

How to Cite:

Sivakumar, K., & Ramachandran, V. S. (2022). An epidemiological study on common mental disorders among married women in rural puducherry. *International Journal of Health Sciences*, 6(S5), 11078–11090. <https://doi.org/10.53730/ijhs.v6nS5.11335>

An epidemiological study on common mental disorders among married women in rural puducherry

Krithiga Sivakumar

Assistant professor, Dept of Community Medicine, Government Stanley Medical College Chennai

Corresponding author email: Krithigasivakumar@gmail.com

Vishnu Sundar Ramachandran

Assistant Professor, Dept of Plastic & Reconstructive Surgery, Sri Ramachandra Institute of Higher Education and Research

Email: vishnuram35@gmail.com

Abstract---Context/Background: Common Mental Disorders, are non psychotic affective disorders (depressive and anxiety disorders). These disorders predominantly occur in women, is a serious public health problem. Majority of these are either undiagnosed or not satisfactorily treated. In most of the low- and middle-income countries, the idea of primary care for mental health is yet to be understood. Aims/Objectives: We undertook this study to estimate the prevalence of common mental disorders among ever married women in rural Puducherry, and to assess the associated risk factors Methodology: This cross-sectional study included 900 ever- married women in Bahour - a rural Puducherry between March 2015 and May 2016. Subjects were interviewed with semi-structured questionnaire & General health Questionnaire-12 using Bimodal scoring. Chi-square test and multiple logistic regression was done. p value < 0.05 was considered statistically significant. Results: Prevalence of common mental disorders was 11.4%. Age < 20 years, being Widowed/divorced/separated, being Pre obese women/obese, having adverse pregnancy outcome and physical abuse were identified as risk factors. Conclusions: The preliminary estimate prevalence of this disorder which was found to be high. Further research is needed to identify various other factors that influence the mental health of women.

Keywords---common mental disorder, anxiety and depression, women mental health.

Introduction

One in every four people are affected by some mental disorder and about 450 million people worldwide are estimated to be affected. At any given time, 10% of adults are affected and around 25% will develop these disorders at some period in their lifetimes¹ These disorders are the chief cause of non-fatal disease burden contributing to about 183.9 million DALYs lost contributing to 7.4% of total disease burden². This is projected to increase to 15% by 2030³

Goldberg and Huxley coined the term “Common Mental Disorders”, to explain the disorders that are commonly encountered in community and primary health care settings, and whose occurrence signified a breakdown in normal functioning⁴. They are the non psychotic affective disorders (depressive and anxiety disorders) and are classified as separate diagnostic category in the International Statistical Classification of Diseases 10 as “neurotic, stress-related and somatoform disorders”⁵. The concept of CMDs is highly suited in community and primary health care settings due to its high degree of co morbidity among the categories of disorders and the comparable epidemiological profile and treatment responses^{6,7}. Women’s health is not dependent on just biological factors and reproductive factors and is beyond it ,like violence, self inflicted injuries, workload ,stress, migration ,nutrition and gender- based discrimination which directly contribute to the burden of disability caused by poor mental health⁸.

Morbidity caused by mental disorders is enormous and it is still being neglected and unrealized. Though effective treatments are available in primary care setting, majority are either undiagnosed or not satisfactorily treated. In most of the low- and middle-income countries, the idea of primary care for mental health is yet to be understood. Most of these countries do not have even basic primary care infrastructure and services, which undermines the success of integrating mental health issues^{9 10}. Public stigma and discrimination of the mental illness still exists, leading to social obstacles in obtaining and adhering to treatment ,further worsening of the health of affected population^{11 12}.

Population of India is predominantly rural and most of them have access only to primary health care¹³. Various studies in the past had shown that 17-46% of patients attending primary care, suffered from CMD¹⁴ .Considering high prevalence of CMD and paucity of studies in mental health of rural women. we undertook this study to to estimate the prevalence of common mental disorders among ever married women in rural Puducherry and to assess the associated risk factors

Methodology

We carried out a cross-sectional study in Bahour - a rural commune of Puducherry between March 2015 and May 2016, after acquiring Institutional Human Ethics Committee clearance. Ever married women up to the age of 45 in Bahour commune, who had given consent were included in the study. Those women who could not communicate, who were temporarily visiting study area and women with psychosis /cognitive impairments were excluded from the study.

Sample size was calculated by Open Epi⁶. Prevalence of CMD from literature- 10.7%⁷, Approximate target population - 11000, Design effect- 2, 3% absolute precision, 95% confidence interval and considering non response rate of 10%, the sample size calculated was 900. Multistage cluster sampling technique was used for data collection. Bahour commune was selected by simple random technique. 30 clusters were selected from the defined population area considering anganwadis as cluster units. From each cluster, 30 ever married women satisfying the inclusion criteria were randomly selected. Data collection was started from the street in which anganwadi was located and subsequent houses till the end of the street were chosen until required sample size was achieved.

Women were interviewed with semi-structured questionnaire for socio-demographic details, Anthropometric measurements and General health Questionnaire-12⁸. Bimodal scoring (0-0-1-1) and cut off >5 was used. After ensuring voluntary participation, written informed consent in local (Tamil) language from the respondents was obtained. The data was entered and analysed using Microsoft Excel and SPSS 16.0. Results were described in percentage and proportions. Chi-square test was used. p values less than 0.05 were considered statistically significant. Multivariate analysis using multiple logistic regression was done

Results

The demographic distribution of the study participants is represented in table 1. Study was conducted among 875 women who responded, out of the 900 sample size. The mean score of the study participants using GHQ12 questionnaire was 1.65 ± 1.6 . It was found that prevalence of common mental disorders was 11.4%. Significant association with GHQ scores (table 2) were found to the age ($p=0.001$), marital status ($p=0.001$), age at first childbirth ($p=0.002$), adverse pregnancy outcome ($p=0.000$), BMI ($p=0.000$) and physical abuse by husband ($p=0.000$). 40% of women less than 20 years had high GHQ scores and 66.6% of women who were widowed/divorced/separated had high GHQ scores. 26.3 % of women who had child birth when she was less than 20 years had high GHQ scores. 42.3 % of women who had adverse pregnancy outcomes had high GHQ scores. 36.2% of women who were obese had high GHQ scores. 24% of women who had physical abuse had high GHQ scores. There was no statistically significant association between GHQ scores and the other parameters that were studied.

It is observed that women of age less than 20 years ($p=0.009$) were 4.339 times more likely to have high GHQ scores when compared to women who were 40 years or more. Widowed/divorced/separated women were 16.66 times more likely to get higher GHQ scores compared to currently married women. Pre obese women are 4.9 times more likely to get high GHQ scores and obese women were 8.77 times more likely to get high GHQ scores when compared to women with normal BMI. Women with adverse pregnancy outcome are 1.944 times more likely to get high GHQ scores. Women who experienced physical abuse were 2.02 times more likely to have high GHQ scores compared to those women who do not have any such event in the past year. Women with stressful life events have marginal change (1.038) GHQ scores when compared to women with no such events (p value=0.002). (table 3)

Tables:

Table 1 Demographic data of study participants

Variables		Frequency(n)	Percentage (%)
Age	< 19 Yrs	20	2.3
	20 - 24 Yrs	116	13.3
	25 - 29 yrs	200	22.9
	30 - 34 Yrs	231	26.4
	35 - 39 Yrs	165	18.9
	> 39 Yrs	143	16.3
Marital Status	Currently Married	867	99.1
	Separated/widowed	8	0.9
Religion	Hindu	701	80.1
	Muslim	106	12.1
	Christian	68	7.8
Educational status of women	Uneducated	242	27.7
	Primary	121	13.8
	Middle	114	13
	High	136	15.5
	Higher secondary	91	10.4
	Graduate	171	19.5
Occupation of women	Unemployed	449	51.3
	Unskilled	316	36.1
	Semiskilled	9	1
	Skilled	26	3
	Farmer	19	2.2
	Professional	56	6.4
Socio economic status	Upper	47	5.4
	Upper middle	293	33.5
	Middle	403	46.1
	Lower middle	120	13.7
	Lower	12	1.4
Type of Family	Nuclear	711	81.3
	Joint	164	18.7
Age at First child birth	< 19 Yrs	38	4.3
	20 - 24 Yrs	414	47.3
	25 - 29 yrs	364	41.6
	30 - 34 Yrs	14	1.6
No of children	No children	53	6
	One	225	25.7

	Two	541	61.8
	Three	54	6.2
	Four	2	0.2
Physical abuse	Yes	212	24.2
	No	663	75.8
Adverse Pregnancy outcome	Yes	28	3.2
	No	847	96.8
Presence of debt	Yes	90	10.3
	No	785	89.7
Stressful events	Yes	90	10.3
	No	785	89.7
BMI	Underweight	76	8.7
	Normal	500	57.1
	Pre obese	263	30.1
	Obese	36	4.1
Alcoholism in partner	Yes	749	85.6
	No	126	14.4

Table 2 Univariate Analysis of various factors and GHQ scores

NO	VARIABLE	N(%)	GHQ $\geq$ 5	GHQ < 5	P-value
1	Age of Women				
	< 20 Yrs	20 (2.3)	8(40)	12(60)	0.001
	20 - 24 Yrs	116 (13.3)	13(6.7)	103(88.7)	
	25 - 29 yrs	200 (22.9)	24(12)	176(88)	
	30 - 34 Yrs	231 (26.4)	22(9.5)	209(90.5)	
	35 - 39 Yrs	165 (18.9)	22(13.3)	143(86.7)	
	> 39 Yrs	143 (16.3)	11(7.6)	132(92.3)	
2	Marital status				
	Currently Married	867(99.1)	96(11.1)	771(88.9)	0.001
	Separated/widowed	8(60)	4(40)	12(60)	
3	Number of children				
	0	10(22.7)	34(77.3)	44	0.016
	1	31(13.8)	194(86.2)	225	
	2	51(9.4)	490(90.6)	541	
	3	5(9.2)	49(90.8)	54	
	4	1(50)	1(50)	2	
4	BMI				
	Underweight	76(8.7)	10(13.2)	66(86.8)	<0.001

	Normal	500(57)	45(9)	455(91)	
	Preobese	263(30)	32(12.2)	231(87.8)	
	Obese	36(4.1)	13(36.2)	23(63.8)	
5	Alcoholism in partner				
	Present	749 (85.6)	81(10.8)	668(89.2)	0.173
	Absent	126 (14.4)	19(15.1)	107(84.9)	
6	Adverse pregnancy outcome				
	Yes	11(42.3)	15(57.7)	26	<0.001
	No	88(10.4)	759(89.6)	847	
7	Physical abuse				
	Yes		51(24)	161(76)	<0.001
	No	663 (75.8)	49(7.3)	614(92.7)	

Table 3 Multivariate analysis of various factors and GHQ scores

S.no	Variable	B	Exp (b)	P value
1	Age of the women			
	< 20 Yrs	4.339	76.64	0.009
	20 - 24 Yrs	0.382	1.465	0.765
	25 - 29 yrs	0.631	1.88	0.556
	30 - 34 Yrs	0.576	1.778	0.499
	35 - 39 Yrs	1.206	3.342	0.069
	> 39 Yrs	-	1	-
2	Marital status			
	Separated/divorced/widowed	16.66	0.06	0.023
	Currently married	-	1	
3	BMI			
	Underweight	1.706	0.204	0.141
	Preobese	4.9	0.182	<0.001
	Obese	8.77	0.114	0.001
	Normal		1	
4.	Adverse pregnancy outcomes			
	Yes	1.944	6.985	0.002
	No		1	
5	Physical abuse by partner			
	Yes	2.027	7.59	<0.001
	No		1	
6	Stressful life events			
	Yes	1.038	2.554	0.002
	No			

Discussion

Morbidity caused by mental disorders is enormous and it is still being neglected and unrealized. The prevalence rate of common mental disorders varied in various studies conducted in India.^{15 16 17 18} and globally^{19 20 21}. This can be attributed to the study setting, population under study and the questionnaire that was used to screen the disorders.

In our study, the prevalence of Common mental disorders was 11.4% with GHQ 12 questionnaire, using bimodal scoring(0-0-1-1) and taking scores equal to or greater than five as cut off .This result is similar to that of Shidaye(2010) who conducted the study using same tool among married women and found the prevalence to be 10.7%²². Median prevalence rate of CMD in South Asian countries was 10 % ²³and our study is close to this approximation.

In our study, 26.4% of women were between 30-34 years and age of the women was significantly associated with Common mental disorders. Women less than twenty years were at higher risk compared to women who were above forty years, similar to the study by Karim(2006) in Bangladesh using SRQ questionnaire ²⁴ , Leach et al(2014) using Goldberg depression and anxiety scale ²⁵and WHO study using CIDI questionnaire²⁶. This might be due to early marriage, stress in domestic relationships and increased responsibilities. Certain vulnerabilities for young women can be attributed to the methodological factors, age related recall which might contribute to this finding²⁶.

In our study, Majority (99.1%) was currently married and marital factors were significantly associated with Common mental disorders. Divorced, separated and widowed women have more risk of CMD than married women which might be due to the social isolation and stigma, financial difficulties faced by the single women who has to take care of the family²⁷. This is similar to the study by Patel et al in India ^{vi} and Skapinakis(2013) in Greece ²¹.

Almost half of the women in the study (51.3%) were unemployed. We observed that women in rural area are still working within the household. No association between women's occupation and common mental disorders. This is in concordance to study by Patel et al (2012) ⁶and Panigrahi et al (2014)²⁸. However many studies in the past (Patel et al 2006²⁷, Robert el al 2011²⁹ Lang et al 2011³⁰, Faisal et al 2009³¹) found unemployed women and low occupational status to be associated with mental disorders. We believe this variation is due the reason that employment status and expectation is influenced by demographic, reproductive, socio-cultural and religious factors³²

No association with socio economic class and common mental disorders was observed in this study. Panigrahi (2014)²⁸ .But there are various epidemiological studies that have found strong association of socioeconomic factors and common mental disorders.^{6 20 22} .The probable reason for our finding might be attributed to the sample which was predominantly middle class and various factors that like the perception of the person ,influence of environment , state policies and health care which are unrelated and independent of social class might influence the outcome³³. Further research is needed to understand influence of various psycho social factors. Thus it is premature to conclude that socioeconomic factors and CMD are not related.

In our study there was no association with marital duration and common mental disorders ³⁴.Rabbani et al(2000) in Karachi found longer duration of marriage to have a positive association with mental disordersⁱand Gibbs et al(2011) on contrary found increasing marital duration has a protective effect on mental

health of women³⁵. The reason for our finding needs further exploration, by undertaking follow up study.

Nearly half (47.3%) of women in our study had their first child birth when she was 20-24 years and it was significantly associated with common mental disorders in univariate analysis. Patel et al (2006)⁶ in India found no association of age of women at first child birth and mental disorders. On other hand, Faisal et al (2009)³¹ found association. 10.3% of the target population reported to have experienced some stressful event in the past year. There was no statistically significant association with stressful events in past one year and CMD in univariate analysis. But in multivariate analysis, it was found to be significantly associated in presence of all the other factors. Robert et al(2011)²⁹ and Axinn et al(2013)³⁶ found association with stressful events and mental health of women but Lawson et al(2005)¹⁷ found no association between stressful events and mental disorders among women in primary care settings.

In our study the prevalence of physical abuse to women was 24.2%. WHO reported that lifetime prevalence rate was between 16 % to 50%⁷. NFHS 3 reported physical violence among ever married was 37%³⁷. In other studies ,the prevalence varied from 14-30% in India³⁸, 28.3% in Nepal ³⁹and 11 % in New Zealand⁴⁰.We found that physical violence by the partner was significantly associated with common mental disorders. This finding is supported by various studies^{6 22 27 12}. Experiencing violence can lead to hopelessness, low self esteem and insecurity resulting in increased risk of mental disorders²².

In our study 66% of the population reported that her husband and in laws were satisfied with dowry and we found no significant association with common mental disorders. But Shidaye(2011)²² and Kumar(2005)⁴¹ found harassment by in laws due to dowry related issues was strongly associated with mental illness. Our study showed that, dowry is still existent and it has been culturally accepted .The explanation of our finding, could be that the effect of dowry lasts only in the initial years of marriage and predominance of middle aged women in our study sample. In our study 95.4% of women reported to have debt and this was not found to be significantly associated with Common mental disorders. But on the other hand various authors such as Meltzer et al (2013) ,Gong et al(2013) ,Turunen et al (2014), Patel et al (2006) ,Clark et al (2012) and Fitch et al (2007)^{6 42 43 44 45} showed that indebted person had an increased risk of mental disorders. The reason for our result might be due to the high prevalence of debt in community. Also, strong belief over one's competency and ability to cope with the financial strain could reduce the effects of indebtedness¹⁴.

In the present study, 81.3% belonged to nuclear family and the type of family did not have any association with common mental disorder. Panigrahi(2014) had comparable result ²⁸ . But in contradiction, Sethi et al (1980)⁴⁶ and Mumford et al(1997)⁴⁷ found mental illness to be more in nuclear family and Shah et al(1995)⁴⁸ found women in extended family reporting more mental illness. In our study the 61.8% of the women had two children and there was a significant association with the number of children and common mental disorder in univariate analysis but not in multivariate analysis. Shindaye et al(2011) and Patel et al(2012) in India found no association between number of children and risk of mental ^{22 27}. On the

other hand various studies, by Manichandran et al (2002) ,Hackett et al (2007) ,Lawson, et al (2005) and Madhabika et al (2010)^{49 17 16 15} have found association. In our present study it was observed 67.2% of women had normal BMI according to Asian classification and there was significant association between BMI and CMD in both univariate and multivariate analysis. This is supported by studies by Shidaye et al(2011), Subramaniyam et al (2013) and Maguen et al (2013) who found similar results ^{22 50 51}. However studies by Atlantis(2008) et al and Patel et al(2012) found no such association between BMI and common mental disorders ^{27 52}. Common mental disorders can be a cause and a consequence of obesity and a number of plausible mechanisms may underlie these bidirectional associations⁵³.

In our study 85.6% of the partners were everdrinkers .There was no association with partners personal habits and CMD.This is similar to finding from studies by Patel et al(2011) and Lawson et al(2005) ^{6 17}. On the other hand various studies have found association with partner's personal habits and mental health outcome. It was observed that partners alcohol misuse was associated with poor mental health among married women in studies by Madhabika et al ¹⁵ (2010) and Panigrahi et al(2014) ²⁷. This finding might be due to high prevalence of alcoholism in Puducherry⁵⁴ and the fact that, people are exposed to this right in early age in their families and influence of peers which might have nullified the association. In Puducherry, alcoholism has become culturally acceptable and women might have become resilient.

The main strength of the study was that large number of women was assessed and various factors were identified using a validated questionnaire. The response rate among the study population was good. The study method was cross sectional so exploration of various factors was not possible. Study was conducted in only one rural commune So, our findings cannot be generalized to unmarried and women in urban area. Inclusion of all of them would have made comparison possible. Quality of life of women was not assessed and partners alcohol pattern and duration was not assessed which would have modified the outcome. Disclosure related bias about physical violence and personal habits might have lead to underestimation of physical violence. GHQ measures only current mental health status and identifies distress but is not a measure of specific disorder hence classifying the disorders was not possible. Better scale could have been preferred to classifying disorders into various ICD categories.

Conclusion

We identified the magnitude of common mental disorders and various risk factors of CMD in rural area in Puducherry. Factors like younger Age, certain marital factors, BMI, adverse pregnancy outcome and physical abuse were identified as risk factors. This study can be considered as an adequate preliminary evaluation of the real prevalence of common mental disorders among married females in a rural setting.

Recommendations

There is a need to detect the disorders at the earliest and assess various contributing factors associated with it for designing appropriate intervention.

Identifying CMD should be done at the earliest at primary care settings. There is a urgent need to train all health workers to identify this illness at grass root level and introduction of coping up strategies for affected women should be encouraged. Periodic screening of the affected women and appropriate treatment should be given to prevent the progress and consequences of these disorders. Further research should be undertaken to identify various factors that influence the mental health of women and also the inter relationship between the factors.

References

1. Atlantis E, Baker M. Obesity effects on depression: systematic review of epidemiological studies. *Int J Obes* 2005. 2008 Jun;32(6):881–91.
2. Atteraya MS, Gnawali S, Song IH. Factors Associated With Intimate Partner Violence Against Married Women in Nepal. *J Interpers Violence*. 2014 Jul 20;
3. Axinn WG, Ghimire DJ, Williams NE, Scott KM. Gender, Traumatic Events, and Mental Health Disorders in a Rural Asian Setting. *J Health Soc Behav*. 2013 Dec 1;54(4):444–61.
4. Ayuanda, L. N., Wahidin, W., Raidanti, D., Minarti, M., & Ningsih, D. A. (2022). Online midwife's training on psychoeducation of perinatal mental health during COVID-19 Pandemic. *International Journal of Social Sciences and Humanities*, 6(1), 85–97. <https://doi.org/10.53730/ijssh.v6n1.4741>
5. Chandran M, Tharyan P, Muliylil J, Abraham S. Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India. Incidence and risk factors. *Br J Psychiatry J Ment Sci*. 2002 Dec;181:499–504.
6. Clark C, Pike C, McManus S, Harris J, Bebbington P, Brugha T, et al. The contribution of work and non-work stressors to common mental disorders in the 2007 Adult Psychiatric Morbidity Survey. *Psychol Med*. 2012 Apr;42(4):829–42.
7. Corrigan PW, Watson AC. At Issue: Stop the Stigma: Call Mental Illness a Brain Disease. *Schizophr Bull*. 2004;30(3):477–9.
8. Cross-national comparisons of the prevalences and correlates of mental disorders. WHO International Consortium in Psychiatric Epidemiology. *Bull World Health Organ*. 2000;78(4):413–26.
9. Dalal K, Lindqvist K. A national study of the prevalence and correlates of domestic violence among women in India. *Asia-Pac J Public Health Asia-Pac Acad Consort Public Health*. 2012 Mar;24(2):265–77.
10. Disability rights commission. Equal treatment: closing the gap—A formal investigation into physical health inequalities experienced by people with learning disabilities and/or mental health problems. Equal Treatment investigation publications; 2006.
11. Faisal-Cury A, Menezes P, Araya R, Zugaib M. Common mental disorders during pregnancy: prevalence and associated factors among low-income women in São Paulo, Brazil: depression and anxiety during pregnancy. *Arch WomensMent Health*. 2009 Oct;12(5):335–43
12. Fitch C, Simpson A, Collard S, Teasdale M. Mental health and debt: challenges for knowledge, practice and identity. *J PsychiatrMent Health Nurs*. 2007 Apr;14(2):128–33.
13. Gibb SJ, Fergusson DM, Horwood LJ. Relationship duration and mental health outcomes: findings from a 30-year longitudinal study. *Br J Psychiatry J Ment Sci*. 2011 Jan;198(1):24–30.

14. Goldberg D. A bio-social model for common mental disorders. *Acta Psychiatr Scand Suppl.* 1994;385:66–70.
15. Government of India. Provisional Population Totals, 2011 [Internet]. Office of the Registrar General and Census Commissioner; India; 2012. Available from: <http://www.censusindia.gov.in>
16. Hackett RJ, Sagdeo D, Creed FH. The physical and social associations of common mental disorder in a tribal population in South India. *Soc Psychiatry Psychiatr Epidemiol.* 2007 Sep;42(9):712–5.
17. International Institute for population sciences, Mumbai. National Family Health Survey NFHS-3 India 2005-2006 [Internet]. Mumbai, India: Ministry of Family and Welfare; Available from: www.nfhsindia.org/nfhs3.html
18. Karim, Alam, Rahman, Hussian, Uddin, Firoz. Prevalence of Mental illness in the Community. TAJ [Internet]. 2006;19(1). <http://www.banglajol.info/index.php/TAJ/article/view/3163>
19. Kessler RC, Üstün TB. The World Mental Health (WMH) Survey Initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *Int J Methods Psychiatr Res.* 2004 Jun 1;13(2):93–121.
20. Kivimäki M, Batty GD, Singh-Manoux A, Nabi H, Sabia S, Tabak AG, et al. Association between common mental disorder and obesity over the adult life course. *Br J Psychiatry J Ment Sci.* 2009 Aug;195(2):149–55.
21. Kumar S, Jeyaseelan L, Suresh S, Ahuja RC. Domestic violence and its mental health correlates in Indian women. *Br J Psychiatry J Ment Sci.* 2005 Jul;187:62–7.
22. Lang IA, Llewellyn DJ, Hubbard RE, Langa KM, Melzer D. Income and the midlife peak in common mental disorder prevalence. *Psychol Med.* 2011 Jul;41(7):1365–72.
23. Lawson E, Craig T, Bhugra D. Psychological symptoms in women in a primary care setting in Tamil Nadu. *Indian J Psychiatry.* 2005;47(4):229–32.
24. Leach LS. Gender differences in depression and anxiety across the adult lifespan. 2010 Dec 20 [cited 2014 Aug 5]; Available from: <https://digitalcollections.anu.edu.au/handle/1885/49398>
25. Maguen S, Madden E, Cohen B, Bertenthal D, Neylan T, Talbot L, et al. The Relationship between Body Mass Index and Mental Health Among Iraq and Afghanistan Veterans. *J Gen Intern Med.* 2013 Jul;28(Suppl 2):563–70.
26. Mathers CD, Loncar D. Projections of Global Mortality and Burden of Disease from 2002 to 2030. *PLoS Med.* 2006 Nov 28;3(11):e442.
27. McManus, Brugha, Bebbington, Jenkins. Adult Psychiatric Morbidity in England, 2007: results of a household survey. London: National Centre for Social Research; 2009.
28. Meltzer H, Bebbington P, Brugha T, Farrell M, Jenkins R. The relationship between personal debt and specific common mental disorders. *Eur J Public Health.* 2013 Feb;23(1):108–13.
29. Muhammed, Z. B., Hassan, A. M. A. R., & Mohsen, . I. H. (2022). Food awareness among diarrheal children mothers. *International Journal of Health Sciences*, 6(S1), 10860–10870. <https://doi.org/10.53730/ijhs.v6nS1.7608>
30. Mumford DB, Saeed K, Ahmad I, Latif S, Mubbashar MH. Stress and psychiatric disorder in rural Punjab. A community survey. *Br J Psychiatry J Ment Sci.* 1997 May;170:473–8.

31. Nambi SK, Prasad J, Singh D, Abraham V, Kuruvilla A, Jacob KS. Explanatory models and common mental disorders among patients with unexplained somatic symptoms attending a primary care facility in Tamil Nadu. *Natl Med J India*. 2002 Dec;15(6):331–5.
32. Nayak MB, Patel V, Bond JC, Greenfield TK. Partner alcohol use, violence and women's mental health: population-based survey in India. *Br J Psychiatry J Ment Sci*. 2010 Mar;196(3):192–9.
33. Panigrahi A, Padhy AP, Panigrahi M. Mental health status among married working women residing in Bhubaneswar city, India: a psychosocial survey. *BioMed Res Int*. 2014;2014:979827.
34. Patel V, Kirkwood BR, Pednekar S, Pereira B, Barros P, Fernandes J, et al. Gender disadvantage and reproductive health risk factors for common mental disorders in women: a community survey in India. *Arch Gen Psychiatry*. 2006 Apr;63(4):404–13.
35. Paterson J, Feehan M, Butler S, Williams M, Cowley-Malcolm ET. Intimate partner violence within a cohort of Pacific mothers living in New Zealand. *J Interpers Violence*. 2007 Jun;22(6):698–721.
36. Pilling S, Whittington C, Taylor C, Kendrick T, Guideline Development Group. Identification and care pathways for common mental health disorders: summary of NICE guidance. *BMJ*. 2011;342:d2868.
37. Pothan M, Kuruvilla A, Philip K, Joseph A, Jacob KS. Common mental disorders among primary care attenders in Vellore, South India: nature, prevalence and risk factors. *Int J Soc Psychiatry*. 2003 Jun;49(2):119–25.
38. Premarajan KC, Danabalan M, Chandrasekar R, Srinivasa DK. Prevalence of psychiatry morbidity in an urban community of pondicherry. *Indian J Psychiatry*. 1993 Apr;35(2):99–102.
39. Rabbani F, Raja FF. The minds of mothers: maternal mental health in an urban squatter settlement of Karachi. *JPMA J Pak Med Assoc*. 2000 Sep;50(9):306–12.
40. Roberts B, Browne J. A systematic review of factors influencing the psychological health of conflict-affected populations in low- and middle-income countries. *Glob Public Health*. 2011;6(8):814–29.
41. Sethi BB, Sharma M. DEPRESSIVE DISORDERS AND FAMILY CONSTELLATION. *Indian J Psychiatry*. 1980;22(1):69–73.
42. Shah Q, Sonuga-Barke E. Family structure and the mental health of Pakistani Muslim mothers and their children living in Britain. *Br J Clin Psychol Br Psychol Soc*. 1995 Feb;34 (Pt 1):79–81.
43. Shidhaye R, Patel V. Association of socio-economic, gender and health factors with common mental disorders in women: a population-based study of 5703 married rural women in India. *Int J Epidemiol*. 2010 Dec;39(6):1510–21.
44. Skapinakis P, Bellos S, Koupidis S, Grammatikopoulos I, Theodorakis PN, Mavreas V. Prevalence and sociodemographic associations of common mental disorders in a nationally representative sample of the general population of Greece. *BMC Psychiatry*. 2013;13:163.
45. Srivastava K. Women and mental health: Psychosocial perspective. *Ind Psychiatry J*. 2012;21(1):1–3.
46. Sturm R, Gresenz CR. Relations of income inequality and family income to chronic medical conditions and mental health disorders: national survey. *BMJ*. 2002 Jan 5;324(7328):20–3.

47. Subramaniam M, Picco L, He V, Vaingankar JA, Abidin E, Verma S, et al. Body mass index and risk of mental disorders in the general population: Results from the Singapore Mental Health Study. *J Psychosom Res.* 2013 Feb;74(2):135–41.
 48. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Get vaccinated when it is your turn and follow the local guidelines. *International Journal of Health Sciences*, 5(3), x-xv. <https://doi.org/10.53730/ijhs.v5n3.2938>
 49. Turunen E, Hiilamo H. Health effects of indebtedness: a systematic review. *BMC Public Health.* 2014;14:489.
 50. Vikram Patel, Betty Kirkwood. Why women suffer common mental disorder. *Br J Psychiatry.* 2006;189(06):1–9.
 51. Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, 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.
 52. WHO | Gender and women's mental health [Internet]. WHO. [cited 2014 Aug 2]. Available from: http://www.who.int/mental_health/prevention/genderwomen/en/
 53. WHO | International Classification of Diseases (ICD) [Internet]. WHO. [cited 2014 Sep 12]. Available from: <http://www.who.int/classifications/icd/en/>
 54. WHO | Mental health action plan 2013 - 2020 [Internet]. WHO. [cited 2014 Sep 8]. Available from: http://www.who.int/mental_health/publications/action_plan/en/
 55. WHO | People with mental disabilities cannot be forgotten [Internet]. WHO. [cited 2014 Sep 7] http://www.who.int/mediacentre/news/releases/2010/mental_disabilities_20100916/en/
 56. WHO | The world health report 2001 - Mental Health: New Understanding, New Hope [Internet]. WHO. [cited 2014 Aug 6]. Available from: <http://www.who.int/whr/2001/en/>
 57. Women, work, and employment outcomes in rural India [Internet]. e FAO-IFAD-ILO Workshop on Gaps, trends and current research in gender dimensions of agricultural and rural employment: differentiated pathways out of poverty; 2009; Rome. Available from: http://www.fao-ilo.org/fileadmin/user_upload/fao_ilo/pdf/Papers/17_March/Srivastava_Final.pdf
-