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ORIGINAL ARTICLE

SOCIO-ECONOMIC FACTORS FOR DEPRESSION IN WOMEN OF NORTHERN PAKISTAN: A CASE-CONTROL STUDY

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ABSTRACT

OBJECTIVE: To find out the association between socio-economic factors with depression in women of Gilgit Baltistan (GB), Pakistan.

METHODS: This case-control study was conducted at various psychiatric facilities located in three districts of GB. Out of 450 participants, recruited through convenient sampling technique, 300 were depressed women according to DSM-5 criterion of depression, while 150 were well-matched controls from the same population. Logistic regression was applied to find out the association of socio-economic factors with depression.

RESULTS: Mean age of the participants was 36±11.2 years. About 40.7% (n=122/300) of cases and 16% (n=24/150) of controls were un-educated. Majority of cases (n=222/300: 74%) and controls (n=94/150; 62.7%) were married. About 66.7% (n=200/300) of cases and 48% (n=72/200) of controls were housewives. Odds of depression were 0.334 (95% CI: 0.132-0.848), 0.524 (95% CI: 0.186-1.475), 0.17 (95% CI: 0.045-0.637), & 0.38 (95% CI: 0.127-1.158) for women having primary, secondary, higher-secondary or graduation-level education respectively. Emotional abuse (odds=34.92, 95% CI: 6.281-194.190), lack of economic independence (freedom to spend) [odds=6.39; 95% CI: 1.535-26.630] and do not own land (odds=3.40; 95% CI: 1.126-10.307) were significantly associated with depression. Families with household income >20,000 rupees/month (odds=0.22; 95% CI: 0.051-0.961) and cordial relationships with in-laws (odds=0.55; 95% CI: 0.241-1.262) were less likely to be depressed.

CONCLUSION: The study showed significant association of low level of education, emotional abuse, and lack freedom of spending with depression in women of northern Pakistan. The study underscores that socio-economic factors need to be considered in the management of depression among women.

KEY WORDS: Mental Health (MeSH); Depression (MeSH); Social Class (MeSH); Domestic Violence (MeSH); Self-Injurious Behavior (MeSH).

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INTRODUCTION

Depression is a major contributor to the global burden of disease; projected to be the second leading cause of disability by 2020. The prevalence is higher in low- and middle-income countries (LAMICs) than developed world, where socio-economic factors conflate to complicate the issue further.[1] Of particular concern is the prevalence of depression among women which is double as compared to men with additional burden of antenatal and post natal depression.[2] Pakistan is a country having lower-middle income economy with 207 million population, making it sixth populous country in the world and abysmal health system. Annual health budget is less than 3% of the GDP without a dedicated mental health share.[3]

Despite a dearth of mental health statistics, however, the available literature is pointing towards alarming figures of depression in women, particularly in rural areas of Pakistan with the prevalence of common mental disorders as high as 46%.[3] Similarly, an epidemiological report published in 2013 indicated that women in Pakistan had lost 1.2 million disability adjusted life years to depression, which is three times more than men.[4]

Women have particular vulnerability to depression in reproductive periods pointing to the hormonal fluctuation may be a defining factor for depression in women with variability in prevalence from puberty to premenstrual phase and postpartum period.[5] However, the socio-economic factors, for instance poverty, physical, emotional abuse and domestic violence have established role as causative factors for higher rates of depression in women which is not uncommon in Pakistan.[6,7]

There are very few published studies looking at women mental health in Gilgit Baltistan (GB), a remote northern part of Pakistan. A recently published study in a hospital setting underscored the importance of socio-economic factors and their association with depression in women. The author(s) reported that domestic violence, economic difficulties and discordant relationship with in-laws have strong association with depression.[8]

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY PARTICIPANTS

Variables		Cases [n=300(%)]	Control [n=150(%)]
Age (years)	<20	20 (6.7%)	28 (18.7%)
	20-29	68 (22.7%)	35 (23.3%)
	30-39	77 (25.7%)	40 (26.7%)
	40-49	93 (31.0%)	32 (21.3%)
	50-59	27 (9.0%)	12 (8.0%)
	≥60	15 (5.0%)	03 (2.0%)
Education Level	Not Educated	122 (40.7%)	24 (16.0%)
	Primary	51 (17.0%)	24 (16.0%)
	Secondary	52 (17.3%)	24 (16.0%)
	Higher	23 (7.7%)	35 (23.3%)
	Graduate	37 (12.3%)	32 (21.3%)
	Masters	15 (5.0%)	11 (7.3%)
Marital Status	Single	47 (15.6%)	52 (34.7%)
	Married	222 (74.0%)	94 (62.7%)
	Divorced	5 (1.7%)	2 (1.3%)
	Widow	26 (8.7%)	2 (1.3%)
Household Income (PKR)	< 10,000	70 (23.3%)	8 (5.3%)
	10,000 – 20,000	65 (21.7%)	35 (23.3%)
	> 20,000	165 (55.0%)	107 (71.3%)
Employment Status	Housewife	200 (66.7%)	72 (48.0%)
	Employed	55 (18.3%)	30 (20.0%)
	Unemployed	8 (2.7%)	1 (0.7%)
	Students	28 (9.3%)	44 (29.3%)
	Any Other	9 (3.0%)	3 (2.0%)

PKR (Pakistani Rupee)

This is first of its kind community based study to find out the association of depression with socio-economic factors among women in GB, Pakistan. The study will be an addition to the existing body of knowledge to fill the gap for socio-economic aetiology of depression among women in a rural setting.

METHODS

The study followed a case-control design. The data was collected in psychiatric facilities of Civil Hospital Gilgit Baltistan, Combined Military Hospital (CMH) and four Community Centres (Aga Khan Health Centres) located in three districts of Gilgit Baltistan (GB). The sample size was calculated, using the WHO calculator to be 450 with 95% confidence interval, 5% margin of error and proportion of exposure in controls (P1=0.15).[9] Out of 450 sample size, 300 were depressed women, 100 from each selected Districts (Gilgit, Ghizar & Hunza) while 150 were well matched controls based on socio-demographic characteristics, 50 each from the study sites. The study population was part of a lager research using the data in a Mixed Method Research (MMR) of a doctoral thesis.[10]

Convenient sampling technique was used to collect the data administering a self-designed 49 items pilot tested, structured questionnaire to capture the socio-economic factors among women.

The questionnaire was in Urdu language, designed after thorough literature search and focus group discussion. The items of the questionnaire were divided in to demographic details and cluster of questions exploring the socio-economic factors. A two-staged strategy was used to diagnose depression in women. In the first stage Self Reporting Questionnaire, a screening instrument was used to identify the cases; those who scored above the cut off for psychological morbidity.[11] In second stage, the women who scored above the cut off on SRQ for psychological morbidity, were interviewed for definitive diagnosis of depression based on Diagnostic and Statistical Manual.[12]

The study was approved by ethics committee of CMH Gilgit. Those women who didn't fulfil the criteria for depression were excluded.

Descriptive statistics were used to calculate the frequencies and percentages of socio-economic variables, while logistic regression was applied to find out the association between independent (socio-economic factors) variables and depression.

RESULTS

Out of total study population, 300 were cases (depressed women), while 150 were controls. Maximum respondents (27.8%) were in the age group of 40-49 years. Mean age of the study participants was 35.3±11.61 years. Majority (67%) women were educated while around 40.7% (n=122/300) of "cases" and 16% (n=24/150) of "controls" were un-educated. Majority of cases (n=222/300: 74%) and controls (n=94/150; 62.7%) were married. About 66.7% (n=200/300) of cases and 48% (n=72/200) of controls were housewives (Table I).

Every year with increase in the duration of marriage, the odds of having associated depression decreases by 4% only. Women had a decrease of 6% times in the odds of having depression with every year increase in the age at the time of marriage but this was statistically insignificant (p = 0.29) as shown in Table II.

Table II presents logistic regression to find out the association between independent (socio-economic factors) variables and depression. Odds of depression were 0.334 (95% CI: 0.132-0.848), 0.524 (95% CI: 0.186-1.475) and 0.17 (95% CI: 0.045-0.637) for women having primary, secondary and higher secondary respectively. In regression analysis highest odd ratio was recorded for emotional abuse

(34.924). Emotional abuse (odds=34.92, 95% CI: 6.281-194.190), lack of economic independence (freedom to spend) [odds=6.39; 95% CI: 1.535-26.630] and do not own land (odds=3.40; 95% CI: 1.126-10.307) were significantly associated with depression. Families with household income >20,000 rupees/month (odds=0.22; 95% CI: 0.051-0.961) and cordial relationships with in-laws (odds=0.55; 95% CI: 0.241-1.262) were less likely to be depressed.

DISCUSSION

This study illustrate the importance of socioeconomic and demographic factors determining the psychological well-being of depression in women, underpinning the importance of socioeconomic status in the aetiology of depression in northern part of Pakistan.

We also found a significant relationship between age and depression where an increase in age was associated with an increased likelihood of depression. This is in line with previous research which stipulates age and lack of education as independent risk factors associated with depression.[12,13] Although these findings demonstrate some etiological validity, many researchers have pointed to the inconsistent relationship between age and depression. A closer observation of these discrepancies can be reported meaningfully with respect to non-linear associations. With careful adjustment of various confounding factors, a non-linear association between age and physical symptoms of depression can be found. Moreover, this association is found to be in conformity with sex difference related to the age curve.[14] Furthermore, analysis of the sample has shown that education is a protective factor for depression which lends support to similar findings reported previously, that education is a protective factor against mental disorders such as depression and anxiety in developing countries. It has been suggested that education provides the individual with effective coping mechanisms against social stressors and empower an individual to better deal with other important factors like malnutrition, poor housing, intellectual sub normality and neglected self-care. Similarly, the social consequences of illiteracy are quite obvious with a lack of opportunity, inability to improve their situation and thereby significantly less chance of employment.[15] Although the Pakistani constitution mandates free and compulsory education for all, the literacy rate in Pakistan is dismal suggesting a lack of fulfilment of legal responsibility. With the enactment of the Dakar Declaration Education for All (EFA) in 2015 Pakistan was further bound to maintain a strong commitment to free education however it is still lagging behind considerably, necessitating a call for an educational emergency.[17] Pakistan is one of the few countries with deficient developmental indicators like essential education. Given the fact that substantial research has supported education as a protective factor against depression it is no surprise that Pakistan has staggering statistics for women mental health with low level of education as compared to men, lacking social privileges with exposure to 'male dominant' mind-set and 'acceptable' abusive behaviours.[18] A recent survey by the human rights watch showed that almost 90% of women in Pakistan experience one or another form of domestic violence. Additionally, almost 600 cases of violence reported each year, in which half of the victims lose their life (Human Rights Commission of Pakistan).[19]

Our study/ results demonstrate association between depression and domestic violence, which confirms the findings of a similar study conducted in Lahore Pakistan, in which nearly two-thirds of depressed women reported battering and verbal abuse.[18] Furthermore, a report indicate that domestic violence has strong association with mental well-being and depression in women while at the same time depressed women are more likely to be abused, thereby compounding the risk factors.[19] Similarly, it has been shown that family conflicts and domestic violence could be an important triggering factor for suicidal behaviour in depressed women.[20]

Our research added to the previous literature on protective factors in depression. We found that cordial relationship with in-laws is a significant protective factor against depression, which confirms that supportive spousal relationship as both a protective and a resiliency factor against all psychological disorders including depression for both husbands and wives.[21] Our finding are also in conformity with a study conducted in Karachi, Pakistan demonstrating that spousal relationship is important determinant for depression among women across all the social

TABLE 11: ASSOCIATION OF SOCIO-ECONOMIC FACTORS AND DEPRESSION

Variable		B	p value	CR	95% CI	
					Lower	Upper
Education Level	Primary	-1.096	0.021	0.334	0.132	0.848
	Secondary	-0.647	0.221	0.524	0.186	1.475
	Higher Secondary	-1.772	0.009	0.170	0.045	0.637
	Graduation	-0.958	0.089	0.384	0.127	1.158
	Masters	-0.578	0.460	0.561	0.121	2.601
History of deliberate self-harm in family		1.276	0.120	3.584	0.717	17.921
Age at the time of marriage		-0.052	0.29	.949	.862	1.045
Years of marriage		-0.036	0.063	0.965	0.929	1.002
Cordial relations in-laws		-0.591	0.159	0.552	0.241	1.262
Non-cordial relations in-laws		-21.98	1.00	0	0	0
Domestic violence		-2.469	0.023	0.085	0.010	0.714
Emotional abuse		3.553	0.000	34.924	6.281	194.190
Income more than Rs. 20,000		-1.513	0.044	0.220	0.051	0.961
Lack of Freedom of spending		1.855	0.011	6.393	1.535	26.630
Own Land ownership		0.962	0.083	2.617	0.881	7.771
Do not own land		1.226	0.030	3.407	1.126	10.307

classes.[22]

Another important finding of this study is the association of poverty with depression among the studied population, which is in conformity with similar findings demonstrated by similar researches highlighting the role of poverty, lack of confiding relationships and financial difficulties as risk factors for depression in Pakistan.[23] Poverty has a multi-dimensional causative effect on human psychological health which may result in making the individual vulnerable to stressors and less capable to deal effectively with daily life problems.

Despite limitations that the study can't be generalized to whole Pakistan due to the geographical limits to northern part of the country and recruitment of less number of controls due to constrain of resources, the study set out to generate discussion about the association of socio-economic factors with depression in women of Gilgit Baltistan, in northern Pakistan.

CONCLUSION

The study showed significant association of socio-economic factors including income, low level of education, emotional abuse, duration of marriage and age at the time marriage and lack freedom of spending with depression in women of northern Pakistan. Similarly, the domestic violence was found in the majority of the study population which may contribute directly to depression in women. The study highlights the importance of socio-economic status as an etiological factor of depression in women.

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AUTHORS' CONTRIBUTIONS

Following authors have made substantial contributions to the manuscript as under:

SB: Conception, acquisition, analysis and interpretation of data, drafting the manuscript, approval of the final version to be published

NM & AWY: Study design, drafting the manuscript, critical review, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest

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The data that support the findings of this study are available from the corresponding author upon reasonable request

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