A Review Article

Prevalence and Aetiological Aspects of Women Mental Health: Global View

*Jahan NA[1], Mullick MSI[2], Hoque MS[3], Mamun AA[4], Hasan MK[5], Alam MF [6]

Summary

Key international authorities and literature review suggest that women are disproportionately affected by various psychiatric disorders including depression; anxiety and eating disorders which usually go unrecognized and untreated. A large number of studies and literatures were identified. Of them fifty four articles showing aetiological aspects and evidences of increased rates of psychiatric disorders among women are illustrated here. The major findings include- 1) Prevalence of psychiatric disorders among general adult population-1-month prevalence was 6.0% to as high as 51.7%, 1-year prevalence 8.2% to 18.6% and life time prevalence 21%. Depressive disorder was found to be 2.1% to 2.7%, schizophrenia 0.4% to 1% and neurotic disorder 6.48% to 16%. .Life time prevalence of anxiety disorder was found to be 15.8%, mood disorder 9.8%, substance use disorder 13.4% and any disorder 30.3%. Worldwide Surveys have confirmed the predominance of females over males with regard to major depression, neurosis, eating disorders, chronic fatigue syndrome, post traumatic stress disorder (PTSD), affective and organic psychiatric disorders. Psychiatric prevalence was 36.9% in men and 42.2% to 62% in females. Depressive disorders in women were found to be 12.0% to 51% and in men were 6.6% to 45.98%. Neurosis was found 8.5% in men and 21.4% women. Life time prevalence of anxiety disorder was 30.5% in women 19.2% in men. 1-month prevalence of PTSD was 2.7% and 1.2% and life time prevalence 10-12% and 5-6% for women and men respectively. Women were three times as likely to see the doctor for headache symptom. There was an increase in the incidence of anorexia in females since 1950. Differential hormonal effects, environmental disadvantages, bearing more the negative effects of economic re-structuring, educational level, perceived stress, job satisfaction, severe stressful life events, domestic violence, abuse in childhood, and major long term difficulties were the factors found related to high prevalence among women. All hospital and community based surveys conducted on adult people in Bangladesh showed the higher prevalence of psychiatric disorders among females than in male. Health service utilization of women in Bangladesh is less than that of men. Review of findings indicate assertions that efforts should increase to prevent, recognize and treat mental disorders in women.

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*1. Nilufer Akhter Jahan, Associate Professor of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka e-mail:nilufer_aj@hotmail.com mobile no. 01715-179824 **2.** Prof. Mohammad SI Mullick, Chairman, Professor and Head of the Child and Adolescent Psychiatry Wing, Department of Psychiatry, BSMMU, Dhaka **3.** Md. Shadiqul Hoque, Internal Medicine specialist **4.** Abdullah Al Mamun, Associate Professor (cc), Department of Psychiatry, Dhaka Medical College and Hospital, Dhaka **5.** M. Kumrul Hasan, Lieutenant Colonel, Combined Military Hospital, Comilla **6.** Faruq Alam, Associate Professor of Child Adolescent and Family Psychiatry, National Institute of Mental Health, Dhaka.

**** For Correspondence***

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Introduction

The mental health status of women in the developing world is pathetically different from that in the developed countries. Estimates of psychiatric disorders among females are more or less similar in different developed countries. The limited evidence suggests that rates of psychotic disorders in developing countries are similar to those in developed ones but rates of non-psychotic disorders differ from that of in developed countries[1].

In this article, prevalence of psychiatric disorders among general adult population, gender differences in prevalence and etiological aspects of high prevalence among women have been discussed. Availability of services for this female population in our country, though limited, has also been mentioned in this article.

Methods

Study documents were identified through searching databases and reference lists. From among large number of studies and literatures forty one articles showing aetiological aspects and evidences of increased rates of psychiatric disorders among women were critically reviewed here.

Prevalence of Psychiatric Disorders among General Adult Population

Study of 1-year prevalence in a community sample of Ontarians 15-64 years of age presented 14 psychiatric disorders among them. Data were collected on 9953 respondents using the University of Michigan revision of CIDI. Almost one in five Ontarians (18.6%) was suffering from at least one psychiatric disorder based on DSM-III-R criteria [3]. In Italy, 1-month prevalence of psychiatric disorders was found to be 7.3% (95% CI 4.4-11.6) in 1993 and 6.0% (95% CI 3.5-9.5) in 2000. 1-year prevalence was 8.2% and life time prevalence was 21%[4].

A survey was performed to identify the life time and 6-month prevalence of several psychiatric disorders in Puerto Rico. Selected schedule of Spanish translation of DIS was used on stratified probability sample of population. Prevalence of specific psychiatric disorders was same in US community as in ECA program[6].

ECA study in the USA, reported depressive disorder to be 2.7%, schizophrenia 1% and neurotic disorder 9.8%[5]. In the UK, schizophrenia, depressive disorder and neurotic disorder were found to be 0.4%, 2.1%, and 16% respectively[7].

Prevalence of psychiatric disorders was measured in South Africa during 2002-2004 in a house-hold survey on 4351 adult using WHO–CIDI to generate diagnosis. Life time prevalence of anxiety disorder was found to be 15.8%, mood disorder 9.8%, substance use disorder 13.4% and any disorder 30.3%[8]. Prevalence study in an industrial population in India showed 1-month prevalence to be 51.7%. Co-morbidity was found to be 65%[9].

Gender differences in prevalence of psychiatric disorders

Gender differences in prevalence of psychiatric disorders show evidences that women suffer more from and are at higher risk of developing psychiatric disorders than men.

Women experience higher levels of psychiatric morbidity than men in all the countries of the world but the gap appear greatest in poorer countries[10]. Studies in Asian and Arab countries showed higher rates of psychiatric disorders among women. The distribution of individual disorder was found to vary by sex and age10. In a study on sex differences in minor psychiatric disorders in Taiwan, it was evident that there was a female excess and mean duration of minor psychiatric morbidity was long in women. Incidence ratio was close to unity between sexes[11].

A screening study for psychiatric disorder in adult population showed 36.9% prevalence in men and 42.2% in females[12]. On the other hand study in South American country like Chilli showed prevalence of psychiatric disorders among men and women to be 27% and 62% respectively[13]. Prevalence study of Schizophrenia in China showed life time prevalence of 0.44% in men and 0.55% in women[14]. In national health interview survey on Polish population, high prevalence of neurosis was found among women and it was 8.5% in men and 21.4% in women[15].

National co-morbidity study of the USA reported that women (30.5% life time prevalence) were more likely to have an anxiety disorder than were men (19.2% life time prevalence). In case of panic disorder women were two to three times more likely to be affected than were men16. In Italian town, overall prevalence of psychiatric disorders was higher in women (Odds Ratio-1.5 95% CI 0.5-4.5). Most common disorders were anxiety and depressive disorder and these disorders were more common among women and unmarried[4].

Surveys in rural Pakistan yielded higher rates of common mental disorders especially among women. Study in urban Rawalpindi showed that 10% men and 25% women suffered from anxiety and depressive disorders10. In a population based study in metropolitan area of Casablanca, Morocco, data on prevalence of anxiety disorders showed that women suffered more from anxiety disorders than men and young women were at higher risk for anxiety disorders[17].

Prevalence of psychiatric disorders across Latino subgroups in the USA studied prevalence among Latinos residing in the USA. Life time prevalence of psychiatric disorder was 28.1% for men and 30.2% for women [18].

Majority of community based studies and studies of treatment seekers indicated that women were disproportionately affected by depression. An almost universal finding independent of country or culture in the epidemiology of major depression is that the ratio of women to men is 2:1. In the USA, depressive disorders in women were found to be 12.0% and in men were 6.6%. Worldwide major depression is the leading cause of disease burden among females[19]. A prevalence study of depression was done among households in three capital cities of Pakistan. Prevalence of depression was 45.98% overall and 51% in females[20].

Gender difference study in schizophrenia in three cultures enumerated such results as (1) age of onset-five European centers confirmed the fact of earlier onset in male

but in Khartoum, Ankara earlier onset was seen in female (2) gender difference in symptoms was found in Balkan centers of Sofia and Zagreb– delusion was more in women and depressive symptoms was more in men. In Western Europe, non-specific symptoms like irritability, tiredness were more in women[21].

Meta analysis of 13 epidemiological studies showed that different regions of India had 64.8/1000 of neurosis. Affective and organic psychiatric disorders were more in women than in men. Survey in Nepal showed more women to suffer than men. The ratio was 2.8:1 in health post and 1.1:1 in district hospital. Country profile of Bangladesh showed psychiatric problems to be in the ratio of women: men 2:1[22].

Women were three times as likely to see the doctor about the headache symptom compared to men. Pick age was 15-24 years for consultation. Two in three women was probably suffering from psychological disorders. Middle aged women were significantly given headache medication[23]. A study on the prevalence of chronic fatigue syndrome in metropolitan, urban and rural Georgia done on 18-59 years old subjects showed 2.54% prevalence rate with no significant difference between metropolitan, urban and rural area. It was seen that there were significant differences between women and men. The women: men ratio was 11.2:1, 1.7:1, and 0.8:1 for metropolitan, urban and rural area respectively[24].

It was projected that in the year 2020 unipolar major depression would be the second leading cause of disease burden in the world. Unipolar major depression in developed countries contributes nearly 20% of disease burden in women aged 18-44 years19. To delineate depressive symptoms in middle aged women in Peninsular, Malaysia, a total of 3934 women of 45-60 years age group were studied. Prevalence of depressive symptoms was 54.2%[25].

A study in young women to find out the spectrum of eating disorders showed life time prevalence of anorexia nervosa to be 2.0%, bulimia nervosa 4.6%, atypical eating disorder 4.7% and binge eating disorder 0.6%[26]. Surveys have confirmed the predominance of females over males with regard to anorexia nervosa. There is an increase in the incidence of anorexia in females 15-24 years old since 1950. This trend is established from repeated surveys conducted in Sweden, Scotland, Switzerland, New York, and Minnesota. Increased incidence over time reflected a greater vulnerability of younger females to adverse social factors[19]. The point and life time prevalence of bulimia nervosa among women aged 16-35 years was found to be about 1%. Male cases were most unusual[19].

The risk of developing PTSD after a traumatic event was 8.1 percent for men, 20.4 percent for women. Higher risk has been found for young urban population which is 23.6 percent overall, 13.0 percent for men and 30.2 percent for women. Another study found a past month PTSD prevalence of 2.7 percent for women and 1.2 percent for men. The estimated life time prevalence for women is approximately 10 to 12 percent and for men 5 to 6 percent[19].

Aetiological aspects of High Prevalence among Women

Scientists tried to find out gender differences in psychopathology between male and female since birth. There is much debate about reasons for differing rates of psychiatric disorders among men and women at their different developmental stages.

It was seen that 'hard wired' primarily brain based childhood psychiatric disorders were higher in boys than in girls. It might reflect subtle differences in brain specialization as a consequence of prenatal hormonal influence27.Pattern of psychiatric disorders again differed in men and women as their sexual and brain maturation occurred. There might be differential hormonal effects on neuronal integrity. Evolutionary imperatives have assigned a stress sensitive mediating role to female hormones (especially to their cyclicity) which make the females more vulnerable than males to certain disorders. The life time risk of depression and dysthymia are twice as common in women as in men. Search for vulnerability to depression showed that women invested their emotions in interpersonal relationships. Another was that women internalized feelings to a greater degree and blamed themselves for incompetence and failure. Their passive ruminative style of coping with problems, their conflicting and changing social expectations and high rates of sexual abuse were also considered as possible explanations for high rates of depression and dysthymia among them[27]. Debate became more heated when came in clinches about gender differences in cognitive style, personality norms and mental abilities.

It is agreed that most of the relative environmental disadvantages occur more to women and they take place during their adulthood and make them high risk population for common mental disorders. The report of the WHO entitled bridging the gaps–provides a sobering introduction to the leading cause of mortality and morbidity. Extreme poverty is a major contributor to mental illness, stress, suicide, family disintegration and substance abuse. Women bear more heavily the negative effects of economic re-structuring on families. Hunger, deprivation, depression and violence affect women disproportionately. Selective abortion, female infanticide, differential triage of sick children in poor families and maternal mortality has taken a substantial toll on women's lives and mental health. In South- East Asia premature death of 100 million women is the only explanation for high male to female ratio in South- East Asian population[19].

Study on socio economic status and psychiatric disorder-the causation selection issue showed an inverse relation between psychiatric disorder and socio economic status due more to social causation (adversity and stress) or social selection (downward mobility of genetically predisposed). A birth cohort of 4914 Israel-born adults of Europe and North African background were studied and result indicated that social selection was important for schizophrenia and social causation for depression in women[28].

In a prevalence study in an industrial population in India univariate analysis In

and step wise multiple regression revealed educational level, perceived stress, job satisfaction, stressful life events were independent determinants of psychiatric morbidity[9].

A study of depression was done among households in three capital cities of Pakistan. Uni-variate analysis associated older age, female, residence in Quetta and Lahore, level of education with depression. Multi-variate analysis associated older age, female sex, and residence in Quetta and Lahore with it[20].

To delineate depressive symptoms and its socio-demographic correlates in middle aged women, it was found that of married, 38.4% were poor, had very severe problem in marriage. There was significant association with marital status (P<.001), ethnicity, education, occupation (P<.001), menopause (P<.05), and domiciles[25].

Dohrenwend and Snell reviewed studies on sex difference and psychiatric disorders. They reviewed that in the study of sex roles and mental illness, Gove and Tudor postulated that because of the difficulties associated with feminine role in western societies more women than men became mentally ill. To investigate this hypothesis, Gove and Tudor focused on research conducted since World War II because the war marked a change in the role of women with significant portion of married women entered the work force for the first time. They restricted coverage to North America and Europe where economic and technical conditions related to industrialization have promoted the posited change in the role of women. They concluded that woman do have higher rates of mental illness than do men[29].

Research from NIMH in the USA described that mental illnesses affect women and men differently. Some disorders are more in women than in men. Some express themselves with different symptoms. The years of education women receive is the single important determinant of their own health, the health of their children and the health of their families19. In another study on sex differences in aetiology of minor psychiatric disorders in Taiwan, it was suggested that more females have minor psychiatric morbidity because of strong effect of chronic psycho-social stressors adversely affect the course of such morbidity[11].

Women living in joint households reported more distress than those living in unitary families. Emotional distress was negatively correlated with socio-economic variables among women10. Domestic violence was found to raise the risk of mental disorders. The widest range of mental health problems was seen in women who had suffered domestic violence30. Regarding women's status and domestic violence in Bangladesh, study of determinants of domestic violence in two rural areas revealed that increased education, higher socio-economic status, non-muslim religion, extended family residence were associated with lower risk of violence. In more culturally conservative area, higher individual level women's autonomy and short term membership in savings groups were associated with significantly elevated risk of violence. In less

culturally conservative area, in contrast, individual level women status indicators were unrelated[31].

Gender differences in link between abuse and mental disorders showed that women who suffer from severe mental illness were more likely to have been abused in childhood than other woman but the same is not true for men with similar illness. A team studied adult patients with first episode psychosis. A significant gender interaction was found between psychosis and physical or sexual abuse with a more than two-fold increase in reported rates among women which held after adjustment for a range of confounders[32].

Brown et al studied on social class and psychiatric disturbance among women in an urban population living in South London. Severe life events and major long term difficulties occurring in the year before onset played an important aetiological role33. Puerto Ricans had the highest overall prevalence among the Latino ethnic group. Increased rates of psychiatric disorders were found among US born, English proficient, third generation Latinos. The responsible stressor was thought to be cultural transmutation[7].

Role of infertility on psychiatric disorders was studied in Turkish women. Infertile women were asked to describe reaction from husband and their family, social group because of infertility. Anxiety and depression were frequent in infertile women[34].

Religious activity and prevalence of psychiatric disease–this relationship study showed that for women, a changing pattern of service attendance was associated with increased life time rates of general anxiety and marginally increased rates of alcohol abuse or dependency. Growing evidence is that current religious activity is associated with less psychological distress[35].

A study was conducted on sex differences in the prevalence of psychiatric disorders and psychological distress in patients with chronic obstructive pulmonary disease (COPD). This study showed prevalence of psychiatric disorder to be 49%. Significantly more women met diagnostic criteria for anxiety disorder (56% vs 35% for women and men). Greater levels of major depressive disorder in women than in men were found (18% vs 7%). Women had higher significant anxiety sensitivity and depressive symptoms compared to men. Women reported less confidence in their ability to control respiratory symptoms and more daily physiological limitations compared to men despite having comparable COPD severity[36].

There is association of depression with economic deprivation like being unemployed, being in debt, and belonging to low income group. Oppressive relationship built upon gender discriminatory attitude is an important risk factor for depression. Woman faces the greatest brunt of economic problem which increases their vulnerability. Women are denied educational and occupational opportunities. Stressful life events are closely associated with depression and such events are more common in the lives of women[24].

In the USA, in one study adult females were found to be burdened with depression and variation was found to be due to hormonal vulnerability. Other causes were psycho-social–like multiple roles in home and at work, poverty, violence, abuse, raising child alone. Some scientists mentioned that the reason for gender differences are as likely is social as biological. The increased rate of major depression in women arises during puberty. The timing is related to biological puberty rather than just to age[19].

Divergences in social and occupational role have been proposed to explain the greater prevalence among women. Marriage appeared to be associated with higher rates of depression for women. Within the marriage, traditional female role led to depression. The role of child care taker has consistently been shown to be associated with high level of stress and a higher incidence of depression for women[19]. Women were found to have more depressive symptoms when they have young children at home and this tended to increase in linear fashion according to the number of children in the household[33]. Since women who were employed outside homes also tended to be more responsible for the household chores, the notion that differentiation in occupational role partially explained the prevalence of depression for women was supported. Bracke found validity of social roles explanation by showing gender difference in employment status, marital status and educational attainment[19].

Some scientists did not find gender differences in the prevalence of mental disorders when men and women were adjusted regarding the number or type of roles they occupied. Neither the number of social roles, occupancy of traditional 'female' caring and domestic roles nor socio-economic status explained the gender differences in the study. In summary, the impact of social and occupational roles as explanation of gender differences in affective disorders is not yet obvious. Further to explain why women are more likely than men to manifest depression, Nolen-Hoeksema proposed the response style theory. According to this theory women have a ruminative response style which contributes to the perpetuation of their depressed mood. Women, when depressed, engage in ruminative responses, thereby amplifying their depressive symptoms and extending the depressive episode. On the hand men more likely distract themselves from depressed mood, thereby dampening their symptoms[19].

There is also some evidence that the post partum and the premenstrual periods with their biological and psychological changes represent periods of increased risk of depression among women. In summary at similar levels of stress, women are more vulnerable to affective disorders than men, one explanation of this findings is that women may be more willing than men to admit symptoms and or men may express their symptoms in different ways through alcohol abuse or 'acting out' for example. Wilhelm et al have suggested that the greater prevalence of depression in women is due to strong association of anxiety and neuroticism with depression and that the higher rates of anxiety and neuroticism in

women lead to higher rates of depression[19].

Positional mapping of the genetic loci associated with mood disorder has not yielded important clues. Search for candidate genes such as the human serotonin transporter genes, CSF monoamine levels, nor-adrenaline metabolite appears to vary in relation to SERT polymorphism. An alternative approach to looking for the heritability of mood disorder showed that high trait neuroticism (N) accounts for half the genetic liability to major depression in women. The first successful study showed that emotionality in mice was associated with at least three loci on the mouse genome. This locus may be resolvable to the level of individual genes whose function could represent conserved mechanisms also contributing to human neuroticism. By analogy with other genes linked to diabetes this may lead to the development of novel methods of vulnerability to mood disorder which have genuine neurobiological validity[19].

Higher prevalence of PTSD among women than men was due to both greater exposure to high impact trauma (rape, sexual molestation, childhood neglect, childhood physical abuse) and a greater likelihood of developing PTSD when exposed to a traumatic event. A personal or family history of mood and anxiety disorder increases the risk of PTSD. Previous trauma like childhood sexual or physical abuse is also associated with high risk. Among personality variables neuroticism, external locus of control, negative belief about self are predictors for PTSD[19].

Childhood traits reflecting obsessive–compulsive personality appear to be important risk factor for the development of eating disorder and may represent markers of a broader phenotype for a sub-group of patients with anorexia nervosa[37]. In the conceptualization of anorexia nervosa, the socio-cultural approach was argued by Joan Jacobs Brumberg who considered anorexia nervosa simply as a control of appetite in women responding to widely differing forces (fig 1).

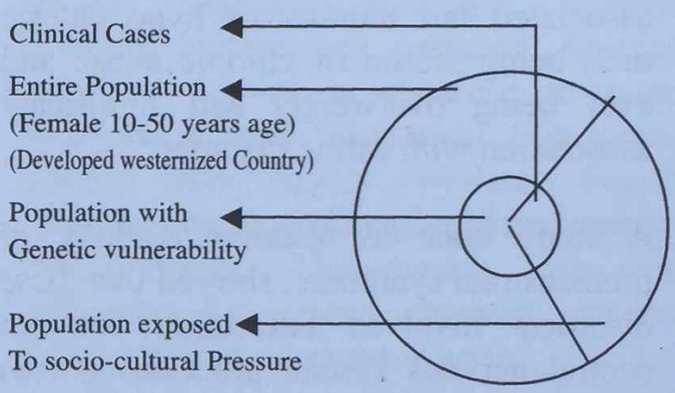

Fig 1: Model for conceptualization of Anorexia Nervosa

It is seen that within the outer circle there is a sector representing females experiencing social pressure to acquire a slender body shape. A genetic predisposition is represented by small inner circle. The intersection of the inner circle and the above mentioned sector produces a small sector of females who have both the genetic predisposition and experience of socio-cultural pressure. These women respond to socio-cultural pressure subsumed under the term 'the modern cult of thinness' by experimenting with weight-reducing diets and anorexia nervosa is an extension of determined dieting.

Russell could collect 30 cases of bulimia nervosa over more than 6 years suggesting that the disorder is not common. Within a few years, bulimia was found to be an important source of psychiatric morbidity among women. There are many risk factors for the development of bulimia overlapping with those for anorexia. 'Being female' is one of the most important factors[19]. Degree of urbanization had also significant impact on eating disorders. Social class, professional status and education were not associated but number of hypo caloric diet, being victim of chronic abuse and ever being overweight had significant association with eating disorder[27].

A study done to discover etiology of premenstrual syndrome, showed that these disorders involved interaction between central nervous system processes (CNS) processes, hormones and other modulators pointing to integration between genetics and dynamically evolving vulnerability which involved both negative and positive environmental and hormonal effects. These interactions included gonadal hormones, neurotransmitters and neuro-hormones including renin-angiotensin and aldosterone[38].

To describe prevalence of chronic fatigue and determine its association with anemia, mental health, gender disadvantage, a survey was done in Goa on 3000 women aged 18-50 years fatigued for minimum 6 month. 12.1% complained of chronic fatigue (at 95% CI 10.8%-14.4%). 83% had no association with anaemia. Older women and those experienced social deprivation, having less education, families in debt, hunger in the past 3 months were more to report fatigue. After adjustment for these factors gender disadvantage like violence by husband, poor mental health was strongly associated with chronic fatigue[39].

Search for alcohol misuse gave the clue that when a woman had an alcohol problem there was a man in her life with a similar problem–her partner or her father[19]. Verdoux et al studied on psychiatric outcome of subjects prenatally exposed to di-ethyl-stillboesterol in a cohort study and showed that prenatal exposure to this drug was unlikely to cause psychiatric disorder[40].

Prevalence Studies in Bangladesh

Studies have been done on psychiatric out-patients and in-patients at different times in different Government, non-government general and psychiatric hospitals, clinical practices and on prison population to find out the prevalence, pattern, and socio-demographic correlates of mental disorders among women in Bangladesh. In all the studies, a significant number of women were found to suffer from psychiatric disorders[41-48].

Dasherkandi Project studies, the first epidemiological survey on mental health in Bangladesh done in village Dasherkandi showed a prevalence of 91.85/1000 among female which was higher than among male (39.74/1000). To elicit psychiatric morbidity, questionnaire was adopted from that used by Kapur in a similar study in India. Diagnosis was done clinically. All inhabitants in the village irrespective of age were assessed for psychiatric morbidity[49].One other study on women mental health in rural

of Bangladesh estimated that overall prevalence of psychiatric disorders among women was around 16.38%. Significantly higher prevalence was found in women from large families[50].

Prevalence study on 1145 respondents aged 18 years and above in an urban community showed a prevalence rate of 28%. The subjects were screened using SRQ. A stratified sub-sample was assessed by psychiatrist. Somatoform disorders were the highest followed by mood, sleep, anxiety and substance related disorders. Females and persons from high socio-economic status were more likely to have psychiatric disorders[51].

Recent community based national survey conducted on 13080 adult people during the year 2002-04 showed the higher prevalence of psychiatric disorders among females than in male and it was about 19.0 % in females[52]. In another study done on rural women, overall prevalence was found to be16.5%. Depressive disorders were in ½ of all cases and anxiety disorders were 1/3 of total cases. Significantly higher prevalence was found in economically poor, woman from large families and woman › 45 years[53].

Services for Women in Bangladesh

Health Services and Psychiatric Services

Women get health care services as well as mental services through the existing general health care and psychiatric services. There is some Government and private maternal and child health care service centers for women. Health service utilization of women in Bangladesh is less than that of men. They also get less health information than men.

Social Services

Social services are provided by the Social Welfare Department of Government and various voluntary organizations. They provide shelter and health care services for the homeless women. Authorities appoint part-time physicians or use the existing health care services for the treatment of such women.

Government Allocation

Government gives special attention to women to remove their backwardness. During budgetary allocation, women friendly budgets are prepared. Special emphasis on women welfare is given on budgets in four ministries- Education, Health and Family Welfare, Social Welfare, Food and Disaster Management. In addition, Government allocates allowance for widow, separated, and for very poor and pregnant women.

Conclusion

A number of international consensus statements focus on women mental health. The 1995 UN Beijing platform states that women have the right to the highest attainable standard of physical and mental health[54]. The enjoyment of this right is vital to their life and well-being. The 1995 United Nations (UN) unanimously endorsed the millennium declaration goals which include the achievement of universal primary education, the promotion of gender equality, reduction of child mortality, improving maternal health among others[54]. Mental well-being of mother is integral to the health, nutrition and educational outcomes of their children; violence against women erodes gender equality and the empowerment of

the women. Social and psychological services and primary care physicians should be able to undertake evaluation, diagnosis, and treatment or offer referral to appropriate specialty services.

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