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Positive attitudes towards psychiatry among Chinese medical students

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Abstract

Background and aims: Increasingly positive attitudes have been reported among young people in China towards mental illness, but little is known about Chinese medical students' attitudes towards psychiatry, psychiatric services and patients.

Methods: We administered a bilingual survey to Wuhan University medical students in the final years of their clinical training. Primary outcomes were composite scores on a 21-item attitudes toward psychiatry (ATP) survey and the number of correct responses to diagnostic questions following a series of three clinical case vignettes.

Results: Mean composite score on the ATP items was 78/105 (SD = 9.6), representing overall positive attitudes among the students. Female gender and having learned about more psychiatric disorders were positively associated with a higher mean ATP score and remained so after adjustment for relevant covariates.

Conclusions: Chinese medical students reported positive attitudes towards psychiatry, openness with regard to psychiatric services, and respect for psychiatric patients. Learning about a broad spectrum of psychiatric diagnoses and greater clinical contact with patients may improve overall attitudes of Chinese medical students towards psychiatry and their ability to make accurate diagnoses.

Keywords

Medical students, psychiatric training, attitudes toward mental illness, mental health in China, medical education in China

Introduction

The Chinese government and Chinese health professionals have become increasingly concerned about mental illness. Recent developments include increased funding for mental health research, partial insurance coverage for psychotropic medications, and discussion of psychological testing requirements for senior government officers and leaders of industry (Cyranoski, 2010; Park, Xiao, Worth & Park, 2005). Notwithstanding, there are few psychiatrists and resources for patients remain far below what is needed (LaFraniere, 2010). The 2002–03 World Mental Health Surveys conducted in Beijing and Shanghai reported a 13.2% lifetime prevalence of any disorder as defined in the Diagnostic and Statistical Manual-IV Text Revised (DSM-IV TR, 2000) and Composite International Diagnostic Interview (CIDI). The same study also found that 96.6% of the subjects with any disorder and 80.2% of those with moderate and severe disorders received no treatment within 12 months (Huang et al., 2008). In an extensive 2009 survey of rural and urban China, Phillips et al. (2009) found the adjusted one-month prevalence for any mental disorder to be 17.5% (95% CI 1.6–18.5) with a similarly troubling treatment gap: 24% were 'moderately or severely disabled by their illness' but only 8% 'had ever sought professional help' and 5% 'had ever received treatment from a mental health professional'. Using data from the 2004 World Health Organization (WHO, 2008) study, Phillips et al. (2009) estimated that 20% of the total burden of illness in China could be accounted for by neuropsychiatric conditions and suicide.

The stigmatization of mental illness among the population at large and a relatively low level of respect afforded to psychiatrists within the medical profession have presented challenges for psychiatric recruitment, particularly in rural

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areas, where the largest proportion of the Chinese population lives (Chang & Kleinman, 2002). This deeply entrenched bias has been attributed to an historical lack of distinction in traditional Chinese medicine between mental and physical disorders (Liu, 2000; Park & Hinton, 2002), the susceptibility of mental health to politicization, and 'the current emphasis of the state and its psychiatric institutions on protecting society from the potential dangers posed by people with mental illness' (Kleinman, 2009, p. 604; Park et al., 2005). Given the inadequacy of resources devoted to mental health services and a tendency among Chinese with mental illness to seek treatment in psychiatric hospitals only as a last resort (Cheung, 1995), general hospitals and physicians from other fields – especially neurology – provide some of the only opportunities for care and support that patients have outside of their families (Chang & Kleinman, 2002).

Efforts are therefore needed to ensure that all Chinese medical students have a strong foundation in psychiatry, regardless of their intended area of specialization. Fairly recent studies have examined the attitudes of medical students elsewhere in East Asia (Chung, 2005; Mino, Yasuda, Tsuda & Shimodera, 2001) and ethnic Chinese in Australia (Hickie et al., 2007), but to our knowledge no such study exists for students in mainland China. Our study assesses how medical students in a major Chinese university feel towards psychiatry as a profession, towards patients with mental illness, and towards psychiatric services. We also included a component that tests the students' ability to diagnose basic psychiatry illnesses. One study comparing Chinese and Australian medical students found that Chinese medical students had similar recognition of depressive symptoms but did not consider depression or other mental disorders to be major health problems (Rong et al., 2009). Another study showed that exposure to a brief anti-stigma seminar as part of a psychiatric clerkship significantly improved the attitudes of medical students in Hong Kong towards patients with schizophrenia and depressive disorder, but did not improve their readiness to provide medical care to or take responsibility for psychiatric patients (Chung, 2005). We wanted to determine whether similar correlates could be detected for medical students in a major mainland Chinese medical school. We hypothesized that students with greater exposure to psychiatric patients would report more positive attitudes towards psychiatry, would have more open attitudes toward psychiatric services and patients, and would make more correct diagnoses.

The People's Republic of China has an undergraduate medical education system with a standardized baccalaureate in clinical medicine requiring five years of formalized training. Some schools offer a separate seven-year combined master's degree and/or an eight-year medical doctorate. The national Ministry of Education sets the standards for each curriculum. Wuhan University offers all three, with approximately twice as many students admitted annually to their five-year programme (n = ~300) as their combined degree programmes together (n = ~150). Clinical medicine is introduced to students, first, in lecture-style courses arranged in standard academic semesters. Clinical clerkships are arranged in blocks following completion of the theory-based curriculum. Psychiatry is not part of the nationally mandated core for any programme; its place is determined by individual clinical colleges and their affiliated hospitals. At Wuhan University, a formal lecture-based elective in psychiatry is offered to baccalaureate students in their fourth year and a short clinical experience can be arranged during their fifth year. When entering their clinical years, students are assigned to one or the other clinical college with some consideration taken for their preference. All graduate students assigned to Renmin Hospital (First Clinical College) are required to complete a lecture-based course in psychiatry and a formal rotation at the Hubei Province Mental Health Center, housed within Renmin Hospital. Graduate students assigned to Zhongnan Hospital (Second Clinical College) and all baccalaureate students have no such requirement but can arrange to work with psychiatrists on an elective basis. Our study includes a cross-section of baccalaureate and graduate students selected from each of the two hospitals.

Methods

Data

As part of the ongoing Wuhan University Medical Education Reform (WUMER) project, a co-institutional programme to restructure the entire medical curriculum at Wuhan University (WU), researchers at the University of Chicago (UC) designed a five-part survey to test students' attitudes towards and knowledge of psychiatry. Input was taken from faculty at WU. The first section of the survey collects demographic information. The second asks students about their formal exposure to psychiatry during medical school. The third contains 21 items extracted from the internationally validated ATP-30 survey (Burra et al., 1982), which measures medical students' attitudes towards psychiatry on 30 items using a five-point Likert scale. Nine items were determined to be culturally irrelevant in the context of China and were therefore omitted. The fourth section consists of seven questions taken from a Japanese survey on the effects of a one-hour educational programme on medical students' attitudes towards mental illness (Mino et al., 2001).

The fifth section includes three clinical vignettes with questions that test students' ability to diagnose depression, schizophrenia and suicidal ideation associated with cancer. We created the vignettes on models used in American standardized exams for psychiatry in consultation with faculty and residents at the UC, several of Chinese origin, and verified that the presentation of each case met the diagnostic criteria in DSM-IV – TR (APA, 2000), (International Statistical Classification of Diseases and Related Health

Problems, Ninth Revision, Clinical Modification (ICD-9-CM; CDCP, 2010) and Chinese Classification of Mental Disorders, Third Version (CCMD-3; CSP, 2001). The survey was translated into Chinese and cross-checked by four administrators at UC and WU. Faculty from the two clinical colleges at WU administered the paper-based survey to medical student volunteers who had completed or were in the process of completing at least one lecture-based or clerkship course at either of the colleges or their associated teaching hospitals, Zhongnan and Renmin.

Statistical analysis

In matching outcomes to baseline characteristics, we used composite ATP scores and number of correct answers to the diagnostic questions as our primary criteria. ATP scores were calculated out of a total of 105 (5 x 21) with a score of 5 assigned to the normative response and 1 to its antithesis. A composite ATP score of ≥70 (2/3 of the total) was considered positive. Respondents were given a score of 1 for each correct set of answers on the diagnostic cases, for a maximum composite score of 3. After generating descriptive statistics for our primary criteria, we used unpaired *t*-tests and χ^2 tests to compare attitudes and diagnostic ability against demographic information and scope of formal psychiatric training. We also used one-way analyses of variances (ANOVA) to examine correlations between background characteristics and ATP scores. Multivariate linear regressions were used to assess the relation between clinical rotation site, total ATP score and diagnostic score. Analyses were adjusted for characteristics significantly associated with ATP score or diagnostic score in bivariate analyses. All statistical analyses were performed using PASW Statistics 18.0.0 software (SPSS, Inc. Chicago, IL).

This study was approved by the University of Chicago Institutional Review Board (IRB #09-126-B) and the Wuhan University Ethics Committee.

Results

Study participants

Of the 166 students who began the survey at either administration site, 163 (Zhongnan, *n* = 84; Renmin, *n* = 79) completed at least half of the questions, for a response rate of 98.2%. The total number of students invited to participate is unknown. Baseline characteristics of all participants are given in Table 1.

Table 1. Baseline characteristics of Wuhan University medical students, psychiatric clinical exposure and attitudes toward psychiatry by site of clinical rotations (*N* = 163).

Demographic characteristics	Total *N* = 163	Renmin Hospital *n* = 79	Zhongnan Hospital *n* = 84	*p*
Age, mean years (SD)	23.7 (1.5)	24.7 (1.2)	22.8 (1.1)	.000*
Sex, *n*[a] (%)[b]				
Men	80 (50)	38 (47.5)	42 (52.5)	.874
Women	80 (50)	39 (48.8)	41 (51.3)	
Hometown, *n* (%)				
Capital city	28 (17)	11 (39.3)	17 (60.7)	.255
Not a capital city	133 (83)	68 (51.1)	65 (48.9)	
Year in medical school, *n* (%)				
4	54 (33)	2 (3.7)	52 (96.3)	.000*
5	22 (14)	6 (27.3)	16 (72.7)	
6	34 (21)	18 (52.9)	16 (47.1)	
7	51 (31)	51 (100)	0 (0)	
8	2 (1)	2 (100)	0 (0)	
Specialty of choice, *n* (%)[c]				
Internal medicine	63 (39)	26 (41.3)	37 (58.7)	.145
Surgery	64 (39)	24 (37.5)	40 (62.5)	.024*
Obstetrics and gynaecology	19 (12)	11 (57.9)	8 (42.1)	.382
Pediatrics	7 (4)	4 (57.1)	3 (42.9)	.639
Neurology	21 (13)	9 (42.9)	12 (57.1)	.582
Psychiatry	6 (4)	3 (50)	3 (50)	.939
Other	29 (18)	19 (65.5)	10 (34.5)	.043*
Psychiatric rotation				
Length of psychiatric rotation (outpatient and inpatient), *n* (%)				
0 weeks	56 (34)	4 (7.1)	52 (92.9)	.000*
≥1 week	97 (60)	73 (75.3)	24 (24.7)	

(Continued)

Table 1. (Continued).

Demographic characteristics	Total *N* = 163	Renmin Hospital *n* = 79	Zhongnan Hospital *n* = 84	*p*
Disorders observed/managed, n (%)[c]				
Schizophrenia	84 (52)	70 (83.3)	14 (16.7)	.000*
Substance abuse	13 (8)	11 (85.6)	2 (15.4)	.009*
Major depressive disorder	91 (56)	68 (74.7)	23 (25.3)	.000*
Anxiety disorder	75 (46)	50 (66.7)	25 (33.3)	.000*
Personality disorder	34 (21)	25 (73.5)	9 (26.5)	.002*
Neurasthenia	35 (22)	18 (51.4)	17 (48.8)	.848
Other	11 (7)	9 (81.8)	2 (18.2)	.029*
Total number of disorders observed/managed, *n* (%)[c]				
≤1	65 (39.9)	6 (9.2)	59 (90.8)	.000*
2–3	58 (35.6)	40 (69)	18 (31)	
≥4	40 (24.5)	33 (82.5)	7 (17.5)	
Disorders learned about, *n* (%)[c]				
Cognitive disorders	136 (83)	62 (45.6)	74 (54.4)	.023*
Substance use disorders	94 (58)	52 (55.3)	42 (44.7)	.073
Psychotic disorders	140 (86)	66 (47.1)	74 (52.9)	.135
Mood disorders	114 (70)	59 (51.8)	55 (48.2)	.343
Anxiety disorders	152 (93)	77 (50.7)	75 (49.3)	.157
Eating disorders	119 (73)	72 (60.5)	47 (39.5)	.000*
Sexual disorders	86 (53)	49 (57)	37 (43)	.038*
Sleep disorders	99 (61)	53 (53.5)	46 (46.5)	.180
Somatoform, factitious, malingering	113 (70)	60 (53.1)	53 (46.9)	.177
Dissociative and amnestic disorders	57 (35)	21 (36.8)	36 (63.2)	.018*
Personality disorders	136 (83)	67 (49.3)	69 (50.7)	.947
Geriatric psychiatry	60 (37)	30 (50)	30 (50)	.903
Adjustment disorders	78 (48)	34 (43.6)	44 (56.4)	.153
Childhood and adolescent psychiatry	99 (61)	56 (56.6)	43 (43.4)	.020*
Other	7 (4)	4 (57.1)	3 (42.9)	.674
Total number of disorders learned about, *n* (%)[c]				
≤8	69 (42.3)	31 (44.9)	38 (55.1)	.186
9–11	49 (30.1)	21 (42.9)	28 (57.1)	
≥12	45 (27.6)	27 (60)	18 (40)	
Adequate knowledge about mental disorders in medical training, *n* (%)				
Disagree/Strongly disagree	45 (29)	18 (40)	27 (60)	.323
Neutral	67 (42)	35 (52.2)	32 (47.8)	
Agree/Strongly agree	46 (29)	25 (54.3)	21 (45.7)	
Wish I had learned more about patients with mental disorders in training, *n* (%)				
Disagree/Strongly disagree	13 (8)	7 (53.8)	6 (46.2)	.894
Neutral	25 (16)	13 (52.0)	12 (48)	
Agree/Strongly agree	120 (76)	58 (48.3)	62 (51.7)	
Attitudes toward Psychiatry-Max score 105, mean (SD)	78 (9.6)	79.6 (10.3)	76.7 (8.5)	.048*
Clinical vignettes, number correct on diagnostic questions, mean (SD)	1.7 (0.64)	1.8 (0.63)	1.6 (0.63)	.013*

[a]*n* counts vary somewhat due to partial non-response.
[b]Percentages do not all sum to 100 due to rounding error.
[c]Multiple answers permitted. Percentages computed out of *n* = 163.
*$p < .05$.

All participants had formally studied at least eight psychiatric diseases and had observed or managed at least one.

Demographic characteristics, clinical exposure and attitudes towards psychiatric services

As displayed in Table 1, the mean composite score on the ATP questions was 78 (SD = 9.8), much higher than 63, the highest score possible if the student were to respond neutrally (score of 3) to all 21 survey items. Table 2 shows students' responses to the seven questions taken from Mino et al.'s (2001) Japanese survey on the effects of a one-hour educational programme on medical students' attitudes towards mental illness. Students tended to disagree or strongly disagree with statements indicating that mentally ill patients should be treated punitively or disrespectfully, that is detained in remote locations, interred for life, or denied a voice in their admission preferences. Students tended to agree or strongly agree with the statements indicating that mental hospitals are needed to prevent mentally ill patients from committing violence and injuring others (n = 150, 92%), that training in social skills should be conducted in mental hospitals (n = 143, 88%), and that long-term inpatient life makes patients develop difficulties with living in a community (n = 92, 56%). The largest group of students was neutral with regard to the statement that mental hospitals should not have locked doors and windows (n = 74, 45%).

Table 2. Attitudes toward mental illness (N = 163).

	n[a]	%
Mentally ill patients should be detained in a mental hospital that is remote from any place of habitation		
Disagree/Strongly disagree	145	89
Neutral	14	8.6
Agree/Strongly agree	4	2.5
Mental hospitals are needed to prevent mentally ill patients from committing violence and injuring others		
Disagree/Strongly disagree	6	3.7
Neutral	7	4.3
Agree/Strongly agree	150	92
Mental hospitals should not have locked doors and windows		
Disagree/Strongly disagree	39	24
Neutral	74	45
Agree/Strongly agree	50	31
The opinions of patients should not be respected with regard to admission to or discharge from mental hospitals		
Disagree/Strongly disagree	92	57
Neutral	58	36
Agree/Strongly agree	12	7
Training in social skills should be conducted in mental hospitals		
Disagree/Strongly disagree		
Neutral	4	3
Agree/Strongly agree	16	10
Agree/Strongly agree	143	88
Mentally ill patients should stay in mental hospitals for their entire life		
Disagree/Strongly disagree	129	79
Neutral	30	18
Agree/Strongly agree	4	3
Long-term inpatient life makes patients develop difficulties with living in a community		
Disagree/Strongly disagree	27	17
Neutral	44	27
Agree/Strongly agree	92	56

[a]n counts vary slightly due to partial non-response.
Note: Questions from Mino et al. (2001).

Associations with site of clinical rotation

In bivariate analysis comparing students rotating at Renmin and Zhongnan Hospitals (Table 1), Renmin students were older (mean age: 24.7 (SD = 1.2) vs 22.8 (SD = 1.1); p = .000) and were in more advanced years of medical school (100% of the 53 students in the seventh or eighth year of medical school came from Renmin (p = .000) and only 16 of 84 Zhongnan students were in the sixth year or above (19.1%)). Renmin students were less likely to select surgery as a possible area of medical specialization (62.5% of students selecting surgery came from Zhongnan; p = .024). Being a seventh/eighth-year programme student was significantly correlated with more clinical exposure: of the 56 students that did not spend any weeks on a psychiatric rotation, 52 (92.9%) of them came from the Zhongnan Hospital cohort, which consisted of only fourth-, fifth- and sixth-year students. Students at Renmin Hospital had higher mean scores on the ATP survey (79.6 (SD = 10.3) vs 76.7 (SD = 10.3) than students at Zhongnan; p = .048) and higher mean scores on the diagnostic questions from the case vignettes (1.8 (SD = 0.63) vs 1.6 (SD = 0.63); p = .013), but curiously location of clinical rotation was not predictive of either ATP score or diagnostic score after adjustment for relevant covariates.

Associations with positive attitudes and correct diagnoses

Table 3 displays the mean ATP score and the mean total correct answers on the three diagnostic questions stratified by baseline characteristics. Hometown and specialty of choice were not associated with either score (at α = 0.05) and are excluded from the table. With respect to age, there was a positive correlation between older age and higher ATP score in bivariate analysis (p = .033); however, this did not hold true after adjustment for covariates. Female gender was positively associated with a higher mean ATP score (79.5 vs 76.3; p = .034) and remained so after adjustment for covariates (p = .049). Length of psychiatric rotation and year in medical school were not predictive of either higher mean ATP score or diagnostic score. A greater total number of disorders observed/

Table 3. Attitudes toward psychiatry survey and diagnostic questions composite scores stratified by student characteristics and psychiatric exposure.

	ATP score			Diagnostic questions		
	Bivariate unpaired-*t*		Multivariate[b]	Bivariate unpaired-*t*		Multivariate[b]
	M	*p*		*M*	*p*	
Student characteristics (n)[a]						
Location of survey/clinical work (*n*) (*n2*)						
Renmin Hospital (78) (77)	79.6	.048*	$p = .819$	1.81	.013*	$p = .058$
Zhongnan Hospital (82) (83)	76.7			1.55		
Age (*n*) *(one-way ANOVA)*						
≤23 (67) (68)	75.8	.033*	$p = .081$	1.6	.272	$p = .603$
24 (44) (44)	78.4			1.7		
25 (34) (34)	80.7			1.9		
26+ (15) (14)	82.9			1.6		
Gender (*n*) (*n2*)						
Male (79) (80)	76.3	.034*	$p = .049$*	1.6	.025*	$p = .101$
Female (78) (77)	79.5			1.8		
Length of psychiatric rotation (outpatient and inpatient) *(one-way ANOVA)* (*n*) (*n2*)						
0 weeks (54) (55)	76.5	.163	$p = .964$	1.7	.711	$p = .183$
≥1 week (96) (95)	78.8			1.7		
Year in medical school (*n*) (*n2*)						
≤5th year (74) (74)	76.6	.064	$p = .725$	1.6	.085	$p = .741$
>5th year (86) (86)	79.4			1.8		
Total number of disorders observed/managed (*n*) (*n2*)						
≤1 (64) (64)	75.2	.007*	$p = .985$	1.6	.100	$p = .709$
2–3 (56) (58)	79.8			1.7		
≥4 (40) (38)	80.3			1.8		
Total number of disorders learned about (*n*) (*n2*)						
≤8 (67) (68)	75.9	.021*	$p = .036$*	1.6	.46	$p = .611$
9–11 (49) (49)	78.7			1.7		
≥12 (44) (43)	80.9			1.7		
			$R^2 = .106$ ANOVA $F = 2.4$, $p = .035$*			$R^2 = .074$ ANOVA $F = 1.6$ $p = .140$

Note: Table presents characteristics significantly associated (at $p < .05$) with one or both criteria variable.
[a]*n* counts vary slightly by analysis due to partial non-response.
[b]Multivariate linear regression, after adjustment for location or survey/clinical work, age, gender and length of psychiatric rotation.
*$p < .05$ equal variances not assumed (i.e. Levene's Test for Equality of Variances was significant).

managed was associated with a higher mean ATP score (observing or managing ≥4 disorders 80.3 vs ≤1 disorder 75.2; $p = .007$), but this did not hold true after adjusting for covariates. Receiving training about more psychiatric disorders was the only factor positively associated with higher mean ATP score (learning about ≥12 disorders 80.9 vs ≤8 disorders 75.9; $p = .036$) that remained so after adjustment for relevant covariates ($p = .036$).

Discussion

We found that there were highly positive attitudes towards psychiatry and openness with regard to psychiatric services and patients among this group of Chinese medical students from a large urban setting in Wuhan, China. We also found that students that had learned about a greater number of psychiatric disorders had a higher mean score on our attitudinal survey instrument (learning about ≥12 disorders 80.9/105, vs ≤8 disorders 75.9/105; $p = .036$). These findings suggest that attitudes towards mental illness may be improving among Chinese young people, a tendency that some have attributed to acculturation or readiness to disclose mental disorders amid increasing acceptance of discussing psychological problems in China in general (Chung, 2005; Fan, 1999; Lee et al., 2007).

Our findings also suggest that learning about a broad range of psychiatric diagnoses can positively affect attitudes. Studies have focused on the effects of shorter educational programmes or anti-stigma lectures with mixed results. Some have shown favourable attitudinal changes such as Mino et al.'s (2001) study of the effects of a one-hour educational programme on medical students' attitudes towards mental illness. Chung's (2005) study of the attitudes of Hong Kong medical students towards people with mental illness found that adding an anti-stigmatization seminar to the psychiatric clerkship resulted in a significant improvement in attitudes, but that attributes of responsibility and readiness to provide medical care to psychiatric patients were not significantly affected.

We predicted that students with greater exposure to psychiatric patients would have more positive attitudinal and diagnostic scores. Our results did not confirm this hypothesis. Theoretical exposure alone, that is number of conditions taught, was predictive of higher ATP scores. However, the overall attitudinal scores were high, which may have obscured the impact of direct patient exposure.

Female gender was a positive predictor of higher scores on our attitudinal instrument even after adjusting for relevant covariates. Previous studies have shown inconsistent gender associations in a variety of cultural settings. A preponderance of females expressing positive attitudes towards psychiatry and a willingness to choose psychiatry as a career appear to be international trends. For example, a survey conducted among Pakistani medical students in 2008–09 found that psychiatry attracted 15% of female and only 6.7% of male students ($p = .004$) (Rehman et al., 2011). However, Chung, Chen and Liu (2001) found in one study that female gender was associated with greater social distance and in another that female students were more reluctant to treat people with schizophrenia than male students after their psychiatric clerkship (Chung, 2005). Chung, Chen and Liu (2001) goes on to mention that others have found similar associations between female gender and social distance (Chou, Mak, Chung & Ho, 1996; Kirmayer, Fletcher & Boothroyd, 1997) but that some did not find gender to be a significant predictor of attitudes or social attitudes (Angermeyer, Matschinger & Holzinger, 1998; Brockington, Hall, Levings & Murphy, 1993; Wolff, Pathare, Craig & Leff, 1996). None of these studies however were based in mainland China or focused on medical students.

A large proportion of medical students in our study agreed or strongly agreed that they wished they had learned more about patients with mental disorders during their clinical training. Education efforts should be multifaceted and include a combination of exposure to psychiatric patients in the clinical setting, didactic lectures and anti-stigma seminars. Whatever their area of future specialization, medical students will treat patients with mental illness and will make clinical decisions that determine much of the utilization of psychiatric services. Physicians' attitudes towards these patients, towards psychiatry as a profession, and knowledge of basic psychiatric diagnoses and treatments are of critical importance in influencing public perceptions of mental health and, ultimately, the direction of public policies affecting the mentally ill. Because of the great need for more psychiatrists in mainland China, efforts to encourage students to consider psychiatry as an area of specialization are critical. In our study, only six students (4%) indicated that psychiatry would be their specialty of choice, a rate consistent with many western countries (e.g. just under 4% of US medical graduates chose psychiatry in 2012) (Fazel & Ebmeier, 2009; Galeazzi, Secchi & Curci, 2003; Holm-Petersen, Vinge, Hansen & Gyrd-Hansen, 2007; Insel, 2012; Newton & Grayson, 2003). Future efforts should continue to include cross-cultural collaboration between centres of medical education and psychiatric and neuroscience research that will continue to support evidence-based practice in China.

Limitations

Our study is relatively limited in scope (one school) and would benefit from a much larger survey that could account for potential attitudinal differences in medical schools and universities throughout China. Such a study might better address whether a social desirability bias exists among medical students in mainland China overall and the specific factors that may have inflated our participants' mean ATP score. Within Wuhan University, the compulsory nature of the training programme for graduate students assigned to Renmin, the voluntary nature of the programme at Zhongnan, and the different emphases of the two hospitals in general may have affected both attitudes and diagnostic abilities. We have not attempted to account for these variations between the training programme in our analyses. We attempted to use instruments previously used in the Chinese or Asian context to assess attitudes towards psychiatry and psychiatric services but were unable to replicate previous studies in their entirety and therefore can draw only limited conclusions regarding the comparability of our findings outside of China. An updated survey with a higher proportion of questions portable to multiple cultural and geographical settings, including the People's Republic of China, is highly desirable and could more accurately gauge how attitudes towards psychiatry among Chinese medical students compare with others internationally.

Conclusion

The students who participated in this study reported positive attitudes towards psychiatry as a profession, a high degree of openness towards psychiatric services and respect for psychiatric patients. More specifically, their responses support

the opinion that psychiatric treatments should improve patients' ability to integrate socially rather than trending towards greater isolation. As has been the case in other studies worldwide, female students were more likely to have positive attitudes towards psychiatry but we cannot confirm whether this is due to a social desirability bias or an actual willingness to treat psychiatric patients. Our findings statistically confirm a correlation between the breadth of psychiatric training and an overall positive attitude towards psychiatry, its treatments and patients, but do not confirm a correlation between length of clinical experience and positive attitude. Both breadth of training and clinical exposure, however, were linked to diagnostic knowledge. These findings tend to support the notion that universal exposure to a wide range of psychiatric illnesses would be of benefit to Chinese medical students.

Author's note

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