

Understanding of Mental Health-Related Stigma among People in Urban Kolkata

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Abstract

Background: Mental health-care settings are not equipped to address holistic care. . Being a program manager, one needs to have good understanding about different barriers of access to mental healthcare services. Poor awareness and stigma attached to mental health are two important barriers of a community-based mental healthcare intervention. There is a dearth of studies that provide information about this. The present study reflects the same. **Objective:** The objective of this study was to assess people's knowledge about mental health and perceived stigma and to identify factors that influence them. **Methods:** The study was conducted under two types of intervention wards – one with urban mental health program (UMHP) and another one with homeless people with mental illness (HPMI). There was a comparison ward with no intervention. Information was collected from 272 respondents through multistage random sampling method from general community. Analysis was done using profile characters of participants as independent variables and knowledge, attitude, and practice (KAP) score and stigma score as dependent variables. **Results:** The mean KAP score is 25.5 (range: 13–32). It implies 65.3% cumulative KAP level on mental health. Around 29.9% of people believe that going to a psychiatrist means that a person has mental illness. KAP and stigma scores are influenced by the type of ward but not by any other profile characters. KAP score is higher in UMHP and HPMI wards than the comparison ward. **Conclusion:** The intervention wards have more KAP score than comparison ward implying the effectiveness of community-based mental health interventions. This calls for replication of similar interventions for wider spread of knowledge on mental health among general population.

Keywords: Knowledge, attitude, and practice, mental health, stigma

INTRODUCTION

A mentally ill person becomes a burden of the society and potential threat for the society as they are quite often prone to indulge in antisocial activities.^[1] The people of community think that mentally ill patients are dangerous, unpredictable, and worthless.^[2] Negative attitudes and the social rejection of people with mental illness have prevailed since ancient times.^[3] Literature indicates that people with mental illness face widespread stigmatization, violence, neglect and avoidance, discrimination, and negative attitudes from others.^[4] Lack of awareness about mental illness encourages discrimination and stigmatization.^[5] Alongside, literature also shows that people who have more knowledge about mental illness are less likely to endorse stigmatizing attitudes.^[4]

The National Mental Health Survey 2015–2016 has revealed out that around 11% of citizens in India above 18 years suffer from mental disorders and most of them do not receive care

due to various reasons.^[6] Among adolescents, 29.04% know about depression and only 1.31% know about schizophrenia or psychosis. Stigma was also noted.^[7]

In West Bengal, the prevalence of psychiatric morbidity was 102.8 per 1000 population in 1975.^[8] The prevalence was 58.2% and 47.6%, respectively, in 1978 and 1980 in rural and urban West Bengal.^[9,10] The changing health scenario has led to an epidemic of noncommunicable diseases which are chronic in nature, including mental health-related conditions.^[11]

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Given that mental health-related disorders account for increased disability-adjusted life years, increased awareness on the same is essential to increase demand for and access to health care for mental illness. On the other hand, if stigma is attached to mental health, people will be hesitant to access service for mental health.^[12] As a program manager, one needs to have good understanding about various factors that affect access to mental healthcare. Two such factors are poor awareness and stigma. Understanding about the level of people's awareness and stigma will help him to design the program to increase people's awareness about mental health and reduce stigma. We need to identify factors that influence them as well. There is a dearth of studies providing information about people's knowledge of mental health and stigma attached to it acting and how they act as a barrier to mental health care. Despite growing concern regarding mental health in India, this kind of study is scanty, more so in West Bengal. Iswar Sankalpa (IS), a mental health-care support organization, implemented a mental health program during the period of April 1, 2012, to March 31, 2015, in Kolkata in a few wards. There were certain interventions undertaken in urban mental health program (UMHP) and homeless people with mental illness (HPMI) wards. In UMHP, key interventions were awareness generation within the community, house visits, home-based care of the mentally challenged person, sensitization of stakeholders, facility-based counseling, treatment, and follow-up care for mentally ill persons. In the HPMI, ward interventions were treatment, counseling, and institution-based rehabilitation of homeless people with mental illness and similar community interventions like UMHP.

The objective of the first one is to assess the level of knowledge, attitude, and practice (KAP) of people on mental health and their perceived level of stigma attached to it. The second one is to identify factors that influence the level of KAP about mental health and their perceived stigma attached to it.

METHODS

Sampling

The mental health program implemented by IS had two broad components – one component was intervention with the homeless people with mental illness (HPMI) and the other was the UMHP. It was a pilot community-based intervention in two selected wards, i.e., 78 for HPMI and 82 for UMHP in Kolkata and one nonintervention comparison ward (80). The sample size for HPMI, UMHP, and comparison areas for household-level survey to assess the KAP level was calculated to be 89, 91, and 92, respectively. This calculation was carried out based on the assumption of 10% increase in mental health-care utilization from urban health facilities from the intervention wards. Quantitative data were collected for all three communities: the UMHP group, HPMI group, and Comparison group.

Participants and the interviews

Three clusters from each category – UMHP, HPMI, and comparison areas – were selected randomly from the list of

clusters. From each cluster, around 32 households were selected randomly from slum areas of the intervention community. Households were selected using systematic random sampling method. Finally, after editing of data, 91 households from UMHP, 89 from HPMI, and 92 from comparison areas were selected for KAP survey. The most suitable key informant (between age group from 18 to 60 years, willing to participate, and without any known mental illness) available at the household participated in the interview. Interviews were conducted by trained qualified social workers. On denial and nonavailability, the next door was approached.

Tool

Modified version of knowledge and attitude questionnaire designed by National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, Department of Psychiatry, was used.^[13] The original instrument has 35 questions. In consultation with the experts from relevant fields, a modified version of instrument was developed that contained 39 questions. The tool was translated into local language, Bengali, in accordance with the WHO translation procedure so that it can be properly understood by all participants. The questionnaire was pretested among 10% of the total sample in ward no. 81, adjacent to the study area. Based on the feedback from the pretest, the expert group made the final version of the instrument. This tool has been used in a few studies conducted in South India among schoolchildren^[14] and in Ethiopia among caregivers.^[15]

Data analysis

The study has two broad-dependent variables – KAP and perceived stigma. The independent variable is the general profile of the 272 respondents.

For all three communities, measuring KAP involved two different measurements – one is the KAP score adopted through modified tool of the NIMHANS, Bengaluru, and another one is perceived stigma. The NIMHANS score^[6] is calculated based on 35 questions. Each respondent either accepts the statement of the question as correct or wrong. For each correct answer, score 1 has been given, and for wrong answer, score 0 has been given. In our modified tool, a total of 39 question items are used in our KAP survey tool, and this means that KAP score may range from 0 to 39.

We have tried to categorize KAP score and see their distribution along the respondent profiles, community, and other factors. The three categories of KAP scores are high score (more than 28.5), medium score (22.5–28.5), and low score (<22.5). From statistical point of view, 22.5 being the median value, and standard deviation (SD) as 3, we calculated any score below 22.5 as low, above 28.5 (mean + 2 SD) as high, and a range between mean and mean + 2 SD as medium score. It will be relevant to mention that from literature review findings, our study will be a kind of a first-time comprehensive assessment of KAP for people from any community. A few studies tried to provide item-wise findings in proportions but did not address the comprehensive KAP of the community.

Since the variable is in ratio scale, we tried to establish a linear relation between the selected score and age of a respondent.

The same process has been repeated in case of stigma. Stigma score is a binomial variable categorized as “yes” or “no.” Score 1 is assigned for “yes” and 0 for “no.” The perceived level of stigma is calculated based on a single statement provided to the respondents, “those who go to visit psychiatrist and psychologist are insane.” Those who support the statement are assigned score 1 and otherwise 0. As before, we tried to see their distribution along the respondent profiles community and other factors. Furthermore, we analyzed whether there is any significant relation between any of these factors.

We used Statistical Package for the Social Science (SPSS) version 23.0 of IBM for different analysis mentioned before. Chi-square test for independence and logistic regressions were performed for checking the relation between KAP score and stigma scores. One-way ANOVA test and pairwise *t*-tests were also performed for a different approach for analysis. Pairwise *t*-tests have also been performed to find out which of the communities have a significantly different mean. Multiple logistic regressions were used to assess any significant predictors of KAP score and stigma score.

Ethics and informed consent

The research protocol was approved by an ethical committee formed by IS, and the committee constituted several members like organization’s chief functionary, a psychiatrist, a counselor, two academic and research faculties from University of Calcutta and University of Burdwan, and also a public health expert from an external research agency, Health Vision and Research. Before interview, verbal informed consent was taken followed by written consent from each respondent.

RESULTS

The study included information on 272 respondents of different cluster communities from the comparison, UMHP, and HPMI wards. Female respondents were higher in number than male respondents, except in the comparison ward. The unemployment status is higher in the HPMI and UMHP wards as compared to the comparison ward. Unmarried respondents were higher in the comparison ward. Other details are provided in Table 1.

We have calculated the overall KAP score using the modified NIMHANS tool and tried to chart out the histogram for this variable to visualize which theoretical distribution that provides the best fit for the variable. We found that the Weibull distribution is a good fit for the KAP score. The KAP score distribution has a mean 25.5 and SD 3. Hence, analyzing the shape and frequency distribution, KAP score has been categorized into three mutually exclusive and exhaustive groups. The groups are high score (>28.5), medium score (22.5–28.5), and low score (<22.5).

It has been seen that none of the respondent profile characters act as significant predictors of KAP score except the community as categorical variable even after doing multiple logistic

Table 1: Profile characters of respondents under the study

Characters	Subcategory	Count (%)		
		Comparison	HPMI	UMHP
Gender	Male	55 (59.75)	29 (32.58)	25 (27.47)
	Female	37 (40.22)	60 (67.42)	66 (72.53)
Employment status	Employed	50 (54.35)	29 (32.58)	29 (31.87)
	Unemployed	42 (45.65)	60 (67.42)	62 (68.13)
Age group (years)	<18–30	31 (33.70)	36 (40.45)	22 (24.18)
	Between 30 and 42	24 (26.09)	32 (35.96)	35 (38.46)
	>42–60	37 (40.22)	21 (23.60)	34 (37.36)
Education	Literate	87 (94.57)	70 (78.65)	62 (68.13)
	Illiterate	5 (5.43)	19 (21.35)	29 (31.87)
Type of family	Nuclear	45 (48.91)	47 (52.61)	62 (68.13)
	Joint	47 (51.09)	42 (47.19)	29 (31.87)
Marital status	Married	60 (65.22)	62 (69.66)	56 (61.54)
	Unmarried	31 (33.70)	18 (20.22)	22 (24.18)
	Divorced	0 (0.00)	0 (0.00)	1 (1.10)
	Separated	0 (0.00)	1 (1.12)	1 (1.10)
	Widow/widower	1 (1.09)	8 (8.99)	11 (12.09)
Religion	Hindu	86 (93.48)	34 (38.20)	56 (61.54)
	Muslim	5 (5.43)	55 (61.80)	35 (38.46)
	Sikh	1 (1.09)	0 (0.00)	0 (0.00)

HPMI: Homeless people having mental illness, UMHP: Urban mental health program

regression model. This implies that type of the intervention community can influence the level of KAP score. The results are given in Table 2a and b.

The median KAP score has been lesser in the comparison community compared to both the UMHP and HPMI wards. The difference in mean scores and SDs for each community clearly indicates that the distributions are different from each other. The individual *t*-tests indicate that all the mean KAP scores for all the three communities are significantly different from each other. All these facts suggest that type of the community can influence the level of KAP score [Table 3].

One-way ANOVA analysis has been performed ($P < 0.01$). This suggests that the KAP score is significantly different for different communities UMHP, HPMI, and comparison wards. The statistics indicates that UMHP ward has the highest mean score. UMHP ward has higher test statistic value 4.98 ($P < 0.01$) than HPMI ward 2.06 ($P < 0.04$).

The test for variances indicates that the variances of the communities UMHP and comparison wards are unequal, but that of HPMI and comparison wards are equal. The box-plot distribution is performed according to these findings. The box for each of the community indicates the interquartile range and the line in the middle of the box indicates the median, which is a good measure for central tendency. We can see in the box plot [Figure 1], the median for comparison ward is less than that of HPMI ward, which is further lesser than that of the UMHP ward. This indicates that the central value of comparison community is much lesser than the other wards.

Table 2a: Multiple logistic regression to identify predictors of knowledge, attitude, and practice score

Variable category	Subcategory	P	Adjusted OR	95% CI of adjusted OR	
				Lower bound	Upper bound
Ward	Comparison	0.01	9.003	1.969	41.158
	HPMI	0.01	6.023	1.622	22.366
	UMHP	-	-	-	-
Sex	Female	0.30	1.673	0.624	4.490
	Male	-	-	-	-
Employment	No	0.52	0.739	0.291	1.875
	Yes	-	-	-	-
Family type	Joint	0.22	0.615	0.281	1.346
	Nuclear	-	-	-	-
Marital status	Married	0.13	0.357	0.092	1.386
	Separated and divorced	0.01	0.130	0.024	0.706
	Unmarried	0.61	1.392	0.385	5.036
Substance use	Widow/widower	-	-	-	-
	Yes	0.59	1.284	0.516	3.194
Education	No	-	-	-	-
	Above graduate	0.01	10.494	1.461	75.373
	Graduate	0.14	3.056	0.692	13.499
	Class XI–XII	0.16	2.735	0.669	11.178
	Class I–X	0.97	0.975	0.244	3.901
Religion	Illiterate	-	-	-	-
	Hindu	0.03	0.334	0.119	0.943
	Muslim	-	-	-	-

HPMI: Homeless people having mental illness, UMHP: Urban mental health program, CI: Confidence interval, OR: Odds ratio

In other words, through intervention, UMHP and HPMI wards have brought improved knowledge level within the community. The tests for the stigma score show that for HPMI ward, the likelihood estimate is 1.94 ($P < 0.01$) which implies the presence of stigma considering all probable variables considered under this study.

It has been seen that none of the respondent profiles act as significant predictors of stigma score. This was confirmed by both logistic regression and Chi-square tests except for the type of the community – UMHP, HPMI, or comparison ward. This is also depicted in Table 3. Therefore, community has been a constant force to influence the level of stigma as well.

DISCUSSION

In our study in urban Kolkata, level of knowledge, attitude, and good practice are suboptimal, and it is comprehensively around 57.6%. If we consider the median value, existing knowledge is 65.4% and thus people have 34.6% knowledge gap. With this suboptimal level of awareness, community has to suffer from exclusion, social discrimination, and several negative attitudes. This negative environment may lead to poor utilization of services. Mental health continues to get less public health attention even though the burden is high and people's knowledge is significantly low.^[16] India spends <1% of their total health expenditure on mental health which is not optimum to address people's need for mental health.^[17] Compounded with low awareness and huge mental health morbidity, mentally ill persons suffer from social exclusion.^[18–20]

Around one-third population of Kolkata lives in slums.^[21] Several sociodemographic characteristics of the urban population influence mental illnesses and its consequences. In the baseline survey in urban Kolkata conducted by IS in 2012, the prevalence of any types of mental illness or its propensity ranges from 30% to 46%.^[22]

Mental health-care services are mostly limited to public hospitals at tertiary facilities. The collaborative community-based care combined with facility-based care intervention is more effective than facility-based care alone, especially for reducing disability and symptoms of psychosis.^[23] When the mental health-care facilities are very much limited, it is relevant that people's KAP should be enhanced so that they visit facilities and access services. Recent initiatives that have attempted to determine the benefits of services have uncovered new challenges of mental health services.^[24] The second set of issues arises with respect to individuals' aspirations and awareness. Mental health patients may lack the insight or motivation to improve their life situation. Unless patients recognize life area deficits and exhibit motivation to improve, life quality is likely to be low. Again, patients' lack of insight regarding the impact of illness may also result in elevated life satisfaction.^[25] Our study in this context addressed the gap areas to identify the level of KAP on mental health. We found that respondents have 34.6% knowledge gap. The intervention wards have better knowledge (UMHP ward – 68.1% and HPMI ward – 65.2%) compared to the control ward (62.5%). This indicates that community-based intervention implemented by IS was effective. This necessitates

Table 2b: Multiple logistic regression to identify predictors of stigma attached to mental health

Variable category	Subcategory	Significant	Adjusted OR	95% CI of adjusted OR	
				Lower bound	Upper bound
Ward	Comparison ward	0.95	1.023	0.433	2.417
	HPMI ward	0.01	0.613	0.306	1.227
	UMHP ward	-	-	-	-
Sex	Female	0.92	0.967	0.491	1.905
	Male	-	-	-	-
Employment	No	0.06	1.877	1.004	3.507
	Yes	-	-	-	-
Family type	Joint	0.84	0.944	0.533	1.671
	Nuclear	-	-	-	-
Marital status	Married	0.63	1.292	0.444	3.762
	Separated and divorced	0.87	0.781	0.036	17.040
	Unmarried	0.98	0.990	0.286	3.429
	Widow/widower	-	-	-	-
Substance use	No	0.28	0.702	0.369	1.338
	Yes	-	-	-	-
Education	Above graduate	0.44	0.661	0.232	1.888
	Graduate	0.96	0.958	0.145	6.354
	Class XI–XII	0.50	1.482	0.461	4.759
	Class I–X	0.06	0.432	0.178	1.049
	Illiterate	-	-	-	-
Religion	Hindu	0.54	1.230	0.633	2.389
	Muslim	-	-	-	-
KAP score	0–22.5	0.23	0.619	0.280	1.370
	>22.5	-	-	-	-

HPMI: Homeless people having mental illness, UMHP: Urban mental health program, CI: Confidence interval, OR: Odds ratio, KAP: Knowledge, attitude, and practice

Table 3: Community-wise distribution of knowledge, attitude, and practice score

Ward	Mean	SD	Median	Range
UMHP ward	26.53	2.282	27	11
HPMI ward	25.45	3.219	26	15
Comparison ward	24.46	3.263	25	15

HPMI: Homeless people having mental illness, UMHP: Urban mental health program, SD: Standard deviation

replication of such community-based intervention model. When the frontline care is delivered by trained community health workers in partnership with primary care physicians, such mental health-care model yields very good results. In our study, type of the community is an independent factor to influence the level of KAP. Studies found that people with poor knowledge about mental illness were associated with negative attitude and more stigma toward people with severe mental illness.^[26,27] Thus, information leads to the need of community-based intervention design aiming toward raising awareness and stigma reduction. This is relevant in the context that mental health policy is being launched on an experimental basis in India by the health and family welfare department.

Another area of importance is the exploration of stigma in this study. In this study, overall 29.6% of respondents agreed that visiting a psychiatrist or psychologist means that the

concerned person has a mental illness. This indicates that a certain proportion of people due to their high level of stigma are reluctant to access mental health-care services. In any community-based intervention, stigma is an issue that needs to be addressed. Our study identified that community is a factor that influences the level of stigma attached to access to mental health care. The level of stigma is 40.4% in HPMI, 25.5% in UMHP, and 24.5% in comparison ward. The intervention wards have more stigma level than comparison ward. This implies that intervention strategies did not bring about reduction of stigma in intervention wards. Or another possibility is community variations. The intervention community might have more stigmas at the baseline of the project. It is possible that due to the intervention, and increased knowledge, the stigma may have been revealed out. Its reduction is then the next step. Someone may also postulate that the strategies adopted under the program were not effective in the reduction of stigma. This calls for newer strategies to address the problems. Stigma is a deeply rooted sociocultural vague concept and cannot be easily assessed. The stigma is an under-researched area. The extent of stigma, the way it works, and its effects are under-researched.^[28] As per our review, our study is the first attempt in India to measure the form and extent of stigma attached to mental health. Additional studies in our region will be required to explore the extent of stigma and its effect on access to mental health care in a community.

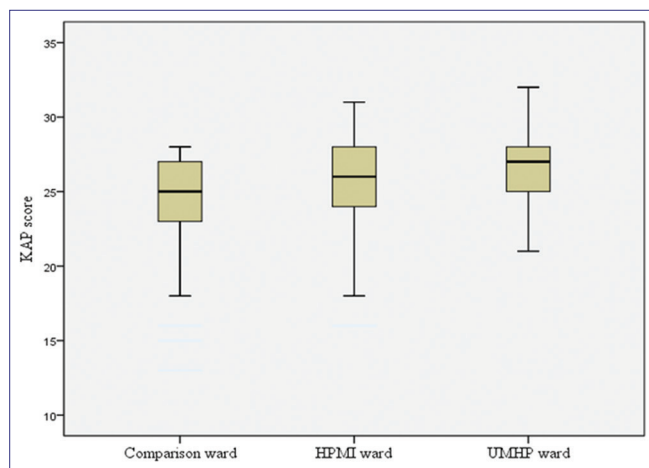


Figure 1: Community-wise box-plot distribution of knowledge, attitude, and practice score

Limitations

The data analysis was performed based on data collected from UMHP, HPMI, and comparison wards with the randomly selected samples and conclusions were made henceforth. The results may be little biased for this reason because it may not be a full representation of the whole community.

CONCLUSION

KAP attached to mental health are barely researched areas. Our study in this context explored the area in Kolkata which is a metro city in India. The study also identified the type of community as a predictor of the level of KAP. It also addressed stigma as an area for further research. Any community design for a mental health-care program should hence address community variations and stigma attached to the community. The study has widened the scope for further extended study to explore the area of KAP and stigma attached to mental health in the context of mental health policy implementation in recent years.

Highlights

- The study has revealed out that people have 34.6% comprehensive knowledge gap about mental health
- Perceived stigma attached to mental health counts to be approximately 29.6%
- Factor that influences the level of knowledge and stigma is the type of community and thus ethnography of the people
- Community-based mental health-care intervention seems to be effective to bring about enhanced knowledge about mental health care
- Further explorative study is required to measure the extent of stigma and various factors that shape the extent of stigma and the causal pathway by which stigma acts as a barrier against access to mental health-care service.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Basu R, Sau A, Saha S, Mondal S, Ghoshal PK, Kundu S. A study on knowledge, attitude, and practice regarding mental health illnesses in Amdanga block, West Bengal. *Indian J Public Health* 2017;61:169-73.
2. Charles H, Manoranjitham SD, Jacob KS. Stigma and explanatory models among people with schizophrenia and their relatives in Vellore, south India. *Int J Soc Psychiatry* 2007;53:325-32.
3. Luty J, Umoh O, Sessay M, Sarkhel A. Effectiveness of changing minds campaign factsheets in reducing stigmatised attitudes towards mental illness. *Psychiatr Bull* 2007;31:377-81.
4. Link BG, Struening EL, Rahav M, Phelan JC, Nuttbrock L. On stigma and its consequences: Evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *J Health Soc Behav* 1997;38:177-90.
5. Wolff G, Pathare S, Craig T, Leff J. Community knowledge of mental illness and reaction to mentally ill people. *Br J Psychiatry* 1996;168:191-8.
6. National Mental Health Survey of India, 2015-16: Prevalence, Pattern and Outcomes. National Institute of Mental Health and Neuro Sciences, Bengaluru. Available from: <http://indianmhs.nimhans.ac.in/Docs/Report2.pdf>. [Last accessed on 2010 May 04].
7. Ogorchukwu JM, Sekaran VC, Nair S, Ashok L. Mental health literacy among late adolescents in South India: What they know and what attitudes drive them. *Indian J Psychol Med* 2016;38:234-41.
8. Nandi DN, Ajmany S, Ganguly H, Banerjee G, Boral GC, Ghosh A, *et al.* Psychiatric disorders in a rural community in West Bengal: An epidemiological study. *Indian J Psychiatry* 1975;17:87-99.
9. Nandi DN, Banerjee G, Ganguly H, Ajmany S, Boral GC, Ghosh A, *et al.* The Natural history of mental disorders in a rural community: A longitudinal field-survey. *Indian J Psychiatry* 1978;21:390-6.
10. Sen B, Nandi DN, Mukherjee SP, Mishra DC, Banerjee G, Sarkar S. Psychiatric morbidity in an urban slum-dwelling community. *Indian J Psychiatry* 1984;26:185-93.
11. Nandi DN, Banerjee G, Mukherjee SP, Ghosh A, Nandi PS, Nandi S. Psychiatric morbidity of a rural Indian community. Changes over a 20-year interval. *Br J Psychiatry* 2000;176:351-6.
12. Shrivastava A, Johnston M, Bureau Y. Stigma of mental illness-1: Clinical reflections. *Mens Sana Monogr* 2012;10:70-84.
13. Kumar KV, Chandrasekhar CR, Gangadhar BN, Suresh BM, Kumar PT, Prakash O, *et al.* Mental health care in primary care for medical officers. Department of Psychiatry, NIMHANS (Work Book). Bengaluru (All copyright reserved to National Institute of Mental Health and Neurosciences, Bangalore, India); 2008. p. 58. Available from: file:///C:/Users/WPC/Downloads/Mental_Health_Care_in_Primary_Care_for_MedicalOfficers-My_Work_Book.pdf. [Last accessed on 2020 May 04].
14. Kolar Sridara Murthy M, Govindappa L, Sinha S. Outcome of a school-based health education program for epilepsy awareness among schoolchildren. *Epilepsy Behav* 2016;57:77-81.
15. Mariam MG, Bedaso A, Ayano G, Ebrahim J. Knowledge, attitude and factors associated with mental illness among nurses working in Public Hospitals, Addis Ababa, Ethiopia. *J Ment Disord Treat* 2016;2:1-8.
16. Patel V, Saxena S. Transforming lives, enhancing communities-Innovations in global mental health. *N Engl J Med* 2014;370:498-501.
17. Ministry of Health and Family Welfare, Government of India. Mental Health Policy 2017. Available from: <https://mohfw.gov.in/sites/default/files/9147562941489753121.pdf>. [Last accessed on 2020 April 14].
18. Chowdhury AK, Salim M, Sakeb N. Some aspects of psychiatric morbidity in the out-patient population of a general hospital. *Bangladesh Med Res Counc Bull* 1975;1:51-9.
19. Sen B, Williams P. The extent and nature of depressive phenomena in primary health care. A study in Calcutta, India. *Br J Psychiatry* 1987;151:486-93.
20. Chakrabarty AK. HIV Counselling, Testing and Referral

- Services in Mental Healthcare Settings in Kolkata. Working Series of AMCHSS; 2004. p. 45. http://dspace.sctimst.ac.in/jspui/bitstream/123456789/2086/1/MPH_2004_15.pdf. [Last accessed on 2020 Jan 23].
21. Census of India 2011. Available from: <http://www.censusindia.gov.in/2011Census/pes/Pesreport.pdf>. [Last accessed on 2020 April 14].
 22. Chandramullika D. Baseline Report of Iswar Sankalpa in Kolkata, 2012. Available from: <https://isankalpa.org/>. [Last accessed on 2020 April 14].
 23. Chatterjee S, Naik S, John S, Dabholkar H, Balaji M, Koschorke M, *et al.* Effectiveness of a community-based intervention for people with schizophrenia and their caregivers in India (COPSI): A randomised controlled trial. *Lancet* 2014;383:1385-94.
 24. Atkinson M, Zibin S, Chuang H. Characterizing quality of life among patients with chronic mental illness: A critical examination of the self-report methodology. *Am J Psychiatry* 1997;154:99-105.
 25. Jenkins R, Bebbington P, Brugha T, Farrell M, Gill B, Lewis G, *et al.* The national psychiatric morbidity surveys of great Britain-strategy and methods. *Psychol Med* 1997;27:765-74.
 26. Vijayalakshmi P, Reddy D, Math SB, Thimmaiah R. Attitudes of undergraduates towards mental illness: A comparison between nursing and business management students in India. *South Afr J Psych* 2013;19:66-73.
 27. Sahile Y, Yitayih S, Yeshanew B, Ayelegne D, Mihiretu A. Primary health care nurses attitude towards people with severe mental disorders in Addis Ababa, Ethiopia: A cross sectional study. *Int J Ment Health Syst* 2019;13:26.
 28. Van Rie A, Sengupta S, Pungrassami P, Balthip Q, Choonuan S, Kasetjaroen Y, *et al.* Measuring stigma associated with tuberculosis and HIV/AIDS in southern Thailand: Exploratory and confirmatory factor analyses of two new scales. *Trop Med Int Health* 2008;13:21-30.