
Perceptions of Appropriateness of Psychiatric Referrals by Healthcare Professionals in a General Hospital

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Abstract: Objective: We assessed hospital staff recognition of certain psychiatric symptoms and whether they considered it appropriate to refer patients with these symptoms to the consultation-liaison psychiatric service. Methods: An online questionnaire was sent to all healthcare professionals working in the hospital. We presented several vignettes describing the typical symptoms and behaviors of a case of schizophrenia, major depression, generalized anxiety disorder, delirium and dementia. Staff were asked whether they considered it appropriate for a patient with these symptoms to be referred to the psychiatrist. Results: Doctors were significantly more likely to endorse psychiatric referrals for depression ($p = 0.023$) and schizophrenia ($p < 0.001$). Although there appeared to be non-significant responses for the remaining conditions, within group analyses suggested that the more experienced staff and foreign born and foreign trained staff were more likely to endorse psychiatric referrals for anxiety, dementia and delirium. Conclusions: Knowledge deficits exist among hospital staff in our hospital. This highlights the possibility of non-detection and non-referral of certain psychiatric comorbidities among patients receiving medical care.

Keywords: Psychiatric Referrals, General Hospital, Mental Health Literacy

1. Introduction

It is well established that referral rates from hospital doctors to consultation-liaison psychiatry (CLP) services have remained chronically low. [1-4] The reasons for this include stigma, patient refusal, poor rapport with the CLP and the like. [4] One major factor responsible for low referral rates concerns failure of medical/ surgical teams to detect or to even suspect the presence of psychiatric comorbidities, with some researchers even suggesting that older consultants were less likely to recognize comorbidities in their patients. [5-6] Overlaps between symptoms of physical and psychiatric conditions may obscure the recognition of psychiatric comorbidities in medical patients. [7] Recognition presupposes knowledge of the phenomenology of common psychiatric conditions. Such knowledge of the features, etiology and treatment has been termed mental health literacy (MHL). [8] The utility of literacy is that timely psychiatric

referrals can be made to the CLP service, once psychiatric symptoms have been detected.

Much literacy research has focused on public perceptions of mental disorders. Few have examined MHL among healthcare professionals (HCPs). This has important implications. Since it is rare for medically ill patients (or their family members) to request psychiatric consultations, unless the patient had been receiving prior treatments, the onus is on HCPs to recognize psychiatric symptoms and to make timely referrals such that psychiatric comorbidities are given the appropriate attention they deserve.

A previous literacy study of nursing staff in a psychiatric hospital identified certain knowledge gaps. [9] Subjects were highly accurate in 'diagnosing' schizophrenia, less accurate for depression and even less accurate in diagnosing mania. For instance, depression was inappropriately diagnosed as stress, mania was most commonly misdiagnosed as schizophrenia, and for both psychotic conditions, a percentage returned

non-psychotic diagnoses. [9]

Singapore is an island inhabited by a multi-ethnic, multi-cultural population of about 5 million persons. The main ethnic groups are the Chinese (77%), the Malays (14%) and the Indians (8%) with people of other descent comprising the remaining one percent. The Chinese and Indians were immigrants from China and the Indian subcontinent respectively around the nineteenth century. The Malays were historically the earliest inhabitants, originating from Yunnan province in Southern China.

Our present study seeks to assess recognition of psychiatric symptoms among staff in a large tertiary care hospital in Singapore. The hospital has 1700 beds, with a staff strength comprising about 1300 doctors, 3900 nurses, and 1700 allied health professionals (AHPs). It is a teaching hospital which trains medical students and psychiatric residents and student nurses. Each month there are approximately 230 referrals to our consultation-liaison psychiatry (CLP) service requesting assessment and management of patients suspected to be suffering from comorbid psychiatric conditions. The common diagnoses are delirium, dementia, adjustment disorders, anxiety and mood disorders. Our CLP service consists of the on-call resident / medical officer, who assesses and manages all referrals under the supervision of psychiatric consultants.

All patients with psychiatric symptomatology are referred to the CLP service. Having had prior psychiatric training which include lectures and tutorials during 4-week postings to psychiatry departments of various hospitals at the undergraduate level, we would hypothesize higher levels of mental health literacy among doctors compared to nursing and allied health professionals.

2. Methods

This study is part of another study examining attitudes of HCPs towards psychiatric patients. For the purpose of this study an online questionnaire was sent to all HCPs working in the hospital with responses collected between 1 February to 30 April 2018. Responses were completely anonymized, and apart from stating their occupation e.g. doctor, nurse or allied health professionals (the latter were required to state their particular vocation e.g. social worker), no other departmental details were required. For this portion of the study, the questionnaire contained several vignettes describing the typical symptoms of a case each of schizophrenia, major depression, generalized anxiety disorder, delirium and dementia. The vignettes were derived from DSM-5 descriptions as well as observations of typical behaviors of patients suffering from these conditions. Respondents were asked the following question: “Is it appropriate for a patient

with the following symptoms to be referred to the psychiatrist?” Details of the vignettes are listed in Appendix 1. The purpose of the vignettes was to assess recognition of psychiatric symptoms and whether the HCP deemed it appropriate to refer patients with these symptoms to the CLP service. The use of vignettes is a common method used in MHL research. Study subjects were asked to respond according to “yes”, “no” or “don’t know”. For the purpose of data analysis, we grouped all “don’t know” answers with the “no” answers. To avoid response bias, staff working in the Department of Psychiatry e.g. psychiatrists, including psychologists were excluded from the study.

We deliberately kept the vignettes brief so as not to make the diagnosis too obvious. Moreover, in real life, we would not be expecting non-psychiatry colleagues to be taking detailed psychiatric histories from their patients. Ethical approval for the study was obtained from the hospital’s Institutional Review Board.

Data was analyzed using the Statistical Package for the Social Sciences (SPSS) 22.0 program with statistical significance set at $p < 0.05$. Pearson’s chi squared or Fisher’s exact tests were conducted to identify significant differences in demographic variables and responses between the doctors, nurses, and AHPs. Logistic regression performed to adjust for relevant covariates. Odds ratios with 95% Confidence Interval (CI) will be presented.

3. Results

A total of 255 staff members responded to the survey comprising 58 doctors, 130 nurses and 68 allied health professionals (AHPs). The AHPs comprised social workers, physiotherapists, occupational therapists, speech therapists and dieticians. The socio-demographic characteristics of the respondents are presented in table 1. The Chinese were over-represented among all professional groups, although the Malays were over represented among nurses ($p < 0.0001$). Females outnumbered males in the nursing and allied health professions ($p < 0.001$). The majority of doctors and AHPs reported they had up to 10 years’ working experience in the hospital, whereas nurses were significantly more likely to have worked more than 20 years in the hospital ($p = 0.018$). In terms of undergraduate and postgraduate training, most doctors and nurses were educated locally, whereas the majority of AHPs were trained overseas (all $p < 0.001$).

As expected, doctors were more likely to endorse referral to psychiatrists for all vignettes, whereas there were no significant differences in responses between the three groups of HCPs in regards the anxiety ($p = 0.169$) delirium ($p = 0.163$) and dementia vignette ($p = 0.582$) (please refer to table 2).

Table 1. Socio-Demographic Characteristics.

	Doctors (n = 58)	Nurses (n = 130)	Allied Health (n = 67)	X ² p-value
Age (years)				
Below 29	18 (31.9%)	51 (39.3%)	24 (35.8%)	X ² = 5.94 P = 0.204
30 to 49	33 (56.9%)	57 (43.8%)	38 (56.7%)	
50 and above	7 (12.1%)	22 (16.9%)	5 (7.5%)	
Ethnicity				

	Doctors (n = 58)	Nurses (n = 130)	Allied Health (n = 67)	X ² p-value
Chinese	49 (86.8%)	71 (54.6%)	58 (86.6%)	X ² = 7.50 P < 0.001
Malay	0 (0.0%)	29 (22.2%)	6 (8.9%)	
Indian	5 (7.4%)	21 (16.2%)	2 (3.0%)	
Others	4 (5.9%)	9 (6.9%)	1 (1.5%)	
Gender				X ² = 42.3 P < 0.001
Male	29 (50.0%)	15 (11.5%)	7 (10.4%)	
Female	29 (50.0%)	115 (88.5%)	60 (89.6%)	
Working experience (years)				X ² = 21.4 P = 0.018
1 to 5	30 (51.7%)	36 (27.7%)	31 (46.2%)	
6 to 10	14 (24.1%)	42 (32.3%)	20 (29.9%)	
11 to 15	4 (6.9%)	18 (13.8%)	9 (13.4%)	
16 to 20	3 (5.2%)	10 (7.7%)	5 (7.5%)	
21 to 25	3 (5.2%)	4 (3.1%)	1 (1.5%)	
> 25	4 (6.9%)	20 (15.4%)	1 (1.5%)	
Undergraduate Studies				X ² = 55.4 P < 0.001
Local	33 (56.9%)	102 (78.5%)	33 (49.3%)	
Overseas	25 (43.1%)	10 (7.7%)	32 (47.8%)	
NA	0 (0.0%)	18 (13.8%)	2 (2.9%)	
Postgraduate Studies				X ² = 43.2 P < 0.001
Local	33 (56.9%)	70 (53.8%)	9 (13.2%)	
Overseas	6 (10.3%)	5 (3.8%)	16 (23.6%)	
NA	19 (32.8%)	55 (42.3%)	43 (63.2%)	

3.1. Schizophrenia

Doctors were most likely to endorse psychiatric referral ($\chi^2 = 18.9$, $p < 0.001$, OR 3.6, 95% CI 1.6-7.9), with nurses the least likely. (please refer to table 2).

3.2. Depression

Doctors were most likely than nurses and AHPs to endorse psychiatric referrals for depression ($\chi^2 = 7.5$, $p = 0.023$, OR 3.3, 95% CI 1.4-8.0), (please refer to table 2). Nurses who had worked more than 10 years were more likely to endorse psychiatric referrals ($\chi^2 = 3.9$, $p = 0.048$, unadjusted OR 2.1, 95% CI 1.01-4.5). (please refer to table 3).

3.3. Anxiety

Foreign born doctors were more likely to endorse psychiatric referrals over local born doctors ($\chi^2 = 5.5$, $p = 0.02$,

unadjusted OR 9.0, 95% CI 1.1-75.0). Moreover, female nurses were more likely than their male counterparts to endorse psychiatric referrals ($\chi^2 = 4.7$, $p = 0.03$, unadjusted OR 3.6, 95% CI 1.1-11.9). (please refer to table 3)

3.4. Delirium

There were no differences between the three groups of HCPs in endorsing psychiatric treatment. Although foreign-born doctors were more likely to endorse psychiatric referral ($\chi^2 = 4.7$, $p = 0.03$), adjusted odds ratio estimates showed non-significant results. Notwithstanding, AHPs below age 29 were less likely to support psychiatric referrals ($\chi^2 = 6.5$, $p = 0.038$, unadjusted OR 3.8, 95% CI 1.3-11.3), while adjusted OR and 95% CI values were not significant. Similarly, overseas trained nurses with postgraduate qualifications were more likely to recommend psychiatric referrals ($\chi^2 = 6.6$, $p = 0.037$), adjusted OR = 28.5, 95% CI 1.5-544.1). (please refer to table 3).

Table 2. Vignette Domains – Agreeing to the Appropriateness of Psychiatric Referrals by Healthcare Professionals.

Vignette Domains	Doctor (n = 58)	Nurse (n = 130)	Allied Health (n = 67)	X ² p-value	Doctor vs Non-doctor Unadjusted OR (95% CI)	Doctor vs Non-doctor Adjusted+ OR (95% CI)
Depression	47 (81.0%)	79 (60.8%)	43 (64.2%)	X ² = 7.5 P = 0.023	2.6 (1.3 – 5.4)	3.3 (1.4 – 8.0)
Schizophrenia	44 (75.9%)	54 (41.5%)	35 (52.2%)	X ² = 18.9 P < 0.001	3.8 (2.0 – 7.4)	3.6 (1.6 – 7.9)
Anxiety	39 (67.2%)	69 (53.1%)	36 (53.7%)	X ² = 3.5 P = 0.169	1.8 (0.97 – 3.3)	2.2 (1.01 – 4.7)
Delirium	31 (53.4%)	51 (39.2%)	32 (47.8%)	X ² = 3.6 P = 0.163	1.6 (0.9 – 2.8)	2.0 (0.9 – 4.1)
Dementia	32 (55.2%)	63 (48.5%)	31 (46.3%)	2 = 1.1 P = 0.582	1.3 (0.8 – 2.4)	1.8 (0.8 – 3.7)

+ adjusting for all variables in Table 1.

3.5. Dementia

Foreign born doctors were more likely to endorse psychiatric referral than locally born doctors ($\chi^2 = 4.1$, $p = 0.04$, unadjusted OR 4.0, 95% CI 1.0-16.4). Nurses who had received postgraduate training overseas, were more likely to endorse referral of their patients to the psychiatrists ($\chi^2 = 7.1$, $p = 0.028$), over those who did their post graduate training

locally. Those who did not obtain post graduate qualification were least likely to endorse psychiatric referral ($\chi^2 = 7.1$, $p = 0.028$).

4. Discussion

It is well established that recognition of psychiatric comorbidities remains at a low level among HCPs. Relatively

few studies have assessed perceived appropriateness of psychiatric referrals by general hospital HCPs. Since doctors were the primary referring agents to the CLP service, it is satisfying to note that they scored the best among the 3 groups of staff for all the vignettes administered.

Doctors significantly affirmed the utility of referring patients with schizophrenia and depression to the psychiatric service, with foreign born doctors significantly more likely to endorse psychiatric referral for patients with anxiety, delirium and dementia. But it could be a reflection of hiring policy that foreign doctors with a proven record of competency and experience are recruited to work in this hospital.

In the case of schizophrenia, the low referral rates from nurses could suggest failure to recognize these symptoms as suggestive of a mental illness. Our hospital sees relatively few schizophrenia sufferers and this may affect detection and recognition of the condition among nurses. Moreover, most nurses in our hospital, would not have undergone specialized psychiatric nurse training and would therefore fail to perceive the cues that suggest the condition schizophrenia.

A study assessing recognition of mental disorders among

student nurses in various hospitals in this country found that schizophrenia recognition ranked lowest amongst other psychiatric conditions e.g. obsessive-compulsive disorder, dementia and depression and alcohol abuse. [10] By contrast a higher proportion of nurses working in the state psychiatric hospital endorsed referral to psychiatrists, with 74% general trained and 80% psychiatric trained nurses considering psychiatric referral as appropriate. [11]

In Southeast Asia, there is a strong belief in the activity of supernatural agents (from witchcraft and black magic to evil spirits and divine anger) in bringing about mental disorders. [12-14] Among the three groups of HCPs there was a significant over-representation of Malay nurses (refer to table 1) Razali *et al* have observed that Malays tended to attribute mental conditions to supernatural elements. [13] While it is possible that Malay nurses endorsed spiritual interventions over psychiatric treatment, there appeared to be no association between particular ethnicity and preference for psychiatric referral in the schizophrenia vignette ($p > 0.05$). On the other hand, belief in the supernatural is also prevalent among the other ethnic groups e.g. the Chinese and the Indians.

Table 3. Responses Regarding Appropriateness of Psychiatric referrals by Various Demographic Characteristics.

	Agree	X ² p-value	Unadjusted OR (95% CI)	Adjusted ⁺ OR (95% CI)
Doctors				
Anxiety Vignette				
Citizens (n = 44)	26 (59.1%)	X ² = 5.5 P = 0.019	1.0	NS
Non-Citizens (n = 14)	13 (92.9%)		9.0 (1.1 – 75.0)	
Delirium Vignette				
Citizens (n = 44)	20 (45.5%)	X ² = 4.7 P = 0.030	1.0	NS
Non-Citizens (n = 14)	11 (78.6%)		4.4 (1.1 – 18.0)	
Dementia Vignette				
Citizens (n = 44)	21 (47.7%)	X ² = 42.3 P < 0.001	1.0	1.0
Non-Citizens (n = 14)	11 (78.6%)		4.0 (1.01 – 16.4)	16.1 (1.2 – 221)
Nurses				
Depression Vignette				
Work <= 10 years (n = 78)	42 (53.8%)	X ² = 3.9 P = 0.048	1.0	NS
Work > 10 years (n = 52)	37 (71.2%)		2.1 (1.01 – 4.5)	
Anxiety Vignette				
Male (n = 15)	4 (26.7%)	X ² = 4.7 P = 0.030	1.0	NS
Female (n = 115)	65 (56.5%)		3.6 (1.1 – 11.9)	
Delirium Vignette				
Postgrad Local (n = 70)	31 (44.3%)	X ² = 6.6 P = 0.037	1.9 (0.9 – 4.1)	2.5 (0.9 – 6.7)
Postgrad Overseas (n = 5)	4 (80.0%)		9.7 (1.01 – 94.1)	28.5 (1.5 – 544.1)
NA (n = 55)	16 (29.1%)		1.0	1.0
Dementia Vignette				
Postgrad Local (n = 70)	36 (51.4%)	X ² = 7.1 P = 0.028		
Postgrad Overseas (n = 5)	5 (100%)		NE	NE
NA (n = 55)	22 (40.9%)			
Allied Health				
Delirium Vignette				
Age <= 29 (n = 24)	16 (66.7%)	X ² = 6.5 P = 0.038	3.8 (1.3 – 11.3)	
Age 30 - 49 (n = 38)	13 (34.2%)		1.0	NS
Age >= 50 (n = 5)	3 (60.0%)		2.9 (0.4 – 19.5)	

+ adjusting for all variables in Table 1.

NA: not applicable; NS: Not Significant; NE: Non-evaluable due to zero counts.

In the case of delirium, it is also unclear why nurses were least likely to prefer psychiatric referral. Perhaps, when they encountered delirious patients their standard procedures required referring these patients to the doctors to investigate medical causes of delirium in the first instance, before

considering psychiatric referral. For this condition, our data suggests that staff who had served in the hospital for longer periods of time i.e. the more experienced and older staff were more likely to endorse psychiatric referrals, including those with foreign postgraduate qualifications, perhaps reflecting

standard practice overseas. But in any case, foreign post graduate trained nurses were in the minority, and their views not reflective of the rest of the study cohort.

Our study has several strengths and limitations worth mentioning. In regards limitations, there was a low response rate despite many reminders being sent. Not all staff have access to emails at work. For instance, lower ranked nursing staff and some AHPs do not have email accounts at work and hence were not recruited into the survey. Conversely, the more senior staff had email accounts and were more likely to hold positions of responsibility and influence and their views of great value to our study.

The study did not offer any financial rewards for participation and responses were entirely made on a voluntary basis. With a less than ideal response rate the views of the study cohort might not truly reflect the attitudes and perceptions of the entire staff population. Moreover, it is impossible to predict whether staff with greater or lesser degree of mental health literacy would be more likely to participate in the study.

Notwithstanding limitations, our study has certain strengths. Responses were completely anonymized such that any information could not be traceable to the individual respondents or to the departments they represented. With this assurance of complete anonymity, responses could be as candid as possible. Nevertheless, we have recruited a sufficient number of HCPs of various ages, grades, and experience levels to enable meaningful analysis of their responses.

5. Conclusion

Our data suggests the existence of certain knowledge deficits among lesser experienced locally trained HCPs in our hospital. This highlights the potential for non-detection and non-referral of certain psychiatric comorbidities. In the case of schizophrenia, it is conceivable that patients with active psychotic symptoms do get noticed by the staff in view of their behavioral abnormalities, blunted affect etc. Family members usually inform the staff that these patients had been receiving psychiatric treatment elsewhere and could request their physician to make a psychiatric referral within the hospital. Patients with delirium could have been referred to other specialists with psychiatric referral not deemed as first priority.

Remedial measures e.g. lunch-time talks, in-service training, case discussions could be organized to remedy knowledge gaps. Ultimately the aim is that no patient with any psychiatric condition would be left out of receiving the psychiatric care they need while also receiving treatment for their medical problems.

Appendix: List of Vignettes

1. Depression vignette: Depressed mood, poor sleep, loss of appetite, loss of weight, suicidal thoughts.
2. Generalized anxiety disorder vignette: Increasingly worried over small matters, unable to sleep, palpitations, breathlessness.
3. Schizophrenia vignette: Hearing voices of the devil,

believes that demons are trying to kill him and that the hospital staff are trying to poison his food.

4. Delirium vignette: Fluctuating consciousness, agitated, trying to climb out of bed repeatedly.
5. Dementia vignette: Increasing forgetfulness, unable to recognize family members, incontinence of urine.

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