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Original Research Article

# Attitudes, Beliefs and Social Distances towards Persons with Mental Illness among Health Workers in Two Tertiary Healthcare Institutions in Akwa Ibom State, South-South Nigeria

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#### **ABSTRACT**

**Background**: Studies on attitudes towards mental illness among health workers in many countries and cultures worldwide have reported a high level of negative attitudes and social distance towards mental illness and the mentally ill persons.

**Objective:** To determine the attitudes of health workers towards mental illness and their preferred social distance from persons with mental illness in tertiary healthcare setting.

**Methods:** This was a cross-sectional descriptive study conducted on a sample of health workers in two tertiary healthcare setting. A convenience sample of 133 health workers completed the Beliefs towards Mental Illness scale (BMIS) and the modified Bogardus social distance scale.

**Results:** The mean age of respondents was  $40.11 \pm 9.0$  years, consisting of 52.3% males and 47.7% females. The mean social distance from the mentally ill persons was  $2.86 \pm 1.12$ . A high proportion of health workers held negative beliefs towards the mentally ill persons. The attitudes and social distance scores were significantly related the professional orientation of the workers, fear of dangerousness of the mentally ill persons and family history of mental illness.

**Conclusion:** Negative beliefs, attitudes and high social distances towards persons with mental illness is prevalent among health workers and it is detrimental to effective delivery of health care services. These beliefs and attitudes are amenable to psychiatric education and training. Hence, continuing medical education for all health workers is recommended.

Key words: Mental illness, stigmatizing attitudes, social distance, health workers, Nigeria

## **INTRODUCTION**

Mental and behavioral disorders are common and constitute increasing public health and socio-economic burden worldwide. According to a WHO report, more than 25% of all people are affected at some time during their lives. Worldwide, more than 600million people have mental health challenge, with an estimated 350 million people suffering from depression, 21 million from schizophrenia and other

psychosis, 60 million from bipolar affective disorders and 47.5 million from dementia. It is estimated that in any given year, 8.25% to 29.1% of individuals are mentally ill and life time prevalence ranges from 12.2% to 48.6%. [1,2] Negative attitudes towards persons with mentally illness are common worldwide Studies show that in the low and middle income countries (LAMICs), many with traditional cultures, there is a high level of stigma towards mental illness. Persons

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with mental health conditions like severe forms of schizophrenia have attracted negative perceptions and are often stigmatized by the general society which holds many stereotypes and prejudices towards the mentally ill. [3-6] Stigma towards mental illness can be expressed as social distance which describes the proximity one desires between oneself and another person in a social situation. It has been used to access stigma and discriminatory behavior towards adults with mental illness. [7,8]

Studies from Nigeria and other developing cultures have reported that stigma towards the mentally ill is prevalent, widespread and that the mentally ill persons are seen as crazy, dangerous and often looked at with disfavor. [9-12]

The World Health Organization (WHO) has described stigma as a mark of shame, disgrace or disapproval that results in an individual being shunned or rejected by others. <sup>[1]</sup> The stigma and discrimination experienced by the mentally ill persons have experienced difficulties with help seeking, housing, education and employment prospects. <sup>[13,14]</sup>

associated with Stigma illness is more frequently reported in the general community than in the medical community. [15] However, studies from different countries worldwide have reported high levels of stigma towards the mentally ill persons among health care professionals. [16-18] Healthcare professionals tend to hold beliefs, prejudices and negative attitude towards the mentally ill that are prevalent in the general population. [19] A previous study shows that medical professional tend to share the same negative views on mental illness as the general public. Among psychiatrist, a more positive attitude was reported compared to the general population and other professions. [20]

For effective healthcare delivery services to ensure that the mentally ill persons are treated and reintegrated into the socio-economic life of their families and the wider communities, it is important that health workers are not hampered by stigmatizing attitudes. About 15% to 50% of patients attending various healthcare setting have mental health challenge and a substantial number of these patients will receive medical attention by non-psychiatrist medical professionals and therefore serve as important points of contact for persons with mental health difficulties who are seeking help in the pathway of care. [21,22]

Many of the studies on stigma and mental illness have been from community surveys and far less on health workers in the hospital setting. Most of these studies have been conducted in western industrialized countries with well developed healthcare delivery systems. This study aims to explore attitudes of healthcare workers to mentally ill persons in a developing country setting.

# **MATERIALS AND METHODS**

#### **Study centre**

This study was conducted at the Department of Mental Health, University of Uyo Teaching Hospital. The hospital is a 500 bedded tertiary referral centre in Uyo, a capital city in the oil rich south-southern region of Nigeria and the Akwa Ibom State Psychiatric Hospital, situated at Eket, a Local Government Area headquarter, 50 kilometers from Uyo. Ethical approval was from the Hospital obtained Committee and the Medical Advisory Panel on Research. Permission was also obtained from the State Psychiatric Hospital Management.

#### **Participants**

The sample consisted of 133 mental health and non mental health workers which included doctors, nursing staff, and hospital administrators selected randomly at these hospitals. The subjects were informed about the purpose of the study, were assured of confidentiality, and included in the study after obtaining their consent.

Participants self-completed the questionnaires which included socio-demographic proforma to obtained information about age, sex, marital status, place of residence of participants, existence

of mental illness in the family, relatives or neighbors.

Beliefs toward Mental Illness Scale (BMI): The BMI was developed by Hirai and Clum. [23] The BMI, which assess negative views towards mental illness, consists of 21 items. The score obtained from the scale indicates the level of negative beliefs about mental illness. The BMI is sixpoint likert-type scale, and includes the grades "completely disagree" (0), "mostly disagree" (1), "partially disagree" (2), "partially agree" (3), "mostly agree" (4) and "completely agree" (5). The scale is interpreted according to both total scores and subscale scores. The BMI consists of three subscales 1. Dangerousness subscale: Consists of eight items relating to the dangerousness of mental illness patients. The obtainable score from this subscale varies between 0 to 40.

(2) Poor social and interpersonal skills and incurability: Consists of 11 items covering the effect of mental illness on interpersonal relationships and related feelings of despair. It assesses the level of frustration and despair in interpersonal relationships with individuals with a mental illness. The obtainable score from this subscale varies between 0 to 55. (3) Shame subscale: Consists of two items stating that mental illness is a condition to be ashamed of. The obtainable score from this subscale varies between 0 to 10.

The Bogardus social distance scale [24] is a psychological testing scale that measure people's willingness to participate in social contacts of varying degrees of closeness with members of diverse social groups such as racial and ethnic groups. Social distance questions asked how willing respondents would be to 1. Have the person marry into the family 2. Make friends with the person, 3. Start working closely with the person, and 4. Move next door to the mentally ill person. Responses on a likert scale (1 = definitely, 4 = definitely not). Higher scores represented higher social distances.

# **Statistical analysis**

The results of the study were analysed using the Statistical Package for Social Sciences (SPSS 20.0). Descriptive statistics were used for general description study participants. Numbers percentages were used for categorical variables, average and standard deviation were used for continuous variables to represent the data obtained from the study. To assess associations and relationships between variables, inferential statistics such the Student's t-test and Pearson as correlation was used. The level of significance was set at p<0.05.

#### **RESULT**

A total of 133 healthcare workers were included in the study. The mean age of participants was  $40.11 \pm 9.03$  years. The age distribution of the respondents indicated that 62.4% were above 40 years of age.

Table 1: Socio-demographic characteristics of respondents

Variables	Participants
	N(%)
Mean Age	40.11±9.03
Age in years	
25-40	50(37.6)
41-55	83(62.4)
Sex	
Male	70(52.3)
Female	63(47.7)
Marital Status	
Single	53(39.6)
Married	80(60.4)
Place of Residence	
Urban	105(78.9)
Rural	28(21.1)
Job description	
Consultants	18 (13.5)
Resident Doctors	28 (21.1)
House officers	15 (11.3)
Nurses	37 (27.8)
Others (pharmacists, lab technicians, etc)	35 (26.3)
Length of time in health services	
≤ 5 years	28(20.7)
> 5 years	105(79.3)
Use of Mental Health Services	
Yes	5(3.8)
No	128(96.2)
Use of Mental health services by neighbour	
Yes	14(10.2)
No	119(89.8)
Family History of Mental Illness	
Yes	20(15.0)
No	113(85.0)

More than half of study participants were males (52.3%). The majority of them (60.4%) were married. Five participants

representing 3.8% had utilized mental health service. About 10.2% of respondents reported knowing someone in the

neighborhood who had mental health challenge and 15.0% reported a positive family history of mental illness. See Table 1

Table 2: Proportion of respondents positively endorsing statements on the beliefs about mental illness scale		
statement		)
It may be a good idea to stay away from people who have psychological disorder because their behavior is dangerous	87	65
A mentally ill person is more likely to harm others than a normal person	93	70
Mental disorders would require a much longer period of time to be cured than would other general diseases	120	90
I would not trust the work of a mentally ill person assigned to my work team	47	35
The term "psychological disorder" makes me feel embarrassed	53	40
A person with psychological disorder should have a job with only minor	73	55
Responsibilities		
Mentally ill people are more likely to be criminals	20	15
Psychological disorder is recurrent	120	90
I am afraid of what my boss, friends, and others would think if I were diagnosed as having a psychological disorder	73	55
Individuals diagnosed as mentally ill suffer from its symptoms throughout their Life	80	60
People who have once received psychological treatment are likely to need further treatment in the future	120	90
It might be difficult for mentally ill people to follow social rules such as being punctual or keeping promises	72	65
I would be embarrassed if people knew that I dated a person who once received psychological treatment	87	60
I am afraid of people who are suffering from psychological disorder because they may harm me	100	75
A person with psychological disorder is less likely to function well as a parent	33	25
I would be embarrassed if a person in my family became mentally ill	100	75
I believe that psychological disorder can never be completely cured	93	70
Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities	60	45
Most people would not knowingly be friends with a mentally ill person	100	75
The behavior of people who have psychological disorders is unpredictable	120	90
Psychological disorder is unlikely to be cured regardless of treatment	47	35

# Attitudes to mental illness among health workers

Among all health professionals, a high proportion of respondents endorsed statements that suggest that the behavior of the mentally ill are dangerous (65%), incurability of mental illness (70%), potential for harm to other (90%) and unpredictability of behavior (90%). A higher proportion of respondents endorsed more negative opinions and attitudes in nineteen items out of the twenty-one of the evaluated BMI scale items (Table 3). In

between workers groups' analysis shows that significant differences exist among the health workers in terms of the total attitude score and the dangerousness subscale but not for the shame and incurability subscales. The total attitude scores indicates that the mental health workers had a more positive attitudes and better understanding of mental illness compared to the non-mental health workers (p= 0.02) indicating that professional orientation had impact on attitudes towards mental illness.

Table 3: Social distance and attitude scores of Mental and non-mental health workers towards persons with mental illness

Variables	Mental health workers Mean(SD)	Non-mental health workers Mean(SD)	statistics	p-value
Attitude score				
Dangerousness subscale	21.97±2.46	23.54±3.89	t=-2.12	0.009
Poor social/interpersonal skill	17.42±9.74	20.35±10.56	t=-1.44	0.16
Shame subscale	2.81±1.45	2.80±1.54	t=0.008	0.9
Total score	44.18±19.27	54.56±25.69	t=-2.40	0.02
Social distance scale	1.97±1.01	3.14±1.01	t=-5.6	< 0.001

Significant difference was observed among the health workers on the perception of dangerousness of the mentally ill persons (p=0.009). The non-mental health workers were more likely to endorse negative beliefs about dangerousness of the mentally ill compared to the mental health workers. The respondents who endorsed negative views

on dangerousness of the mentally ill were also more likely to desire higher social distances from them (P=0.03). By the shame and incurability scores, there was significant statistical differences between the two workers group implying that mental health workers were as likely as non-mental health workers to hold similar beliefs of

incurability (p=0.16) and shame (p=0.9) concerning the mentally ill persons (Table 3). The impact of socio-demographic characteristics on the attitude of health workers towards mental illness was varied. Having a family member with mental illness had a significant influence on health

workers' attitude to mental illness. There was no significant difference of attitudes towards mental illness among respondents on the bases of age, gender, marital status and years in service of respondents. See table 4.

Table 4. Attitude scores of health workers to mental illness by so	socio-demograj	phic characteristics
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Variables	Mean(SD)	Statistics	P-value
Age			
≤40 years	53.79±25.07	t=0.85 0.39	
>40 years	50.16±23.93		
Sex			
Male	48.64±23.96	t=0.73	0.47
Female	52.75±24.66		
Family history of mental illness			
Yes	40.48±18.99	t=2.02	0.05
No	50.16±24.56		
Having a neighbor with mental illness			
Yes	51.75±25.35	t=0.28	0.76
No	52.50±22.72		
Duration of service			
≤5 years	50.71±25.93	t=0.40	0.68
>5years	52.46±23.64		

# Social distances of health workers to persons with mental illness

The mean social distance score of the respondents was 2.86±1.12. In this study a higher proportion of respondents (62.9%) had social distance scores above 2 the midpoint of the scale, indicating that most respondents desired high social distance from the mentally ill. i.e the closer the psychological proximity (e.g., a mentally ill person in a marital union compared to working alongside someone with a mental illness) the lesser the proportion of respondents endorsing it. There was a significant difference in the preferred social distances of respondents on the bases of professional orientation as the non-mental health workers were more likely to prefer higher social distances compared to mental health workers (p<0.001).

There was significant correlation between the preferred social distance and the perception of dangerousness (p=0.03). This indicates that the belief that a person is likely to be violent may be a factor in the desire to maintain a higher social distance from that person. There was no association found between the preferred social distances

on the bases of gender, age and duration of work.

## **DISCUSSION**

This study examined the attitudes of health workers towards mentally ill persons and the factors influencing it. A high proportion of health workers hold negative beliefs about mental illness and prefer high social distances from persons with mentally illness. This finding is consistent with previous hospital and community based studies from Nigeria [16,25,26] which have reported a high level of stigmatizing beliefs and social distances towards persons with mentally illness. Our result is also similar to findings from several studies worldwide which have reported high levels of stigmatizing attitudes towards persons with mental illness among health workers. [27-29] The beliefs held by health workers in our sample may stem from the fact that they have imbibed the beliefs prevalent in the general society in spite of being better informed in medical knowledge than the general population. Being an integral part of the general community they also tend to

hold similar beliefs and attitudes prevalent in the local system of beliefs. [30]

It is observed in this study that a large proportion of respondents has expressed imaginary fear about the mentally ill persons and have endorsed beliefs which suggest that the sick persons have a very high potential for harm, dangerousness and incurability. Previous studies have reported that this perception is a contributory factor to the negative attitudes, prejudices and high social distances which people keep from persons with mentally illness. [31]

In many cultures around the world, general beliefs about mental illness include that individuals with mental illness are dangerous, that their behavior in relationships interpersonal cannot controlled and can be inappropriate, and their illness cannot be treated. [29,32] These beliefs held by many in the general populace in many developing countries may also contribute in part to the negative attitudes held by health workers in this study. [9,11]

We found a significant relationship between professional orientation of workers and the attitudes and social distance preferred by them towards the mental ill persons. The mental health workers had more positive attitude towards mentally sick persons than their non mental health counterparts. Plausible reasons that may underlie these observed differences in beliefs between health workers groups include lack of accurate information about mental illness, lack of regular contact with individuals with mental illness. [33] In this study, majority of respondents reports not having a relative or neighbor with mental illness. The higher levels of negative attitudes and high social distances among non-mental health workers seems to suggest that increasing knowledge about mental illness and the mentally ill has the potential to reduce stigma and social distances towards the mentally ill persons.

The role of education and knowledge about mental illness in reducing stigma has long been noted in stigma

literature. Previous studies have reported that the psychiatric exposure of medical and paramedical staff during training is grossly inadequate which eventually leads to insufficient knowledge and misconceptions about psychiatric illnesses and their treatments. [34-36] The attitudes of health workers particularly the non-mental health professionals are important as they are also caregivers for the mentally challenged population due to the significant numbers of patients in hospitals who have co-morbid medical and psychiatric problems. In addition, a large proportion of the mentally ill persons may seek medical attention with the primary care physicians, nurses and other health workers in the medical and community treatment setting because of stigma that is reportedly more associated with treatment in specialised tertiary mental healthcare settings in some cultures. [37,38]

Contact and proximity have been reported to play significant roles in reducing stigmatising attitudes towards illness. This stigma reducing impact of previous contact with mentally ill persons is supported in this study. Respondents with a family history of mental illness were significantly less likely to endorse negative beliefs. This result is similar to previous studies which have reported that persons with mentally ill relatives were more likely report more favourable and stigmatizing beliefs. [38,39] A study had reported that those who have known people treated for schizophrenia and having better knowledge of the illness, and not mere exposure to it, was a central modifiable factor of negative attitudes. [40]

### **CONCLUSION**

This study highlight the need for continuing medical educational programs directed at medical and paramedical staff by providing basic information capable of changing negative attitudes that may exist among healthcare givers thus improving healthcare delivery.

#### **REFERENCES**

- 1. WHO: The World Health Report. Mental health: New understanding; new hope, 2001. [http://www.who.int/whr2001/2001/]. WHO, Geneva, Switzerland.
- 2. WHO: Depression and other common mental disorders: Global Health Estimates, 2017.
- 3. Bhugra D. Attitudes towards mental illness: a review of the literature. Acta Psychiatr Scand. 1989; 80: 1-12.
- 4. Gray A J. Stigma in psychiatry. J Roy Soc Med. 2002; 95:72-76.
- 5. Brener L, Rose G, Von Hippel C, Wilson H. Implicit attitudes, emotions and helping intentions of mental health workers toward their clients. J Nerv Ment Disord, 2013; 201(6): 460-463.
- 6. Fabrega Jr. H. Psychiatric Stigma in Non-Western Societies. Comprehensive Psychiatry, 1991;32:534-535.
- 7. Link B. Yang L, Phelan J, Collins P. Measuring mental illness stigma. Schizophrenia Bulletin 2004; 30:511-541.
- 8. Marie D, Miles B. Social distance and perceived dangerousness across four diagnostic categories of mental disorders. Australian and New Zealand Journal of Psychiatry 2008; 42:126-133.
- 9. Adebowale TO, Ogunlesi AO. Beliefs and knowledge about aetiology of mental illness among Nigerian psychiatric patients and their relatives. AfrJ Med Med Sci 1999;28(1-2):35-41
- Adewuya AO, Makanjuola RO. Social distance towards people with mental illness in southwestern Nigeria. Aust N Z J Psychiatry 2008,42(5):389-395.
- 11. Gureje O, Lasebikan VO, Ephraim-Oluwanuga O, Olley BO, Kola L.Community study of knowledge of and attitude to mental illness in Nigeria.Br J Psychiatry 2005;186:436-441.
- 12. Awaritefe A, Ebie JC. Contemporary attitudes to mental illness in Nigeria. African Journal Psychiatry 1975; 1:37-43.
- 13. Link B, Yang L, Phelan J, Collins P. Measuring mental illness stigma. Schizophrenia Bulletin 2004; 30: 511-541.
- 14. Nordt C, Rossler W, Lauber C. Attitudes of mental health professionals toward people with schizophrenia and major depression. Schizophr Bull 2006; 32: 709-714.
- 15. Jugal K, Mukherjee R, Parashar M, Jiloha R C, Ingle G K. Beliefs and attitudes towards mental health among medical professionals

- in Delhi. Indian J Community Med 2007;32:198-200
- 16. Hansson L, Jormfeldt H, Svedberg P, Svensson B. Mental health professionals' attitudes towards people withmental illness: Do they differ from attitudes held by people with mental illness? Int J Soc Psychiat. 2013;59: 48-54.
- 17. Brener L, Rose G, Von Hippel C, Wilson H. Implicit attitudes, emotions and helping intentions of mental health workers toward their clients. J Nerv Ment Disord. 2013; 201(6): 460-463.
- 18. Aina OF, Oshodi Y, Erinfolami AR, Adeyemi JD, Suleiman TF. Non-mental health workers' attitudes and social distance towards people with mental illness in a Nigerian teaching hospital. South Sudan Medical Journal 2015;8(3):57-59.
- 19. Corrigan P. Watson A. The Paradox of Self-Stigma and Mental Illness Clinical Psychology: Science and Practice, Clinical Psychology: Science and Practice. 2002;9: 35-53.
- 20. Imran N. Haider I. The Stigmatization of Psychiatric Illness: What Attitudes Do Medical Students and Family Physicians Hold towards People with Mental Illness? Pakistan Journal of Medical Sciences 2007;23: 318-322.
- 21. Chadda RK, Shome S. Psychiatric aspects of clinical practice in general hospitals: A survey of non-psychiatric clinicians. Indian J Psychiatry. 1996;38:86-92
- 22. Morgan AJ, Reavley NJ, Jorm AF, et al. Experiences of discrimination and positive treatment from health profes-sionals: A national survey of adults with mental health prob-lems. Australian and New Zealand Journal of Psychiatry 2016;50:754-768.
- 23. Hirai M, Clum GA. Development, reliability, and validity of the beliefs toward Mental Illness Scale. J Psychopathol Behav Assess 2000; 22:221-236.
- 24. Crull SR and Bruton BT. Bogardus social distance in the 70s. Sociology and Social Research. 1976;63(4):771-783.
- 25. Makanjuola, A.B. Public stigma towards psychiatric patients in a south-western Nigerian town. Nig Post Med J, 2006;13(3): 210-215.
- 26. Audu, I.A., Idris, S.H., Olisah, V.O., Sheikh, T.L. Stigmatization of people with mental illness among inhabitants of a rural

- community in northern Nigerian. Int J Soc Psychiat, 2013. 59, 55-60.
- 27. Sartorius N. Iatrogenic stigma of mental illness. BMJ. 2002;324:1470-1
- 28. Roth D, Antony MM, Kerr KL, Downie F. Attitudes toward mental illness in medical students: Does personal and professional experience with mental illness make a difference? Med Educ. 2000;34:234-6.
- 29. Mukherjee R, Fialho A, Wijetunge A, Checinski K, Surgenor T. The stigmatization of psychiatric illness: The attitudes of medical students and doctors in a London teaching hospital. Psychiatr Bull. 2002;26:178–81.
- 30. Asuni T, Schoenberg F, Swift C. Ibadan: Spectrum Books Ltd; 1994. Mental health and disease in Africa; pp. 25–32.
- 31. Phelan J, Link B, Stueve A, Pescosolido B. Have public conceptions of mental health changed over the past half century? Does it matter? Paper presented at: 124th Annual Meeting of the American Public Health Association; November 17-21, 1996; New York City.
- 32. Mas A, Hatim A. Stigma in mental illness: Attitudes of medical students towards mental illness. Med J Malaysia. 2002;57: 433–44.
- 33. Luty J, Fekadu D, Umoh O, Gallagher J. Validation of a short instrument to measure

- stigmatised attitudes towards mental illness. The Psychiatrist. 2006;30:257–60.
- 34. Bhaskaran K. Undergraduate training in psychiatry and behavioral sciences. The need to train the trainees. Indian J Psychiatry. 1990;32:1-3
- 35. Kumar A, Goyal U, Ganesh KS, Srivastava MK, Gautam BD, Kumar R. Attitude of postgraduate residents towards psychiatry. Indian J Psychiatry. 2001;43:97-101.
- 36. Roberts LM, Wiskin C, Roalfe A. Effects of exposure to mental illness in role-play on undergraduate student attitudes. Fam Med. 2008;40:477-83.
- 37. Glozier N, Hough C, Henderson M, & Holland-Elliot K. Attitude of nursing staff towards co-workers returning from psychiatric and physical illnesses. Int J Soc Psychiat.2006; 52: 525-534.
- 38. Corrigan PW, Green A, Lundin R, Kubiak MA, Penn DL. Familiarity with and social distance from people who have serious mental illness. Psychiatr Serv. 2001;52:953–8
- 39. Ng SL, Martin JL, Romans SE. A community's attitudes towards the mentally ill. N Z Med J. 1995;108:505-8.
- 40. Stuart H, Arboleda-Florez J. Community attitudes towards people with schizophrenia. Can J Psychiatry 2001; 46:245-52.

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