Rural Physicians' Awareness and Attitudes Towards Mental Disorder and Mental Patients

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【Abstract】　Objective: This study was designed to understand the extent to which township physicians were aware of patients' mental disorders and the physicians' attitudes towards mental disorders, and to analyze the key factors related to the awareness and attitudes. Methods: There were 340 township physicians in Hunan Province participating in this research, who completed the Mental Health Knowledge Questionnaire(MHKQ), the Case Assessment Questionnaire(CAQ), and the Attitude towards Patients with Mental Disorder Questionnaire(APMDQ). Results: The correct-response rate to mental health knowledge questionnaire was 74.1%, and the average of misdiagnosis rate was 41.8%. In terms of stigmatizing attitude, the stigma rate was 64.5%, and the degree of stigma of social distance was even more severe than the stigma of underestimation of patients' ability. Conclusion: The township physicians have a relatively low level of mental health knowledge and are inclined to make erroneous diagnosis about mental disorder. Besides, most physicians have biased attitudes towards patients with a mental disorder.

【Key words】　Physician; Mental health literacy; Stigma; Schizophrenia; Obsessive compulsive disorder; Rural, China

中国乡镇医生精神疾病知识以及对精神病人态度的调查

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【摘要】　目的：本文旨在调查乡镇医生对于精神病知识的知晓程度以及他们对于精神病人的态度，并分析与两者相关的关键因素。方法：采用精神疾病知识调查问卷（MHKQ）、病例分析问卷（CAQ）以及态度调查问卷（APMDQ）对340名湖南省乡镇医生进行调查。结果：知识调查问卷的正确率为74.1%，平均误诊率为41.8%，对精神病人的歧视率为64.5%。其中乡镇医生对精神病患者的社会距离歧视程度比对精神病患者能力低估的歧视更为严重。结论：乡镇医生对精神卫生知识知晓率较低，对精神疾病误诊率高，并对精神病患者存在歧视。

【关键词】　医师；精神病知识；歧视；精神分裂症；强迫症；中国农村

1　Introduction

According to the World Health Organization (WHO) and the World Economic Forum(WEF) (Insel, 2011), mental illness represents the biggest economic burden of any health issue in the world, costing $2.5 trillion in 2010, which would increase to $6 trillion by 2030 and two-thirds attributed to disability and loss of work. Township in today's China is an administrative level above the village but below the county, while the truth is Chinese township physicians usually have low level of mental health literacy. Mental health services were severely lack in township, because township physicians were more inclined to neglect the mental disorder. However, mental patients have significantly increased likelihood of demonstrating chronic physical health disorders compared to persons without mental disorder, which put mental patients' process, prognosis and life quality at risk(An, 2013; He, 2012; Scott et al., 2012). According to the finding of Li, et al. (2014), the vast majority of patients first visited local secondary/tertiary general hospitals, but about 75.4% of them did not receive professional diagnosis and treatment. In other words, the primary care does not act as a gatekeeper to mental health services. According to a meta-analysis in United Kingdom, general physicians had

considerable difficulty accurately identifying distress and mild depression in primary care, and only one third of them can make correct diagnosis(Mitchell, Rao, & Vaze, 2011). Besides, general practitioners, compared to the professional psychiatric physicians, are in the lack of sufficient knowledge and sensitivity. As a result, it is quite impossible for them to make correct diagnosis or even to provide best care(Alexander & Fraser, 2008; Carey et al., 2014; Susman, Crabtree, & Essink, 1995).

In its "Attitudes Towards Mental Illness" report (Rosemarin Kobau), the Centers for Disease Control (CDC) noted that stigma can hinder prioritization of public resources and results in poorer quality of care. One research review of 22 studies which focused on barriers to care and mental illness determined that stigma was the top reason and the biggest barrier why people with mental illness did not engage in medication adherence(Gulliver, Griffiths, & Christensen, 2010). Compared to the general populations, however, both medical staff and medical students in the West and in China have higher level of stigmatizing attitude towards mental patients(Serafini et al., 2011; Yan, 2013). Therefore, regardless of the position, medical staff around the world tends to possess more or less stigmatizing attitudes towards mental patients, which put patients' quality of medical services at risk. However, because of different utility of implementation, we still could not figure out to what extent the level of physicians' biased attitude will be.

To the best of our knowledge, there is a lack of studies on the Chinese township physicians' awareness and knowledge and their attitudes towards mental patients. Considering the low rate of diagnosis of mental disorders and the widespread biased attitudes of medical staff, the quality of mental health services in townships and villages are of great concern. Hence, the purpose of the present study contributes to enrich the deficiency of the studies in this field.

2   Method

2.1   Participants

Participants were recruited from a training program for township physicians which was held by Hu-nan Ministry of Health. These participant are randomly selected from 13 rural places, including Shaoyang, Yongzhou, Chenzhou, Xiangtan, Hengyang, Xiangxi, Loudi, Changde, Yiyang, Huaihua, Zhangjiajie, Yueyang and Zhuzhou. They voluntarily took part in this training program to obtain knowledge about mental health, and nearly all of them have not received similar training program before. Questionnaires were delivered at the beginning of the program, so the training program had no effect on the answer of questionnaire. The investigation was under surveillance of researchers, ensuring that the participants answered independently(for example, not seeking help from others or through Internet). At last, all of 353 physicians from 16 towns of Hunan Province were enrolled in this survey, and 340 of them (96.3%) fully completed the questionnaires. None of the participants was paid for the survey or had conflict of interest in the present study. In addition, the study was approved by Xiangya Hospital Ethics Committees. The research protocol including the instruments were approved by the Institutional Review Board (IRB) of the university the first author is affiliated with, and all the participants had to read and sign the informed consent before started to take the survey study.

2.2   Measurements

The investigation forms included a demographic description form, the Mental Health Knowledge Questionnaire(MHKQ), the Case Assessment Questionnaire (CAQ), and the Attitude towards Patients with Mental Disorder Questionnaire(APMDQ). In addition, MHKQ has five factors, including awareness of mental health promotion activities(Factor 1), belief that mental disorders are uncommon and unchangeable(Factor 2), normalization of psychological problems and mental disorders(Factor 3), mental health is part of overall well-being(Factor 4), and incorrect beliefs about causes of mental disorders(Factor 5). These three questionnaires were developed by Chinese Ministry of Health (2011), and were widely used in every city of China with a standard and unified criteria.

The MHKQ contains 20 items(Table 1). One point was given for each correct answer, so the total score ranged from 0 to 20, with higher score representing better "mental health literacy." The correct-response rate

to MHKQ=(sum of all correct items)÷(340 subjects×20 items)×100%. A previous study, by using this questionnaire among 1,237 middle school and high school students, reported a Cronbach's alpha value of 0.73 for the 20 items in the scale, indicating acceptable test−retest reliability of the total knowledge score among 97 students(r=0.68, P<0.001) (Zhong, 2011).

The CAQ includes five cases that describe major depression disorder(MDD), mania, schizophrenia with positive symptoms(Sch+), schizophrenia with negative symptoms(Sch−), and obsessive compulsive disorder (OCD). The average of misdiagnosis rate=(1−the sum of all correct case assessment rate/5)×100%. CAQ was developed by Chinese Ministry of Health with standardized application in the every city of China. It has been known that this questionnaire had already been applied in the study of Wang(2013), indicating that it had a convincing reliability and validity.

The APMDQ concerns about physicians' stigmatizing attitude towards patients with mental disorder. Items 1, 2, 3, 4, 8 and 10 were scored "Agree=0 and Disagree=1," while items 5, 6, 7, 9, 11 and 12 were scored "Agree=1 and Disagree=0." The total score ranged from 0 to 12, indicating that higher score means higher level of stigmatizing attitude. The stigma rate to APMDQ=(sum of all stigma items)÷(340 subjects×12 items)×100%. In analysis, gender was dichotomized by male(1) and female(0). Physicians' title was measured by internship, residents and fellowship and educational background was measured by junior medical college and medical university. This questionnaire was developed by Chinese Ministry of Health with standardized application in the every city of China. Moreover, many researchers had utilized APMDQ as a useful implementation, such as Xi(2014), Yan(2013), Hu(2012) and Zhang(2013), proving a convincing reliability and validity.

2.3 Statistical Analysis

Statistical analysis was performed by using the PAWS Statistics, SPSS 18.0. Two sample t−tests(P<0.05) or analysis of variance(ANOVA, P<0.05) was used to explore the between groups difference in the demography of MHKQ scores. Multiple regression analy-

sis(P<0.05) was used to explore the associations of the MHKQ scores with the demography, such as the gender, age, job years, education background and physicians' title. In addition, multiple liner regression analysis was also used to explore the association of the APMDQ scores with the demography and five factors in MHKQ(P<0.05). Besides, Pearson correlation and paired t−test were used to explore the correlation of the two factors in the APMDQ(P<0.05).

3 Results

3.1 Correct−response rate to MHKQ

The final sample included 340 physicians (male=227, female=113), aged from 19 to 52 years old(mean age 33.94±7.19). We got a 74.1% correct−response rate (mental health literacy) in this study. Looking through the results, participants' score to MHKQ ranged from 8 to 20(mean score 14.86±1.94). The most likely to be answered correctly were "Mental health is a component of health(item 1)." and "Positive attitudes, good interpersonal relationships and a healthy life style can help maintain mental health(item 11)." Items with the lowest correct response answer rates were all 4 items in factor 1: "Awareness of mental health promotion activities (items 17−20)." (See Table 1).

3.2 Associations of the demography with the mental health literacy

The MHKQ scores were different in the participant groups with different age(F=4.376, P=0.013) and job years (F=2.810, P=0.026)(See Table 2). Younger physicians with less job years tend to have higher level of knowledge on mental health(See Table 2).

3.3 Correct−response rate to CAQ

We found that the average of misdiagnosis rate was 41.8%, which was much higher than that of physicians in general hospitals. Township physicians had the lowest correct answer on schizophrenia with negative syndrome(Sch−, 17.9%), which was most likely to be misdiagnosed with major depressive disorders (MDD, 72.1%). While the highest percentage of correct answer on obsessive compulsive disorder(OCD,85.9%). (See Table 3).

Table 1　Responses of the 340 physicians to the 20-item MHKQ

Factor/Item	Questions(Correct Answer)	Correct Response(n, %)
Factor 1: Awareness of mental health promotion activities		
17. Have you heard about International Mental Health Day? (Yes)		65(19.1)
18. Have you heard about the International Day against Drug Abuse and Illicit Drug Trafficking? (Yes)		87(25.6)
19. Have you heard about the International Suicide Prevention Day? (Yes)		56(16.5)
20. Have you heard about World Sleep Day? (Yes)		57(16.8)
Factor 2: Belief that mental disorders are uncommon and unchangeable		
6. Most mental disorders cannot be cured. (No)		250(73.5)
9. Mental disorders and psychological problems cannot be prevented. (No)		287(84.4)
10. Even for severe mental disorders (e.g. Schizophrenia), medications should be taken for a given period of time only; there is no need to take them for a long time. (No)		318(93.5)
13. Psychological problems in adolescents do not influence academic grades. (No)		330(97.1)
14. Middle-aged or elderly individuals are unlikely to develop psychological problems and mental disorders. (No)		323(95.0)
Factor 3: Normalization of psychological problems and mental disorders		
3. Many people have mental problems but do not realize it. (Yes)		329(96.8)
7. Psychological or psychiatric services should be sought if one suspects the presence of psychological problems or a mental disorder. (Yes)		267(78.5)
8. Psychological problems can occur at almost any age. (Yes)		302(88.8)
12. Individuals with a family history of mental disorders are at a higher risk for psychological problems and mental disorders. (Yes)		307(90.3)
15. Individuals with a bad temperament are more likely to have mental problems. (Yes)		271(79.7)
16. Mental problems or disorders may occur when an individual is under psychological stress or facing major life events (e. g. death of family members). (Yes)		320(94.1)
Factor 4: Mental health is part of overall well-being		
1. Mental health is a component of health. (Yes)		339(99.7)
5. Components of mental health include normal intelligence, stable mood, a positive attitude, quality interpersonal relationships and adaptability. (Yes)		320(94.1)
11. Positive attitudes, good interpersonal relationships and a healthy life style can help maintain mental health. (Yes)		338(99.4)
Factor 5: Incorrect beliefs about causes of mental disorders		
2. Mental disorders are caused by incorrect thinking. (No)		220(64.7)
4. All mental disorders are caused by external stressors. (No)		253 (74.4)

Table 2　Associations of the demography with the MHKQ for the 340 physicians

Variable		n(%)	Score	test	P	Multiple comparisons
Gender	Female	113(33.2)	15.93±2.01	$t=-0.490$	0.064	
	Male	227(66.7)	14.82±1.91			
Age in years	19-29 (A)	109(32.0)	15.27±1.88	$F=4.376$	0.013*	A>B>C
	30-39 (B)	140(41.2)	14.79±1.96			
	40- (C)	91(26.8)	14.47±1.90			
Years on the job	0-5 (A)	105(30.8)	15.16±1.87	$F=2.810$	0.026*	A>D, E
	6-10 (B)	81(23.8)	15.09±1.88			B>D, E
	11-15 (C)	42(12.3)	14.95±1.79			
	16-20 (D)	60(17.6)	14.40±2.15			
	21- (E)	52(15.5)	14.33±1.88			
Educational background	Junior medical college	272(80.0)	14.78±1.99	$t=-1.524$	0.128	–
	Medical university	68(20.0)	15.18±1.68			
Physicians' title	Internship (A)	154(45.2)	14.75±2.19	$F=0.447$	0.640	–
	Residents (B)	148(43.6)	14.94±1.67			
	Fellowship (C)	38(11.2)	14.97±1.86			

Note: In the category of "Educational background," "Junior medical college" refers to the colleges that provides elementary medical knowledge, which is inferior to the medical university, and "Medical university" refers to the universities that provide systematic 5-year medical education for the undergraduates; In the category of "Physicians' title," A team represents for medical students still in the stage of internship, B team represents for physicians working under the command of fellows, and C team represents for physicians in charge of a team in a specific department. *means $P<0.05$

Table 3　Responses of the 340 physicians to the five case histories
of individuals with different types of psychiatric problems

Case	Correct answer(n)	Percentage(%)	The most common erroneous diagnosis		
			Diagnosis	Sum(n)	Percentage(%)
MDD	195	57.4	Neurasthenia	106	31.2
Sch+	210	61.8	OCD	55	16.2
Maniac Disorder	232	68.2	Schizophrenia	75	22.1
Sch−	61	17.9	MDD	245	72.1
OCD	292	85.9	Neurasthenia	18	5.3

Note: MDD represents for Major Depression Disorder; OCD represents for Obsessive Compulsive Disorder; Sch+ represents for Schizophrenia with positive syndrome; Sch− represents for Schizophrenia with negative syndrome.

Table 4　Responses of the 340 physicians to the 12−item stigmatizing
attitude towards patients with mental disorder questionnaire

Item/ Factor	Agree n(%)	Disagree n(%)	Mean(SD)	r^a	t^b
Factor 1: Underestimation of patients' ability			3.84(1.36)	0.483***	−5.904***
2. Most people believe that patients have same level of intelligence as normal people.	149(43.9)	191(56.1)*			
4. Most people believe that totally recovered patients could be teachers.	151(44.5)	189(55.5)*			
5. Most people believe that it is a sign of failure to consult with psychiatrists.	101(29.7)*	239(70.3)			
6. Most employers will hardly hire a recovered person even if rehabilitated for days.	297(87.3)*	43(12.7)			
8. The majority of employers will hire a totally recovered patient.	83(24.4)	257(75.6)*			
9. Most employers will not hire people living with mental disorder, if have other choices, even he or she has been recovered.	269(79.1)*	71(20.9)			
Factor 2: Social distance			4.30(1.45)		
1. Most people are willing to make friends with patients.	74(21.7)	266(78.3)*			
3. Most people believe that patients are as trustworthy as normal people.	103(30.3)*	237(69.7)			
7. Most people will depreciate those people who have received mental health service.	223(65.6)*	117(34.4)			
10. Most people will treat patients as normal people in my community.	167(49.2)	173(50.8)*			
11. Most young ladies are not willing to have a date with people with mental disorder.	303(89.2)*	37(10.8)			
12. People with mental disorders are not trusted by others once their diseases have been revealed.	260(76.5)*	80(23.5)			
		Stigma rate=64.5%			

Note:*means stigmatizing attitude in each item. ***P<0.01. [a] means using Pearson correlation between factor 1(Dependent variable) and factor 2(Independent variable). [b] means using paired *t*−test between factor 1 and factor 2(factor1−factor2).

Table 5　Multiple liner regression on predictors of stigmatizing attitude

	Stigmatizing attitude			Estimation of patients' ability			Social distance		
	b	*b'*	*t*	*b*	*b'*	*t*	*b*	*b'*	*t*
Gender	0.129	0.025	0.443	0.013	0.004	0.079	0.116	0.037	0.669
Age	−0.035	−0.105	−0.816	−0.004	−0.021	−0.164	−0.031	−0.154	−1.214
Physicians' title	−0.007	−0.002	−0.034	0.014	0.007	0.114	−0.021	−0.010	−0.167
Education background	0.310	0.051	0.928	0.098	0.029	0.516	0.212	0.058	1.065
Job Years	0.310	0.098	0.788	0.006	0.037	0.289	0.024	0.130	1.047
Factor 1 of MHKQ (Awareness of mental health promotion activities)	−0.151	−0.092	−1.693	−0.095	−0.103	−1.875	−0.056	−0.057	−1.051
Factor 2 of MHKQ (Belief that mental disorders are uncommon and unchangeable)	−0.543	−0.164	−2.078**	−0.148	−0.080	−1.430	−0.395	−0.199	−3.635***
Factor 3 of MHKQ (Normalization of psychological problems and mental disorders)	0.233	0.078	1.433	0.117	0.070	1.268	0.116	0.065	1.195
Factor 4 of MHKQ (Mental health is part of overall well−being)	0.851	0.092	1.701	0.522	0.101	1.834	0.329	0.060	1.105
Factor 5 of MHKQ (Incorrect beliefs about causes of mental disorders)	−0.365	−0.111	−2.026*	−0.038	−0.020	−0.369	−0.327	−0.165	−3.050**
Constant	6.828		3.220**	2.281		1.890	4.458		3.602***
R^2		0.061			0.035			0.075	

Note: *P<0.05, **P<0.01, ***P<0.001

3.4　Responses to APMDQ

We discovered that the stigma rate to APMDQ was 64.5%. Among each item in APMDQ, the item with more than 80% of stigma was 6 and 11, 70%−80% were 8, 9, 1, 12, 50%−70% were 2, 4, 7, and item 5 and 3 were below 50%. By using Pearson correlation analysis between factor 1(underestimation of patients' ability) and factor 2 (social distance), we found that there exited positive correlation between these two variables(r=0.483, P<0.001), implying that with the increasing level of stigma of social distance, the level of underestimation of patients' ability would augment as well. While by using paired t−test between these two factors, we found that the level of social distance was higher than the level of underestimation of patients' ability(t=−5.904, P<0.001) (See Table 4). Furthermore, in the multiple liner regression analysis, factor 2(belief that mental disorder are common and changeable) and factor 5(correct beliefs about cause of mental disorders) of MHKQ were protective factors for stigmatizing attitude. Also, these two factors were protective ones for social distance(See Table 5).

4　Discussion

4.1　Mental health literacy

Chinese Ministry of Health has published the statement that the general mental health literacy should reach 80% by the end of 2015. According to a multicenter study in China, the rate of mental health literacy was 60.2% in Guangzhou, 68.5% in Changsha, 70.3% in Xi'an, and 71.9% in Shanghai(Hu, 2012; Liang, 2011; Peng, 2011; Wang, 2013). The present study showed that the mental health literacy among township physicians was 74.1%, which was in line with the situation mentioned above. These results unveiled that both general population's and township physicians' mental health literacy were below the requirement by Chinese Ministry of Health. Furthermore, the knowledge rate of people living in metropolitan was significantly higher than that in rural places(Tian, 2011). In Beijing, the undergraduates' mental health literacy rate was 66.9%, while the general people's rate was 53.35%(Xi, 2014; H. W. Zhang, 2011). In addition, compared to the township physicians, mental health professionals' knowledge rate was 90.9%(Zhang, Zhao, Rao, & Shen, 2005), demonstrating that township physicians were severely lack of mental health knowledge. These studies used different methods and different instruments, so it was hard to interpret the meaning of different results.

Results showed that the older the physicians were and the longer they had been working, the lower the knowledge scores were. This situation was partly contributed to the fact that Chinese medical education decades ago had been severely lack of mental health course. Even the younger physicians, whose level of mental health literacy was relatively better than older physicians, had still far lower mental health literacy than qualified physicians should have. In the study of Peng, et al. (2011), the rate of correct answer concerning mental health literacy of people living in Changsha was negative related to the age, while positive related to the level of education. Similar finding by Schomerus and colleagues(2015) was that stigmatizing attitude towards mental disorder and mental patients became worse with the observers' growing age, while anti−stigma efforts were more likely to be found among younger populations. Reavley and colleagues(2014) not only obtained similar results with Peng et al. (2011) and Schomerus(2015), but also found that people who had a higher level of mental health literacy were the ones with personal experience of the mental health problem or working with people with similar problems. These results, working as alerts to the management of public health policy, implied that it was an indispensable necessity to strengthen the propaganda of mental health knowledge, improving not only medical students' education about mental health, but also medical skill of incumbent township physicians.

4.2　Implication on case analysis

The present study showed that the average rate of misdiagnosis was 41.8%, which was extremely high and of great concern on psychiatric services. In case analysis, the lowest correct answer rate was schizophrenia with negative syndrome(17.9%), which was easily considered to be MDD(72.1%), and the highest was OCD(85.9%). On one hand, MDD and schizophrenia with negative syndrome shared several similar symp-

toms together, and so it was rather difficult to distinguish between them, especially for township physicians. On the other hand, OCD was well known for its patent manifestation, which probably accounted for the highest correct rates. According to a study about general practitioners in Shenzhen, the average percentage of correct diagnosis was 74.6% among anxiety disorder, MDD and schizophrenia(Deng, 2014), which was still far from enough. In Australia, telephone interviews were carried out with 6,019 Australians aged 15 or over. 75% of respondents could recognize MDD, while 37% could recognize schizophrenia with negative syndrome(Reavley & Jorm, 2011). In the present study, the rate was 57.4% and 17.9% respectively, which was even below the level of Australian general population. Consequently, we should put more emphasis on the mental health knowledge in the future training, and learning to discern schizophrenia with negative syndrome from MDD will play an essential role in the future training.

4.3 Stigmatizing attitude

According to the result, we found that the stigma rate was 64.5%. What is more, the stigma of underestimation of patients' ability is positive correlated to the stigma of social distance, and the level of the latter is even higher than the former. While evidence showed that enough social support would be helpful for rehabilitation of mental patients, such as patients suffering schizophrenia(Chen et al, 2017). This implied that both of them, especially the stigma of social distance, should be addressed in the future training.

Studies have proved that some demographic characteristic have been related to the level of stigma. Stuber, et al(2014) discovered that younger age, self-identifying as non-Hispanic white, being female, having at least a four-year college degree, being familiar with mental illness, with certain job titles and more years of experience in the mental health field were predictive of more positive conceptions of mental disorder. Furthermore, several studies indicated that general practitioners had relatively higher level of stigma than mental healthcare professionals and psychiatrists, especially towards the elder adults for psychological services. These negative attitudes were often presented as social

distance with respect to people with mental disorder, which was consistent with the present study(Gaebel et al., 2014; Gras et al., 2014). In a study in Hong Kong, over one third of general practitioners did not have enough time to help the patients in either depression or schizophrenia cases, and most of them considered this job challenging and demanding(Lam, Lam, Lam, & Ku, 2013). In contrary, studies showed that a better understanding of mental disorders and training program about community mental health would help to allay fear and mistrust about mental patients, as well as lessen stigmatization toward such persons(Henderson, et al., 2014).

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