Uttar Pradesh from April 2022 to March 2023. A total of 500 housewives were selected by systematic random sampling. Interviews were conducted by house to house visits. Depression was evaluated using self reported instrument Patient Health Questionnaire-9 (PHQ-9). The analysis was done using MS Excel software and SPSS software version 22.

Results: Prevalence of depression was found to be 18%. There was increasing trend of prevalence of depression in middle age group. Increasing level of education, marriage, better socio economy, economic independence and absence of co-morbid conditions had lower prevalence of depression. None of the depressed subjects had taken professional help.

Conclusion: Housewives should be educated about warning signs and symptoms of depression and motivated to seek professional help.

Keywords: Housewives, depression, rural, Bahraich

Introduction

In the current scenario stress is increasing in our community and hence mental illnesses are showing increasing trend. Though mental illness can occur at any age, but depression and anxiety disorders are quite common problems for young people. It can affect our thoughts, feelings, actions and memory. There are a number of mental illnesses, which include: Depression, Anxiety, Psychosis, Eating disorders, Bipolar disorder, alcohol and substance abuse.

Depression is the most common mental disorder. Often depression in under recognized and under treated among adults. Overlooking depression can have tragic consequences as depression is associated with increased risk of suicide and higher risk for mental disorders, substance abuse, physical disorders and co-morbidities. They further reduce patient's quality of life. Depression accounted for 40.5% of years lived with disability caused by mental and substance use disordersaccording to the Global Burden of Disease Study [1].

Depression presents with depressed mood, loss of interest or pleasure, decreased energy, disturbed sleep or appetite and poor concentration. It differs from usual mood fluctuations and short-lived emotional responses to challenges in everyday life. When long-lasting it may become a serious health condition and causes the affected person to suffer at work, school or family. Depression affects the way of thinking, feeling and functioning in everyday life. It is the mental health disability which is most of the times created due to individual problems, the organizational problems or the societal problems. Initial symptoms may be persistent sadness, hopelessness, worthlessness, helplessness, restlessness. Depression often presents in the form of physical complaints which appear to be medically unexplained.

The studies on prevalence of depression in India have given varied results [2, 3]. India has inequitable mental health resource distribution with majority of patients being undiagnosed of their mental diseases [4]. Women and elderly have shown greater vulnerability to depression in India [3]. In India housewives play a major role in family and society. Additional responsibilities due to modernization in rural areas have lead to increased stress and tension among housewives [5]. Depression is a complex phenomenon and there is no single factor which can explain the cause for depression. Life events like separation, divorce, domestic violence, family disputes, etc. affect health adversely. Women are more likely to internalize conflict resulting in depression and anxiety.

Limited data is available on depression among housewives in rural India especially Uttar Pradesh.Further, disparities exist in access to mental health facilities in rural areas[6]. There is need for estimating the disease burden in areas where community based studies on mental health has not been conducted. To improve the diagnosis, treatment and prevention of depression in women, we must better understand the etiology of depression in women; especially the biological, psychological and social origins of depression and better integrate data across these perspectives. So the present study is planned to assess the prevalence of depression and its associated risk factors among housewives aged 18-59 years in rural area of district Bahraich, Uttar Pradesh.

Aim & Objectives
Aim: To assess the prevalence of depression among housewives in rural area.

Objectives :
1. To assess the epidemiological co-relates of depression.
2. To identify the risk factors among housewives in rural community.
3. To assess mental health help seeking behavior in depressed subjects.

Material and Methods

Study Setting: The study was carried out in five villages of District Bahraich, Uttar Pradesh.The villages are located in the rural field practice area of Department of Community Medicine, MSDASMC & MBH, Bahraich. There is availability of psychiatrist at MSDASMC & MBH, Bahraich and Medical Officer at Community Health Centre, Chittaura for mental health help seeking patients.

Study Period: The study was conducted from 1st April 2022 to 31st March 2023. (One Year).

Study Design: The present study wasa descriptive cross sectional community-based study.

Sampling Method: Five villages were randomly chosen among all villages in rural field practice area.

The minimum sample size required for the study was calculated as follows:

$$n = \frac{Z^2 \, p \, (1-p)}{d^2}$$

Where
n = sample size
p = expected prevalence or proportion
d = precision rate

As data on prevalence of depression was not available for rural Bahraich, p was taken as 50% which gives the maximum sample size for doing prevalence study [7].

Hereby taking,
Z = 1.96
p= 50 (=0.5)
d=0.05

$$n = \frac{(1.96)^2 (0.5) \, (1-0.5)}{(0.05)^2}$$

n= 384

Allowing for a non-response rate of 20%, the sample size comes to be 461.
Thus, we included 500 subjects in our study.

A total of 500 house wives were selected by systematic random sampling with first subject selected randomly by currency note method. Subsequent subjects were selected as per sampling interval.

Ethical Consideration and permission: Informed written consent was taken from interviewed adult housewives after explaining to them the purpose of the study. If they refused to participate in the study or the house was locked the adjacent house was substituted in its place. The study was duly approved by the Institutional Ethics Committee of MSDASMC & MBH, Bahraich.

Inclusion criteria
1. Randomly selected housewives aged 18-59 yearswilling to participate in the study.
2. Able to understand and respond to the questionnaire.

Exclusion criteria
1. Refusal to participate.
2. Locked house.
3. Housewives already diagnosed with any psychiatric disorders.
4. Housewives in ante-partum and post-partum period.

Procedure of data collection:A pretested proforma was used. Interviews were conducted by house to house visits.

Each individual was told about purpose of study and confidentiality of information was assured.

Development of Proforma: The proforma was developed according to rural Indian scenario according to suggestions of senior faculty members of Department of Community Medicine, MSDASMC & MBH, Bahraich. The socio-economic status (SES) was determined by Modified Udai Pareek (MUP) scale. Based on the MUP score, the SES was divided into 4 categories. Depression was evaluated using self reported instrument Patient Health Questionnaire-9 (PHQ-9)[8]. The questionnaire comprises of nine items, each is scored 0 to 3, which yields a severity score from 0 and 27. Subject with a PHQ-9 score of 10 or higher was assessed as having at least moderate depression, as per international norms for PHQ-9. The reliability and validity of the scale has already been established [9-11]. Mental health help seeking behavior was asked and noted. The subjects screened to be having at least moderate depression were given information on depression and were advised to visit psychiatrist at MSDASMC & MBH, Bahraich.

Statistical methods and analysis: The data obtained was tabulated and analyzed by using descriptive statistics, viz. Percentages with help of MS Excel software and SPSS software version 22.Yates' p-value<0.05 was considered statistically significant.

Results
A total of 500 subjects were included in the study. On evaluation of PHQ-9 proforma, the prevalence of depression was found to be 18% (90subjects).(Figure 1)

Figure 1: Prevalence of Depression as per Patient Health Questionnaire-**9**
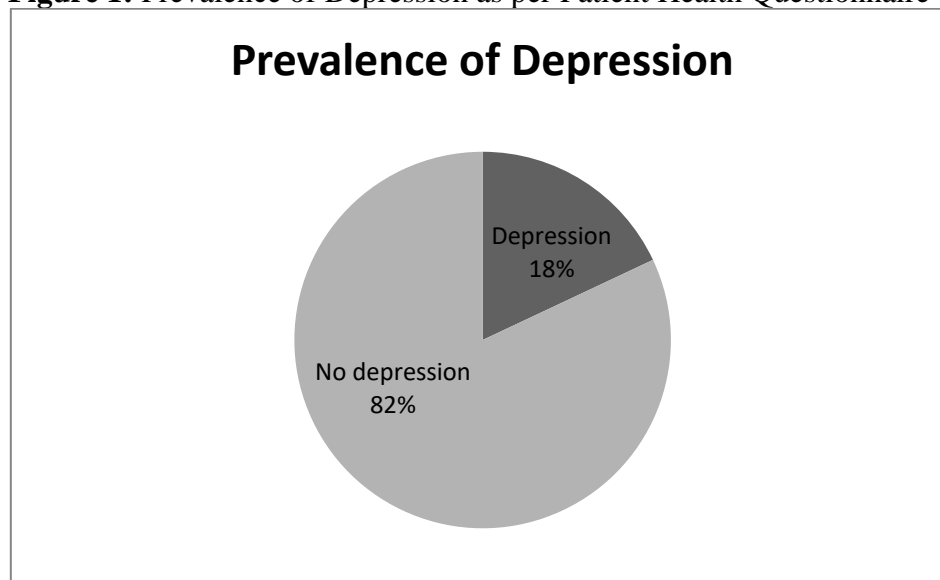
Among the 500 subjects interviewed, 118 (23.6%) subjects were in age of 18-29 years, 172 (34.4%) in 30-39 years, 141 (28.2%) in 40-49 years and 69 (13.8%) were in age group of 50-59 years. The mean age of the subjects was 34.69±11.38 years. Mean age of depressed subjects was found to be 38.52 ± 10.14 years. The prevalence of depression was found to be 9.3% in age of 18-29 years, 16.9% in 30-39 years, 24.1% in 40-49 years and 23.2% in age group of 50-59 years. There was increasing trend of prevalence of depression in middle age group. The difference was found to be statistically significant. (p = 0.02) (Table 1)

Majority of subjects (83%) were currently married. The prevalence of depression was 15.4% in currently married, while it was twice in Widow or Separated or Never Married subjects (30.6%). The comparison with respect to marital status was found to be statistically significant (p=0.02). (Table 1)

One third of subjects i.e. 168 (33.6%) had no schooling. There were 143 (28.6%) subjects who had primary schooling, 110 (22.0%) subjects with secondary schooling and 79 (15.8%) with above secondary level of education. Inverse relationship was found between depression and level of education and this difference was observed to be statistically significant (p=0.01). (Table 1)

More than half of subjects (54.8%) were from Low middle socio economic group. Low (10.4%), High middle (26.4%) and High (8.4%) socio-economic status groups comprised the rest of subjects. Lower socio-economic status was significantly found to be associated with higher rates of depression (p=0.01). The subjects that had any debt on their household had higher prevalence of depression (27.4%) compared to subjects that had no debt (16.1%) and the difference was statistically significant (p=0.02). Economically independent women had significantly (p=0.04) lowerprevalence of depression (7.9%) than economically dependent women (19.5%). The subjects that had history of any Co-morbid conditions/chronic disease had significantly(p=0.04) higher rates of depression (24.8%) than normal subjects (15.9%). (Table 1)

Table 1: Demographic characteristics and risk factors of study participants.

Socio-demographic characteristics	Frequency (%) (n=500)	Prevalence of Depression (%) (n= Frequency)	No Depression (%) (n= Frequency)	p - Value
Age(Years)				
18-29	118 (23.6)	11(09.3)	107(90.7)	0.02
30-39	172 (34.4)	29(16.9)	143(83.1)	
40-49	141 (28.2)	34(24.1)	107(75.9)	
50-59	69 (13.8)	16(23.2)	53(76.8)	
Marital Status				
Currently Married	415(83)	64(15.4)	351(84.6)	0.02
Widow/ Separated/ Never Married	85(17)	26(30.6)	59(69.4)	
Educational Status				
Unschooled	168 (33.6)	41(24.4)	127(75.6)	0.01
Primary	143 (28.6)	28(19.6)	115(80.4)	
Secondary	110 (22.0)	15(13.6)	95(86.4)	
Above Secondary	79 (15.8)	06(07.6)	73(92.4)	
Socio-economic Status				
Low	52(10.4)	16(30.8)	36(69.2)	0.01
Low middle	274(54.8)	55(20.1)	219(79.9)	
High middle	132(26.4)	15(11.4)	117(88.6)	
High	42(08.4)	04(09.5)	38(90.5)	
Debt on household				
Present	84(16.8)	23(27.4)	61(72.6)	0.02
Not Present	416(83.2)	67(16.1)	349(83.9)	
Economic Dependence				
Independent	63(12.6)	05(07.9)	58(92.1)	0.04
Dependent	437(87.4)	85(19.5)	352(80.5)	
History of any Co-morbid conditions/chronic disease				
Present	117(23.6)	29(24.8)	88(75.2)	0.04
Not Present	383(76.6)	61(15.9)	322(84.1)	

Out of total 90 subjects screened to be having at least moderate depression none had visited a mental health help facility in the last 6 months. None of them had ever received any therapy for depression.

Discussion

The prevalence of depression among women 18-59 years agewas found to be 18% in our study. Study by Poongothai*et al.* on prevalence of depression in urban Chennai, South India in 2009 found prevalence of 16.3% in females which is comparable to our study [12]. However, study by Urvashi *et al.*at rural Ludhiana, Punjab from March 2014 to February 2015 on 300 female subjects observed the prevalence of depression was 43%[13].Mathias *et al.* in July 2014 conductedCross-sectional study on depression and help-seeking in Uttarakhand, North India on 960 subjects found overall 6% prevalence of depression and 7.9% prevalence in female subjects [14].Study by Deswal*et al.* in urbancommunity ofPune, Maharashtra in 2012 foundthe overall prevalence of depression to be 3.14% [15].Another study by Obadeji *et al.* conducted in a Primary Care Setting in Nigeria in 2015 observed the prevalence of depression to be 47.8% [16].Study by Nisar *et al.*(2004) onadult women in a fishing community in Pakistan found point prevalence of depressive disorder was 7.5%[17].The reason for wide variation in prevalence can be the rural urban difference in the study populations, screening tool used and the regional variation.

The present study revealed that there was increasing trend of prevalence of depression in middle age group.Study by Mathias *et al.* observed people in their middle years had a slightly higher risk of depression than those under 30 years and over 50 years of age[14].Study by Urvashi *et al.*observed increasing trend of depression among housewives with increasing age [13].Poongothai*et al.*reported increasing trend in the prevalence of depression among female subjects with age[12].Obadeji *et al.*found significantly higher prevalence of depression among subjects aged $\geq$ 45 years [16].Advancing age has direct relationship with depression were also reported in several studies in Pakistan by Nisar *et al.*, Mumford *et al.*(1997), Husain *et al.*(2000) and Ali *et al.*(2002) [17-20].In our study the mean age of depressed subjects was found to be 38.52 $\pm$ 10.14 years.Study by Urvashi *et al.*observed mean age of subjects with depression to be 42.4 $\pm$10.3 years [13].

In the present study, married subjects had lower prevalence of depression. Study by Urvashi *et al.*also observed similar finding [13].Poongothai*et al.*and Obadeji*et al.* also reported increasing trend in the prevalence of depression among divorced, separated or widowed subjects[12, 16].The most likely explanation for the association with being widowed or divorced is related to increased stress and socio cultural practices.

In our study, the risk of depression increased with decreasing educational status.Study by Urvashi *et al.*also found inverse relationship between level of education and depression and observed education has an important influence on psychosocial characteristics such as efficacy and self-esteem both of which have a moderator effect on depression [13].Research findings ofMathias *et al.* suggested dose–response relationshipin educational status, with risk ofdepression increasing with decreasing years of completed schooling[14]. Similar findings were also observed by Deswal *et al.*and Ali *et al.*[15, 20].

The current study observed that depression was more prevalent in lower socio-economy groups. Study by Mathias *et al.* observed greater risk of depression for the poorest[14].Study by Urvashi *et al.*also found lower socio-economic status to be associated with higher rates of depression [13].Poongothai *et al.*also reported that prevalence of depression was higher in the low income group[12].

In the present study, the subjects that had any debt on their household had higher prevalence of depression. Study by Mathias *et al.* also observed greater risk of depression for subjects who had taken a recent loan[14].

In our study, economically independent women had lowerrates of depression. Study by Chauhan *et al.*at rural South India from September 2010 to March 2011 on 290 elderly subjects observed the prevalence of depression significantly lower in economically independent subjects[21].

The present study observed that subjects that had history of any co-morbid conditions/chronic disease had significantly higher rates of depression. Patel *et al.* (2006) in their populationbased cohort study on 2494 women aged18 to 50 yearson risk factors of common mental disorders in Goa reported significant association between chronic physical illness and common mental disorders[22]. Luni*et al* (2009) in their study on prevalence of depression and anxiety in a village in Sindh, Pakistan on260 people found strong association between chronic illness and depression [22].

In the current study, none of the subjects screened to be having at least moderate depression had visited a mental health help facility in the last 6 months. None of them had ever received any therapy for depression. Study by Mathias *et al.* only two people had visited a mental health service provider in the previous 3 months and no one had received talking therapy, indicating a treatment gap of 100% for the recommended first-line treatment of mild or moderate depression[14].

Conclusion

Depression is a serious and common mental condition. Depression may occur at any age during a women's life irrespective of educational and economic status. Our study found the prevalence of depression to be 18%. There was increasing trend of prevalence of depression in the middle age group. Increasing level of education, marriage, better socio economy, economic independence and absence of co-morbid conditions were having lower prevalence of depression. None of the depressed subjects had taken professional help. Housewives should be educated about warning signs and symptoms of depression and motivated to seek professional help.

Recommendations: Screening of the community for mental health issues and giving information on depression can lead to them to visiting psychiatrist. Health education on mental health of rural people is an important to create awareness, motivation and generate help seeking behavior.

Limitations: Thepresent studyestimates the prevalence through PHQ-9. This questionnaire is a screening tool. Definitive diagnosis by Psychiatrist would have greater accuracy. The study design is cross-sectional and thus causality cannot be established. Further the study was undertaken with a small sample in rural area of Bahraich and may not be representative of entire rural population.

Relevance of the study: The study adds to our understanding about depression and its risk factors. The study would be a guide for further community-based research for mental health with large sample involving almost all age groups in various part of country for diagnosing and counseling the unseen cases.

References
1. Whiteford HA, Degenhardt L, Rehm J, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010.Lancet 2013 Nov 9;382(9904):1575-86. doi: 10.1016/S0140-6736(13)61611-6.
2. Math S, Chandrashekar CR, Bhugra D. Psychiatric epidemiology in India. Indian J Med Res2007 Sep;126(3):183-92. PMID:18037711
3. Ganguli HC. Epidemiological findings on prevalence of mental disorders in India. Indian J Psychiatr 2000 Jan;42(1):14–20.

4. World Health Organisation. Mental health atlas 2011. Geneva: WHO[Internet] 2011[cited 2019 Dec 20] Available from:
   https://apps.who.int/iris/bitstream/handle/10665/44697/9799241564359_eng.pdf;jsessionid=3F40A5ABDA6D4164E0BC20101A99B7C4?sequence=1

5. Kessler RC. Epidemiology of women and depression. J Affect Dis. 2003 Mar;74(1):5-13. DOI:10.1016/s0165-0327(02)00426-3. PMID:12646294

6. Reddy VM, Chandrashekar CR. Prevalence of mental and behavioural disorders in India : a meta-analysis. Indian J Psychiatry 1998 Apr;40(2):149-57. PMID:21494462. PMCID: PMC 2965838

7. Lemeshow S, Hosmer DW, Klar J, Lwanga SK. Adequacy of Sample Size in Health Studies. England: John Wiley & Sons[Internet] 1990[cited 2019 Dec 20] Available from:
   https://apps.who.int/iris/bitstream/handle/10665/41607/0471925179_eng.pdf?sequence=1&isAllowed=y

8. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med 2001 Sep;16(9):606-13. DOI:10.1046/j.1525-1497. 2001. 016009606.x. PMID:11556941 PMCID:PMC1495268

9. Poongothai S, Pradeepa R, Ganesan A, Mohan V. Reliability and validity of a modified PHQ-9 item inventory (PHQ-12) as a screening instrument for assessing depression in Asian Indians (CURES-65). J Assoc Physicians India 2009 Feb;57(2):147-52. PMID:19582982

10. Kochhar PH, Rajadhyaksha SS, Suvarna VR. Translation and validation of brief patient health questionnaire against DSM IV as a tool to diagnose major depressive disorder in Indian patients. J Postgrad Med 2007 Apr-Jun;53(2):102-7. DOI:10.4103/0022-3859.32209. PMID:17495375

11. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med 2001 Sep;16(9):606-13. DOI:10.1046/j.1525-1497. 2001. 016009606.x. PMID:11556941 PMCID:PMC1495268

12. Poongothai S, Pradeepa R, Ganesan A, Mohan V. Prevalence of depression in a large urban South Indian population--the Chennai Urban Rural Epidemiology Study (CURES-70). PLoS ONE 2009 Sep 28;4(9):e7185. DOI:10.1371/journal.pone.0007185. PMID:19784380 PMCID: PMC2748692

13. Urvashi, Girdhar S, Chaudhary A. Socio-demographic co-relates of depression among housewives in rural area of district Ludhiana. Int J Community Med Public Health 2019;6(5): 2147-51. DOI:http://dx.doi.org/10.18203/2394-6040.ijcmph20191835.

14. Mathias K, Goicolea I, Kermode M, Singh L, Shidhaye R, Sebastian MS. Cross-sectional study of depression and help-seeking in Uttarakhand, North India. BMJ Open 2015 Nov 20;5 (11):e008992. DOI:10.1136/bmjopen-2015-008992. PMID:26589428 PMCID: PMC4663438

15. Deswal BS, Pawar A. An epidemiological study of mental disorders at pune, maharashtra. Indian J Community Med 2012 Apr;37(2):116-21. DOI:10.4103/0970-0218.96097. PMID:22654285 PMCID:PMC3361794

16. Obadeji A, Oluwole LO, Dada MU, Ajiboye AS, Kumolalo BJ, Solomon OA. Assessment of Depression in a Primary Care Setting in Nigeria using the PHQ-9. J Family Med Prim Care. 2015;4(1): 30-4.DOI: 10.4103/2249-4863.152246

17. Nisar N, Billoo N, Gadit AA. Prevalence of depression and the associated risks factors among adult women in a fishing community. J Pak Med Assoc 2004 Oct;54(10):519-25. PMID:15552287

18. Mumford DB, Saeed K, Ahmad I, Latif S, Mubbashar MH. Stress and psychiatric disorder in rural Punjab. A community survey. Br J Psychiatry 1997 May;170(5):473-8. DOI:10.1192/bjp.170.5.473. PMID:9307700

19. Husain N, Creed F, Tomenson B. Depression and social stress in Pakistan. Psychol Med 2000 Mar;30(2):395-402. DOI:10.1017/s0033291700001707. PMID:10824659

20. Ali TS, Mogren I, Krantz G. Intimate partner violence and mental health effects: a population-based study among married women in Karachi, Pakistan. Int J Behav Med 2013 Mar;20(1):131-9. DOI:10.1007/s12529-011-9201-6. PMID:22037921

21. Chauhan P, Kokiwar PR, Shridevi K, Katkuri S. A study on prevalence and correlates of depression among elderly population of rural South India. Int J Community Med Public Health. 2016;3(1):236-9.DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20151569

22. Patel V, Kirkwood BR, Pednekar S, Weiss H, Mabey D. Risk factors for common mental disorders in women. Population-based longitudinal study. Br J Psychiatry 2006 Dec;189(6):547-55. DOI:10.1192/bjp.bp.106.022558. PMID:17139040

23. Luni FK, Ansari B, Jawad A, Dawson A, Baig SM. Prevalence of depression and anxiety in a village in Sindh. J Ayub Med Coll Abbottabad 2009 Apr-Jun;21(2):68-72. PMID:20524473