Original Article

Influence of social distance toward individuals with psychotic disorders by medical background

Chiong-Hee Wong[1], Shih-Chao Chien[1], Yi-Hong Zeng[2,3,4], Chien-Chiu Huang[4,5], Weide Tsai[1,3], Chien-Wei Chen[6,7,8], Yu-Jang Su[1,3,9,10], Wen-Han Chang[1,3,9,11,12,13], Pang-Yen Chen[1,4,10]^

[1]Department of Emergency Medicine, Mackay Memorial Hospital, Taipei, Taiwan; [2]Division of Endocrinology and Metabolism, Department of Internal Medicine, MacKay Memorial Hospital, Taipei, Taiwan; [3]Department of Medicine, MacKay Medical College, New Taipei City, Taiwan; [4]Institute of Public Health, National Yang Ming Chiao Tung University College of Medicine, Taipei, Taiwan; [5]Sui-An Rehabilitation Clinic, Taipei, Taiwan; [6]Department of Diagnostic Radiology, Chang Gung Memorial Hospital Chiayi Branch, Chiayi, Taiwan; [7]College of Medicine, Chang Gung University, Taoyuan, Taiwan; [8]Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan; [9]Mackay Junior College of Medicine, Nursing, and Management, Taipei, Taiwan; [10]Department of Nursing, Yuanpei University of Medical Technology, Hsinchu, Taiwan; [11]Graduate Institute of Injury Prevention and Control, Taipei Medical University, Taipei, Taiwan; [12]Institute of Mechatronic Engineering, National Taipei University of Technology, Taipei, Taiwan; [13]Department of Emergency Medicine, School of Medicine, Taipei Medical University, Taipei, Taiwan

Contributions: (I) Conception and design: WH Chang, PY Chen; (II) Administrative support: W Tsai; (III) Provision of study materials or patients: CW Chen, YJ Su; (IV) Collection and assembly of data: YH Zeng, CC Huang; (V) Data analysis and interpretation: CH Wong, SC Chien; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Pang-Yen Chen. No. 92, Sec. 2, Chung Shan North Rd., Taipei 10449, Taiwan. Email: pongyen2000@gmail.com.

Background: Discrimination of mental illness has formed obstacles to the development of the public health system. More and more evidence shows that many psychiatric patients say that much discrimination in life comes from the medical system. Medical caregivers may also exhibit a discriminatory attitude, resulting in a decline in the quality of medical care. Many studies explored whether medical staff has a different attitude towards the mentally ill from the general public. However, the medical staff's working years and their social distance to mental illness patients are still unclear and rare. The cross-sectional study aimed to analyze the association of social distancing and the working seniority of health professionals.

Methods: A cross-sectional study design was applied with convenience sampling. The proper research was conducted from May 13, 2020, to May 31, 2020 by an internet-based questionnaire. We use exploratory factor analysis to measure the convergent validity and calculate Cronbach's α value to measure the reliability. We used a two-sample t-test and one-way analysis of variance (ANOVA) to perform univariate analysis. Multiple regression analysis was conducted with the independent variables significant in univariate analysis, and the social distancing average score was the dependent variable.

Results: There were 216 valid questionnaires. The response rate was 57.75%. The junior group comprised 105 participants and the senior group 111 ones, with the majority being female (80%). The senior group's average age was 43.01 (SD =5.109), significantly higher than 31.08 (SD =6.159) in the junior group. The Cronbach's α value was 0.915 that showed relatively good reliability. The descriptive analyses of social distancing scores in two working seniority groups demonstrated average total scores of 16.67 in the senior group, 18.87 in the junior group. There was a significantly negative association between age and social distancing score. The master's degree and/or doctor degree group and the bachelor's degree group were considerably higher than those of the senior high school degree group. Gender and marital status had no statistical significance in the multiple regression analysis.

Conclusions: Healthcare professionals with a shorter career time were shown to have a relatively favorable attitude toward mentally ill people. Multiple regression analysis suggested that attitudes to mental illness among the health care provider were positively associated with younger age and higher education levels.

^ ORCID: 0000-0002-5933-5820.

It was recommended that a good social contact experience with the patient, such as work and psychiatry training, is compelling. It implied that a systemic education program for caring for psychiatric patients is necessary for Taiwan's health care institutions.

Keywords: Social distancing; health professional; attitudes to mental illness; health professionals continuing education

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Introduction

Discrimination and prejudice against people with mental health conditions have always been an essential issue in the world's medical system, which formed obstacles to developing the public health system (1-3). Social discrimination also reduces the quality of life of people with mental health conditions (4,5). Achieving de-smeared labels has become a goal of various medical institutions and organizations worldwide (6). To improve this problem, the World Psychiatric Association (WPA) launched the "Open the doors" program in 1996 to combat mental illness, prejudice, and stigmatization (7). At present, the general public's attitude towards people with mental health conditions is not apparent. It showed positive (8-10), negative (11), and neutral (12) in different researches.

More and more evidence shows that many psychiatric patients say that a large part of the discrimination in life comes from the medical system (13,14). Medical caregivers may also exhibit a discriminatory attitude, resulting in a decline in medical care quality (15). Discrimination of people with a mental health condition in the medical system will affect the treatment and care they receive, thereby delaying their recovery (15,16). The stigmatization of mental illness in the medical system may cause low-quality medical care, mislabeled diagnosis, excessive pessimism about the treatment result, only focus on drug use, insufficient explanation of informed consent, more treatment side effects, and neglect of patient needs (17-19). These consequences will lead patients to seek medical assistance more passively (20), increase the chance of suicide (21), increase the mortality and comorbidity of patients (15).

The theme of this research project is to understand the social distance and attitude to mentally ill patients of the general public relative to medical staff. Longer working years and medical ethics education have shown in previous literature that it can effectively reduce discrimination against people with a mental health condition (22-27). In 2003, Turkish research on teaching hospitals showed that the hospital's ordinary staff, compared with medical care, have the best patience and attitude. However, they do not have an excellent medical professional background (28). Medical staff is more likely to show impatient negative emotions for people with a mental health condition. This part can be improved in future medical education. According to the previous research results of *Acta Psychiatr Scand* in 2007, medical practitioners have a higher education level, a younger age, and most live in the suburbs relative to the family members of people with a mental health condition and the general public (29). Compared with the general public and the families of patients, medical practitioners have a relatively friendly attitude towards people with a mental health condition, which can be attributed to a better understanding of the disease and a higher degree of academic awareness. These could be the cornerstone of the text plan theory.

This study is based on the previous research results. It is aimed at whether the social distance between medical staff and people with mental health conditions changes due to working years. We present the following article following the STROBE reporting checklist (available at https://dx.doi.org/10.21037/ht-21-5).

Methods

Participants and procedure

The present study was approved by the Joint Institutional Review Board (JIRB) of the Mackay Memorial Hospital (IRB numbers: 21MMHIS026e). The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013).

The study aimed to analyze the association of social distancing and the working seniority of health professionals.

A cross-sectional study design was applied with convenience sampling. The study population comprised the related community groups of our team members on the LINE app that included the emergency department, the endocrine department of Mackay Memorial Hospital, two rehabilitation clinics in New Taipei city, and two rehabilitation clinics in Tainan city. The LINE app community groups were composed of colleagues of our team members that were all health professionals.

The pilot study was carried out in May 6, 2020 to May 13, 2020. We used a traditional paper-based questionnaire, and the participants were also the colleagues of our team members. Fourteen questionnaires were collected to perform item analysis. The participants in the pilot study were not permitted to participate in the formal investigation. The proper research was conducted from May 13, 2020, to May 31, 2020. We used an internet-based questionnaire by Google Sheets and carried the short URL in the LINE app group to voluntarily participate in the study. For protecting participants' voluntariness and privacy and the scruple about the problem of unequal power in the workplace, the traditional paper-based way was abandoned. Google Sheets adopted the web-based anonymous questionnaire, and we carried the short URL in the LINE group so that the group members could voluntarily participate in the study. An explicit explanation was presented on the first page of the questionnaire. Entrance to the following pages was permitted after signing informed consent.

The inclusion criteria of participants were the qualification of health professionals. Questionnaires from those who do not meet the inclusion criteria or the primary independent variable (the working seniority) that could not be determined were excluded. Initially, 251 questionnaires were collected, among which 34 questionnaires were removed due to the eligibility problem, and one questionnaire was removed due to the apparent error in replying to the working seniority.

Measurements

The dependent factor construction in the questionnaire was composed of 7 items. According to the results of item analysis in the pilot study, we should delete 1 item by way of reliability analysis and three using factor analysis. Owing to the few questionnaires (only 14), we decide to use all seven formal study items.

The participants were required to rate items on a 5-point Likert scale ranging from "1 = strongly unwilling" to "5 = strongly willing". Due to our questionnaire's high reliability, the average score was adopted to be the dependent variable. The independent variables included the working seniority and general socio-demographic characteristics, such as gender, age, marital status, and education level. Association between working types of health professionals and social distancing was also our study objectives, so we included it in the independent variables. We brought the variable "family or close friends diagnosed with mental illness" in our independent variables from reviewing the previous study results.

Statistical analysis

Descriptive analyses were performed for socio-demographic and other independent variables. Continuous variables were listed as mean and standard deviation (SD); they were shown as frequency and percentage for categorical variables. We use exploratory factor analysis to measure the convergent validity and calculate Cronbach's alpha value to measure the reliability.

We used a two-sample *t*-test and one-way analysis of variance (ANOVA) to perform univariate analysis. Multiple regression analysis was conducted with the independent variables significant in univariate analysis results, and social distancing average score is the dependent variable. All were performed using SPSS 24 version. A two-sided P value below 0.05 was considered statistically significant.

Results

There were 216 valid questionnaires. The response rate was 57.75%. *Table 1* showed the descriptive analyses of socio-demographic and other independent variables in two different working seniority groups categorized by the median in all samples. The junior group comprised 105 participants and the senior group 111 ones, with the majority being female (80%). The senior group's average age was 43.01 (SD =5.109), significantly higher than 31.08 (SD =6.159) in the junior group. The proportion of being married in the senior group (81.1%) was substantially higher than the junior group (42.9%). In education level and working type, the majority in both groups was bachelor degree and nurse. There was no significant difference in both groups concerning family or close friends diagnosed with mental illness.

Table 2 presented the reliability and validity of the questionnaire. The eigenvalue of the extracted factor was

Table 1 General characteristics of participants

Characteristics	Junior group (n=105), frequency/mean (SD) (%)	Senior group (n=111), frequency/mean (SD) (%)	P value
Gender			0.626
Female	86 (81.9)	88 (79.3)	
Male	19 (18.1)	23 (20.7)	
Age, years	31.08 (6.159)	43.01 (5.109)	<0.001
Marital status			<0.001
Married	45 (42.9)	90 (81.1)	
No married	60 (57.1)	21 (18.9)	
Education level			0.052
SHS	0 (0)	4 (3.6)	
Bachelor	96 (91.4)	91 (82.0)	
M & D	9 (8.6)	16 (14.4)	
Working type			0.523
Doctors	20 (19.0)	16 (14.4)	
Nurses	55 (52.4)	66 (59.5)	
Other	30 (28.6)	29 (26.1)	
FFMI			0.086
Yes	27 (25.7)	18 (16.2)	
No	78 (74.3)	93 (83.8)	

SHS, senior high school degree; M & D, master degree and/or doctor degree; FFMI, family or close friends diagnosed with mental illness.

Table 2 Validity and reliability of social distancing

Factor	Construction content	Factor loadings	Extraction sums of squared loadings		Cronbach's α
			Eigenvalues	Cumulative %	
Social distancing	No. 2	0.872	4.651	66.442	0.915
	No. 1	0.845			
	No. 4	0.840			
	No. 3	0.818			
	No. 6	0.795			
	No. 7	0.765			
	No. 5	0.763			

No., number.

4.651. The factor loadings of all seven items were more significant than 0.76, and the cumulative explained variation was 66.44%. These results showed moderately satisfied convergent validity. The Cronbach's α value was 0.915 that showed relatively good reliability. The descriptive analyses of social distancing scores in two working seniority groups were presented in *Table 3*, which demonstrated average total scores of 16.67 in the senior group, 18.87 in the junior

Table 3 Social distancing scores of different age groups

Levels	Junior group		Senior group		Range
	Mean	SD	Mean	SD	
No. 1	3.17	0.935	2.87	0.964	1–5
No. 2	2.74	1.056	2.36	0.998	1–5
No. 3	3.22	0.971	2.96	0.972	1–5
No. 4	2.50	1.057	2.16	1.049	1–5
No. 5	3.35	1.074	2.91	1.041	1–5
No. 6	2.05	0.934	1.78	0.967	1–5
No. 7	1.84	0.942	1.61	0.936	1–5
Total score	18.87	5.630	16.67	5.624	7–35

No., number.

Table 4 Univariate analysis of socio-demographic characteristics

Independent variables	Social distancing scores	*Post hoc*
Working seniority	2.872**	13–34 < 0–12
Gender	1.236	–
Age	5.672***	40-49 < 20-29
Marital status	–2.241*	Married < No married
Education level	3.382*	SHS < M & D
Working type	1.261	–
FFMI	0.122	–

*, P≤0.05; **, P≤0.01; ***, P≤0.001. SHS, senior high school degree; M & D, master degree and/or doctor degree; FFMI, family or close friends diagnosed with mental illness.

group.

The results of the univariate analysis in *Table 4* revealed the scores of the junior group significantly higher than the senior group (P≤0.01), the 20–29 years old group substantially higher than 40–49 years old group (P≤0.001), the never-married group considerably higher than the married group (P≤0.05), the master degree and/or doctor degree group markedly more elevated than the senior high school degree group (P≤0.05). There was no significant difference in working type groups and family or close friends diagnosed with mental illness groups.

The result of multiple regression analysis in *Table 5* suggested no significant difference in the working seniority groups after controlling for gender, age, marital status, and education level. There was a significantly negative association between age and social distancing score. The master's degree and/or doctor degree group and the bachelor's degree group were considerably higher than those of the senior high school degree group. Gender and marital status had no statistical significance in the multiple regression analysis. The R square was 0.126 and adjusted R square 0.101.

Table 5 Correlates of social distancing scores and general characteristics

Characteristics	Social distancing scores		
	B	95% CI	P
Working seniority			
Senior group	0.132	–0.177 to 0.441	0.401
Junior group	Ref.		
Gender			
Male	–0.231	–0.509 to 0.048	0.104
Female	Ref.		
Age	–0.037	–	0.001
Marital status			
Married	–0.002	–0.267 to 0.263	0.990
No married	Ref.		
Education level			
M & D	1.082	0.241 to 1.922	0.012
Bachelor	0.785	0.001 to 1.569	0.050
SHS	Ref.		
R square	0.126		

SHS, senior high school degree; M & D, master degree and/or doctor degree; FFMI, family or close friends diagnosed with mental illness; Ref, reference group.

Discussion

Compared to the senior staff (working years ≥13years), junior staff (working years <13 years) had significantly more positive attitudes to social distance. In the multiple regression model, younger age and higher education level had the less social distance, but working years showed no statistical significance.

In the present study, senior staff had more negative attitudes to mental illness compared to junior staff. We hypothesized that the health care provider with a longer

length of service is like a professional job, and our results are consistent with the previous study. The professionals' possible explanation is too busy to have enough time to communicate with mental illness people. However, the mechanism needs further research to be confirmed.

The factor that having "family or close friends diagnosed with mental illness" was negatively correlated with "social distancing" among the professionals. Social contact is one of the most effective interventions to reduce mental health-related stigma and discrimination among adults (30). This phenomenon was not observed in our study. The possible explanation is the definite social contact between the participant and his family or close friends with mental illness related to cultural differences. More "social distancing" towards mental illness people was observed in health care providers who have marriage compared with those who were never married. One reasonable explanation is that parents would worry about their children's safety and hence had negative attitudes towards the social distance. More studies are needed to confirm the relationship and explore the potential explanations. Other factors like gender and occupation/specialty did not affect the social distance among health care providers.

Medical staff's discriminatory attitude towards people with a mental health condition will result in further social marginalization of patients (31). As ordinary people, professional medical staff sometimes show a negative attitude towards people with mental illness. This problem affects the quality of medical care to a considerable extent. In addition, the prejudice of psychiatric patients will further reduce the willingness of new medical students to enter the psychiatric department, which will cause a shortage of psychiatric workforce and a problem of reduced quality of care (32). Over the years, psychiatrists have faced a lack of human resources (33,34). Under the influence of these conditions, discrimination against mentally ill patients in the medical system has slowly become a public health crisis.

As mentioned in the previous literature, medical professionals have an apparent positive attitude towards mentally ill patients, fewer "social restrictions" and prejudice towards patients, and more tolerance (35-38). According to a 2017 study in Singapore, medical professionals generally have a more positive attitude towards people with mental illness than the general public, but their "social distancing" is no different from that of the average person (23). Medical professionals are not more willing to get close to people with mental illness than ordinary people. Compared with doctors, nurses have a more negative attitude towards people with mental health conditions. If the ethnicity is Chinese, or those with a lower education level, they have a more negative attitude towards mental illness. Reflecting the "not in my back yard" phenomenon, although psychiatrists have a positive attitude towards people with a mental health condition, they believe that mental care institutions reduce the living standards of neighboring areas. Other research shows that getting in touch with people with a mental health condition can shorten social distance (39). This study in Singapore also showed that if a medical professional has family members or close friends who have a mental illness, it will significantly reduce his social distance from the person with a mental health condition. A study in Japan in 2018 also showed that professional medical personnel has less prejudice about mental illness than the general public (40).

According to the data review and analysis article made in Taiwan in 2019, the problem of discrimination against people with a mental health condition has been improved considerably in Eastern or Western countries over the past 30 years. Medical education remains the vital key to improve this problem (41). The problem-based learning (PBL) teaching method has emerged in primary medical schools in recent years. It has become influential in teaching medical students and nursing students how to correctly treat patients with mental disorders and learn basic clinical skills to deal with mental illnesses (42).

Although there have been many studies before exploring whether medical staff has a different attitude towards the mentally ill from the general public, the research on medical staff's working years and their social distance to mental illness patients is still unclear and rare. To our best knowledge, it is the first study to investigate the impact of the length of service of health providers on the attitudes to mental illness in Taiwan. Moreover, utilizing online tools for data collection reduced efforts in data entry. There were some limitations in our study. Firstly, the study participants were recruited from one medical center and four clinics through convenience sampling. The sample might not represent all healthcare providers in Taiwan and was restricted to doctors, nurses, and allied health staff. Therefore, this would affect the generalizability of the study findings. Secondly, the cross-sectional design may not allow any casual relationships to be established. Thirdly, the modest response rate in our study, which introduced a potential response bias if the non-responders were systematically different from those who joined the survey. Lastly, the validity of the stigma measures in health care providers is too complicated due to the difficulty in

choosing a gold standard.

Conclusions

The stigma of healthcare professionals with a shorter length of service was shown to have a relatively favorable attitude toward mentally ill people. Multiple regression analysis suggested that attitudes to mental illness among the health care provider were positively associated with younger age and higher education levels. For future studies, researchers could (I) use more representative samples; (II) explore how social contact affects attitudes to mental illness; (III) investigate the underlying mechanism of how age, education level, the married status might affect attitudes to mental illness. It was suggested that a good social contact experience with the patient, such as work and psychiatry training, is compelling. It implied that a systemic education program for caring psychiatric patients is necessary for Taiwan's health care institutions.

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Footnote

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The present study was approved by the Joint Institutional Review Board (JIRB) of the Mackay Memorial Hospital (IRB numbers: 21MMHIS026e). The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). An explicit explanation was presented on the first page of the questionnaire. Entrance to the following pages was permitted after signing informed consent.

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