# ASSESSMENT OF MENTAL HEALTH IN A COMMUNITY SAMPLE FROM GILGIT-BALTISTAN PAKISTAN: A CROSS SECTIONAL STUDY

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## ABSTRACT

***Objective:*** This study was conducted to explore and compare the level of mental health in all the districts of Gilgit Baltistan (GB).

***Study Design:*** Cross-sectional study.

***Place and Duration of Study:*** Based at CMH Gilgit, all districts of GB were visited between Mar and Dec 2016.

***Material and Methods:*** Data were collected from consenting adults in community setting by administering mental health inventory (MHI). Data were compared with the population mean and inter-district comparisons were performed.

***Results:*** A total of 370 (186 males) participants, age ranging from 17 to 80 years (M = 28.54 ± 11.27). Out of these, 240 (64.8%) were married and their education levels ranged from 5 to 16 years of schooling. Males (t=4.5, $p$<0.001) & married participants (t=2-07, $p$<0.05) reported better mental health. Participants' living district (F=1.8, $p$=09), education level (F=1.1, $p$=0.3), and their age (r=0.04, $p$=3) did not influence their reported level of mental health.

***Conclusion:*** Community members in GB had good level of mental health irrespective of their living area, education, and age. However, their gender and marital status influenced their mental health.

**Keywords:** Affect, Mental health, Pakistan.



## INTRODUCTION

The burden of mental, neurological, and substance use disorders increased by 41% between 1990 and 2010, while the cost of interventions for these disorders in low-income and lower-middle-income countries was estimated at a meager US$ 3 to 4 per head a year; in the same countries less than 1% of government spending was allocated to the care of people with these disorders[1]. In many parts of the world mental health is given low priority and resources, and therefore it remains highly inadequate[2]. National data on the prevalence of common mental disorders in Pakistan is lacking, however, a study conducted on emergency workers found that 15% of participants showed clinically relevant levels of PTSD and 11%-16% reported heightened levels of anxiety and depression[3]. A relatively old Pakistani study reported prevalence of anxiety and depressive disorders in the community population as 34%, 10% to 33% for men and 29% to 66% for women[4]. Non-communicable diseases including mental disorders remain a major cause of morbidity and mortality in Pakistan and a long history of socio-political instability, economic insecurity, violence, regional conflicts, and displacements have contributed to a high prevalence of mental disorders[5]. Psychological health in Pakistan is becoming weaker with time due to non-peaceful incidents and haphazard life[6]. Researchers have identified a number of factors affecting mental health. According to the findings of US epidemiological survey[7], childhood adversities were identified as a major risk factor for psychiatric disorders in later life. In Pakistan Mirza and Jenkins[4] found risk factors for anxiety and depression as being female, middle aged, having a low level of education, financial problems, being a housewife and relationship troubles. While another study claimed the associated risk factor with depression were

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increasing age, being married, having more than four children, and illiteracy and financial problems at home[8]. Despite deteriorating mental health situation along with increasing risk factors, the condition of mental health services is alarming in Pakistan. There is only one psychiatrist for every 10000 people and one child psychiatrist, for four million children suffering from mental disorders[9]. Only four public sector psychiatric hospitals existed in a country of 180 million people. Probably this dearth too affected the increasing number of patients with mental illnesses[9]. On the other hand, native faith healers were found in all parts of the country that however remained a major source of 'care' for people with mental health problems here[10]. Gilgit Baltistan (GB) a remote part of Pakistan situated at the conjunction of three great mountain ranges Himalaya, Hindukush and Karakoram, is a less researched area. Difficult logistics remain the major hindrance in frequent interaction between the locals and those from other areas of the country. Any report on the mental health status encompassing all the districts was lacking in contemporary literature. Ours is the first empirical study which was conducted in this isolated region. The pupose of this study is to assess the status of people's mental health in all the seven districts of Gilgit Baistan.

## MATERIAL AND METHODS

This was a cross sectional study, which was conducted to compare people's state of mental health in the seven districts of GB, Pakistan. The study was conducted between March 2016 and December 2016 in community settings in each district headquarter of the province. Gender proportionate, stratified convenient sampling technique was used to reach the target population with the help of the local support organizations (LSO). Three hundred seventy volunteers, 186 males and 184 females were included in this research. Sample size was calculated based on confidence level (95%) and margin of error (5%) for GB population that indicated 383 sample size needed. Inclusion criteria were people aged 17-80 years who were permanent citizens of GB, with a minimum of 5 years of schooling, as the instrument was a self-report one. Exclusion criteria were those individuals who were unable to respond due to being unable to read or write, or having any illness at the moment either physical or mental. Peoples' status of mental health was measured by mental health inventory (MHI)[11]. The inventory is validated for Pakistani population[12]. The inventory had two major domains; 'psychological distress' constituted by anxiety, depression and loss of behavioral/emotional control and 'psychological well-being' comprising of general positive affect, emotional ties and life satisfaction. The cumulative score of both domains indicated an individual's global mental health index. The inventory had good psychometric properties. Various studies reported two highly correlated super-ordinate factors (psychological distress & psychological well-being) and convergent validity for the instrument[13,14] Researchers found it as a reliable tool to use with non-psychiatric and normative population[15]. After getting consent from participants, data were collected through administration of MHI and a demographic proforma. Descriptive (mean & standard deviation for quantitative variables) and inferential (t-test, ANOVA, Pearson product movement correlation coefficient, &bonferroni analysis) statistical techniques were applied to analyze the collected data by using statistical package for social sciences (SPSS, ver. 19).

## RESULTS

A gender proportionate i.e. males = 186 (50.2%), and females=184 (49.7%) sample of 370 participants from all districts of GB; 59 (15.9%), 50 (13.5%), 54 (14.6%), 52 (14.1%), 54 (14.6%), 50 (13.5%), and 51 (13.7%) from Gilgit, Hunza-Nagar, Skardu, Ghanche, Ghizer, Astor, and Diamer respectively participated in our study. Participants' ages ranged from 17 to 80 years (M=28.54 ± 11.27), out of them 240 (64.8%) were married and their education levels were: 22 (5.9%), 51 (13.8%), 67 (18.1%), and 141 (38.1%), reported having 16 years, 14 years, 12 years, and 10 years schooling respectively while 89 (24%)

reported having less than 10 years of the same. In table, is given the level of mental health in GB compared with the cut off scores of the instrument. Findings indicated that people in GB, had relatively better MHI scores in terms of general positive affect, emotional ties, and life satisfaction. However, their reported level of anxiety and depression were higher and scores on loss of behavioral/emotional control were better than cutoff scores. Participants' mean score along with standard deviation on mental health index from Gilgit, Hunza-Nagar, Skardu, Ghanche, Ghizer, Astor, and Diamer Districts were; 152.8 ± 22.3, 153.6 ± 28.4, 159.3 ± 23.7, 161.7 ± 24.4, 148.9 ± 25.7, 156.7 ± 25.4, and 151.9 ± 19.5 respectively. To test the hypothesis whether living in a particular district influenced participants' mental health in GB, we used one way of ANOVA. Findings were statistically not significant (F =1.8, *p*=0.09) implying that people from seven districts of GB had similar mental health status. Role of demographic variables in participants' mental health was also assessed. Findings revealed that the male participants reported (M = 160.5 ± 23) better mental health as compared to the female participants (M=149.3 ± 24.6, t=4.5, *p*=0.00) and married participants showed (M=156.9 ± 25.7) a better level of mental health than the unmarried counterparts (M=151.4 ± 21.6, t=2-07, *p*=0.04). Participants' educational level; masters (M=164.0 ± 15.8), graduation (M=158.0 ± 25.3), intermediate (M=156.1 ± 26.2), matriculate (M=154.5 ± 23.0), and below matric (M=151.9 ± 24.0, F=1.1, *p*=0.3) and their age (r=0.04, *p*=0.3) did not influence their reported level of mental health.

**Table: Comparison of sample mean with population mean on mental health index, psychological distress and its subscales and psychological well-being and its subscales.**

| S No. | Variables | Cutoff scores | Sample Mean ($\bar{x}$) ± SD | t | *p*-value |
|---|---|---|---|---|---|
| 1 | Mental health index | 113 | 154.9 ± 24.4 | 32.9 | 0.00 |
| 2 | Psychological distress | 71 | 72.1 ± 13.5 | 1.5 | 0.12 |
| | Anxiety | 27 | 28.5 ± 7.6 | 3.9 | 0.00 |
| | Depression | 12 | 12.7 ± 2.7 | 4.9 | 0.00 |
| | Loss of Behavioral | 26 | 23.2 ± 6.8 | 7.6 | 0.00 |
| 3 | Psychological well-being | 42 | 57 ± 7.1 | 40.2 | 0.00 |
| | General Positive Affect | 30 | 39.9 ± 6 | 31.6 | 0.00 |
| | Emotional Ties | 6 | 9.1 ± 2.3 | 26.3 | 0.00 |
| | Life Satisfaction | 3 | 4.3 ± 1.1 | 27.8 | 0.00 |

## DISCUSSION

This is the first study to assess the mental health of natives of all seven districts of GB, Pakistan. We found that people have better mental health in this remote part of Pakistan in terms of general positive affect, emotional ties, and life satisfaction. It was difficult to establish the possible reasons behind our findings because of the dearth of scientific literature regarding mental health in the region. At the same time, we could not ignore the importance of social and cultural fabric that determined most human functioning. Cultural factors were very important and they tended to play a vital role in the process by which individuals maintained their mental health and quality of life[16]. Interpersonal social support as part of culture was a good predictor of mental health. Lower level of interpersonal social support was related with psychiatric problems whereas higher level of social support was associated with lower level of mental health problems. A higher level of social support also worked as buffer to decrease the effect of traumatic events on mental health[17]. In addition to social support, people in GB were tied in close family bonds. Family members either immediate or extended were available for a person if s/he needed help of any kind. Family disturbances had multifaceted effects on the emotional well-

being of family members and family cohesion is also a good predictor of mental health. If family cohesion increased the mental health of family members also increased, and as it decreased the mental health decreased too[18,19]. Regarding role of demographic characteristics, we found that individual's gender and marital status was associated withtheir mental health in GB. Najam and Hussain[21] also reported similar findings in the same context, where women reported lower level of mental health as compared to men, which was also in concurrence with Mirza and Jenkins[4]. Married individuals consistently reported better level of psychological health as compared to unmarried ones and even after controlling demographic variables married people reported better levels of psychological health than the others. However, perceived social support was found as a moderator in the association between marital status and psychological health i.e. perceived lower social support resulted in lower psychological health of widowed, divorced, and never married people[21]. However, participants' living district, educational level, and their age did not influence their reported level of mental health, which is contradictory to another study from Pakistan[4], that highlighted poormental health in 'middle age'. Weich *et al*[22] also reported a little geographical (less than 1% of total variance) variation in the prevalence of common mental disorders. The relationship between education and mental disorders remained unclear; however Bjelland[24] found that higher education works as protective factor against mental disorders, which is contradictory with findings of the present study. Regarding role of age, Westerho *et al*[25] reported that there were fewer age difference in terms of mental health status i.e. today's older adults are not in better positive mental health than today's younger adults. This is the first scientific research to address the concept of mental health in GB, and it is the beginning of a planned effort to stimulate the growth of mental health services, awareness, and research in this geographically isolated but significant region of Pakistan. The sample for this research included all districts of Gilgit-Baltistan, thus the study represents the entire province.

## LIMITATION OF STUDY

The principal limitation of this study is the reliance on self-administration of MHI to collect the research data so that only literate people were included that may limit its generalizability.

## CONCLUSION

Natives of GB had a relatively good level of mental health constituted by general positive affect, emotional ties, and life satisfaction regardless of their living area, educational level, or age. However, they reported higher levels of anxiety and depression and their gender and marital status tended to influence their mental health.

## CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

## REFERENCES

1. Patel V, Chisholm D, Parikh R, Charlson FJ, DegenhardtL, Dua T, et al. Addressing the burden of mental, neurological, and substance use disorders: Key messages from disease control priorities, 3rd edition. Lancet 2016; 387(10028): 1672–85.
2. Kallivayalil RA, Garg K, Tripathi A. International Mental Health Perspectives on Person Centered Integrated Care. Int J Pers Cent Med 2015; 5(1): 21-27.
3. Razik S, Ehring T, Emmelkamp PM. Psychological consequences of terrorist attacks: Prevalence and predictors of mental health problems in Pakistani emergency responders. Psychiatry Res 2013; 207(1-2): 80-85.
4. Mirza I, Jenkins R. Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. BMJ 2004; 328(7443): 794-7.
5. Jafar TH, Haaland BA, Rahman A, Razzak JA, Bilger M, Naghavi M, et al. Non-communicable diseases and injuries in Pakistan: strategic priorities. Lancet 2013; 381(9885): 2281-90.
6. Ahmed S, Noushad S. Sorts and sources of stress in Pakistan; A comprehensive outlook. Int J Endorsing Health Sci Res 2013; 1: 4-8.
7. Curran E, Adamson G, Stringer M, Rosato M, Leavey G. Severity of mental illness as a result of multiple childhood adversities: US national empidemiologic survey. Soc Psychiatry Psychiatr Epidemiol 2016; 51(5): 647-57.
8. Nisar N, Billo N, Gadit AA. Prevalence of depression and the associated risks factors among adult women in a fishing community. J Pak Med Assoc 2004; 54(10): 519.
9. Mental health most neglected field in Pakistan Islamabad. thenews.com.pk.
10. Saeed K, Gater R, Hussain A, Mubbashar M. The prevalence, classification and treatment of mental disorders among attenders of native faith healers in rural Pakistan. Soc Psychiatry Psychiatr Epidemiol 2000; 35(10): 480-5.

11. Godden B. Sample size formulas. J Statistics 2004; 3: 66.
12. Viet CT, Ware JE. The structure of psychological distress and well-being in general populations. J Consult Clinic Psychol 1983; 51(5): 730-42.
13. Khan MJ, Hanif R, Tariq N. Translation and validation of mental health inventory. Pak J Psychol Res 2015; 30(1): 65-79.
14. Everson-Rose SA, Lewis TT. Psychosocial factors and cardio-vascular diseases. Annu Rev Public Health 2005; 26: 469-500.
15. Zautra AJ, Guarnaccia CA, Reich JW. Factor structure of mental health measures for older adults. J Consult Clin Psychol 1988; 56(4): 514-19.
16. Ostroff JS, Smith WK, Carolyn B, Lesko LM. Use of the mental health inventory with adolescents: A secondary analysis of the random health insurance study. Psychol Asses 1996; 8(1): 105-07.
17. Chai PPM, Krageloh CU, Shepherd D, Billington R. Stress and quality of life in international and domestic university students: cultural differences in the use of religious coping. Ment Health, Relig Cult 2012; 15: 265-77.
18. Moak ZB, Agrawal A. The association between perceived interpersonal social support and physical and mental health: Results from the national epidemiological survey on alcohol and related conditions. J Public Health 2009; 32(2): 191-201.
19. Farrell MP, Barnes GM, Banerjee S. Family cohesion as a buffer against the effects of problem-drinking fathers on psychological distress, deviant behavior, and heavy drinking in adolescents. J Health Soc Behav 1995; 36(4): 377-85.
20. Jackson JS, Forsythe-Brown I, Govia IO. Age cohort, ancestry, and immigrant generation influences in family relations and psychological well-being among Black Caribbean family members. J Soc Issues 2007; 63(4): 729-43.
21. Najam N, Hussain S. Gender and mental health in Gilgit-Baltistan, Pakistan. J Pioneer Med Sci 2015; 5(4): 117-20.
22. Soulsby LK, Bennett KM. Marriage and psychological wellbeing: the role of social support. Psychology 2015; 6: 1349-59.
23. Weich S, Twigg L, Lewis G, Jones K. Geographical variation in rates of common mental disorders in Britain: prospective cohort study. Br J Psychiatry 2005; 187: 29-34.
24. Bjelland I, Krokstad S, Mykletun A, Dahl AA, Tell GS, Tambs K. Does a higher educational level protect against anxiety and depression? The HUNT study Soc Sci Med 2008; 66(6): 1334-45.
25. Westerho GJ, Keyes CLM. Mental illness and mental health: the two continua model across the lifespan. J Adult Dev 2010; 17(2): 110-19.