

BMJ Open Help-seeking intentions and subsequent 12-month mental health service use in Chinese primary care patients with depressive symptoms

Weng Yee Chin, Kit T Y Chan, Cindy L K Lam, T P Lam, Eric Y F Wan

To cite: Chin WY, Chan KTY, Lam CLK, *et al.* Help-seeking intentions and subsequent 12-month mental health service use in Chinese primary care patients with depressive symptoms. *BMJ Open* 2015;5:e006730. doi:10.1136/bmjopen-2014-006730

► Prepublication history for this paper is available online. To view these files please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2014-006730>).

Received 24 September 2014
Revised 5 January 2015
Accepted 13 January 2015



CrossMark

Department of Family Medicine and Primary Care, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong

Correspondence to

Dr Weng Yee Chin;
chinwy@hku.hk

ABSTRACT

Objective: To identify the factors associated with 12-month mental health service use in primary care patients with depressive symptoms.

Design: Cross-sectional followed by 12-month cohort study.

Setting and participants: 10 179 adult patients were recruited from the waiting rooms of 59 primary care clinics across Hong Kong to complete a questionnaire which screened for depression. 518 screened-positive participants formed the cohort and were telephoned at 3, 6 and 12 months to monitor mental health service use.

Primary and secondary outcomes:

- Help-seeking preferences;
- Intention to seek help from a healthcare professional;
- 12-month mental health service use.

Results: At baseline, when asked who they would seek help from if they thought they were depressed, respondents preferred using friends and family (46.5%) over a psychiatrist (24.9%), psychologist (22.8%) or general practitioner (GP; 19.9%). The presence of depressive symptoms was associated with a lower intention to seek help from family and friends but had no effect on intention to seek help from a healthcare professional. Over 12 months, 24.3% of the screened-positive cohort reported receiving services from a mental health professional. Factors associated with service use included identification of depression by the GP at baseline, having a past history of depression or other mental illness, and being a public sector patient. Having a positive intention to seek professional help or more severe depressive symptoms at baseline was not associated with a greater likelihood of receiving treatment.

Conclusions: Mental health service use appears to be very low in this setting with only one in four primary care patients with depressive symptoms receiving treatment from a psychiatrist, GP or psychologist over a year. To help reduce the burden of illness, better detection of depressive disorders is needed especially for patients who may be undertreated such as those with no prior diagnosis of depression and those with more severe symptoms.

Strengths and limitations of this study

- Participants were recruited from a wide variety of primary care settings, reflecting the delivery of primary care in Hong Kong, and were monitored prospectively to examine the correlations between intention and subsequent actual behaviour.
- We relied on the patient's self-report for collection of information on help seeking actions. It is possible that general practitioners or other providers may have provided psychological care as part of a general consultation, but that patients did not perceive this as receiving mental health treatment, resulting in an under-reporting of mental health service use.
- The study's findings are only applicable to our study population any may not reflect the whole of Hong Kong's primary care population.

INTRODUCTION

Depression is a common condition affecting the quality of life and contributing to the global burden of disease.¹ In many countries, depression is mainly managed in the primary care setting and primary care clinicians are well placed to detect, initiate and coordinate care.² Unfortunately, many adults experiencing a depressive episode will not seek help immediately, and worldwide, delays or complete failure in seeking treatment for depression are common.³ Studies have shown that in those reporting an intention to seek help to overcome depression, most would prefer to receive support from within their social network than from a healthcare provider.⁴ As a consequence, even in the primary care setting where patients already have access to a clinician, many patients may not disclose their mood symptoms and subsequently fail to be identified by the doctor as having depression or to receive appropriate medical care.⁵

The decision whether or not to seek help, and whom to seek help from, may be influenced by culture, demography, service accessibility, symptom severity and personal attitudes towards mental illness such as the individual's understanding of the illness, their perceived usefulness of treatments and impressions from their own past help-seeking experiences.^{6–8} It has been identified that the Chinese underutilise mental health services; however, low service demand does not necessarily reflect low service need.^{9–10} Despite living in a relatively westernised society, the health beliefs and behaviours of most Hong Kong Chinese are strongly influenced by traditional cultural values where emotional problems may not be perceived as an illness and strong stigmatising attitudes towards mental illness are highly prevalent.^{7–11} Aside from personal attitudinal and sociocultural barriers, there are also many practical barriers to receiving help for mental health. Detection rates for depression are relatively low in primary care^{12–13} and access to psychosocial services is difficult due to the user-pay system in the private sector,¹⁴ and long waiting times in the public sector.^{11–10}

To gain a better understanding about the help-seeking behaviours of Chinese primary care patients, the objectives of this study were to explore where patients prefer to go for psychological care; to identify the factors associated with a positive intention to seek help from a healthcare professional; and to identify the predictors for 12-month mental health service use among patients with depressive symptoms.

Our three hypotheses were:

1. Patients experiencing depressive symptoms are less likely to report a positive intention to seek help from a healthcare professional for their mental health;
2. In patients experiencing depressive symptoms, a positive intention to seek professional help for mental health is a predictor for subsequent 12-month mental health service use;
3. Severity of depressive symptoms is a predictor for subsequent 12-month mental health service use.

METHODS

This was a 12-month prospective longitudinal cohort study (figure 1). It was conducted as part of a larger epidemiological study to examine the naturalistic outcomes of depressive disorders in Hong Kong's primary care.^{12–15}

Participants and sampling

Patients were recruited from the waiting rooms of 59 primary care clinicians across Hong Kong and consisted of patients from the private sector, public sector and non-governmental organisations, reflecting the delivery of primary care services in this setting. The doctors were identified through the mailing list of the Hong Kong College of Family Physicians and joined this study

voluntarily as part of a mental health primary care practice-based research network.

All eligible adult patients consulting the study doctor on one randomised day each month over 12 months were consecutively recruited to complete a baseline questionnaire. Participants who screened positive for depression and who consented to longitudinal follow-up formed the cohort sample and were subsequently monitored by telephone interview at 3, 6 and 12 months. Patients were excluded if they were aged <18 years, unable to communicate in English, Cantonese or Mandarin, or unable to complete the questionnaire due to cognitive difficulties.

Study instruments

The Patient Health Questionnaire-9 (PHQ-9) is a nine-item questionnaire used to screen, monitor, diagnose and measure the severity of depressive symptoms. A cut-off score >9 was used to define a case of screened-positive depression ('PHQ+ve'). The Chinese version of PHQ-9 has been validated in Hong Kong among 357 adult participants from 14 primary care clinics using the Chinese Hamilton Depression Scale (CHDS) as the gold standard. Using a cut-off point >9, PHQ-9 was found to have a sensitivity of 80% and specificity of 92%. PHQ-9 can also be used to measure the severity of symptoms (score 1–4 minimal; 5–9 mild; 10–14 moderate; 15–19 moderately severe; 20–27 severe).¹⁶

Items on sociodemography and comorbidity were adapted from previously used health services research surveys on the Hong Kong primary care population.¹⁷

Help from others in the past: To examine past help-seeking behaviours, respondents were asked: "Have you tried any of the following to help you cope with your mental health?" Response options included: friends/family; religious organisation; traditional Chinese medicine (TCM) practitioner; community services; general practitioner (GP); psychiatrist; psychologist; social worker; telephone hotline; other (please explain). Respondents were permitted to choose more than one option.

Past help-seeking action was defined as a patient's self-report of having received a mental health service from a healthcare professional in the past and was identified by a checked response to the GP, psychiatrist, psychologist or social worker options in the item on 'help from others in the past'.

Help-seeking preferences: To examine help-seeking preferences, respondents were asked: "Given a choice, if you had depression, which of the following would you prefer to seek help from?" Response options included: friends/family; religious organisation; TCM practitioner; community services; GP; psychiatrist; psychologist; social worker; telephone hotline; other (please explain). Respondents were permitted to choose more than one option.

Intention to seek help from a healthcare professional: was defined as a patient's self-reported intention to seek help from a healthcare professional if they thought they

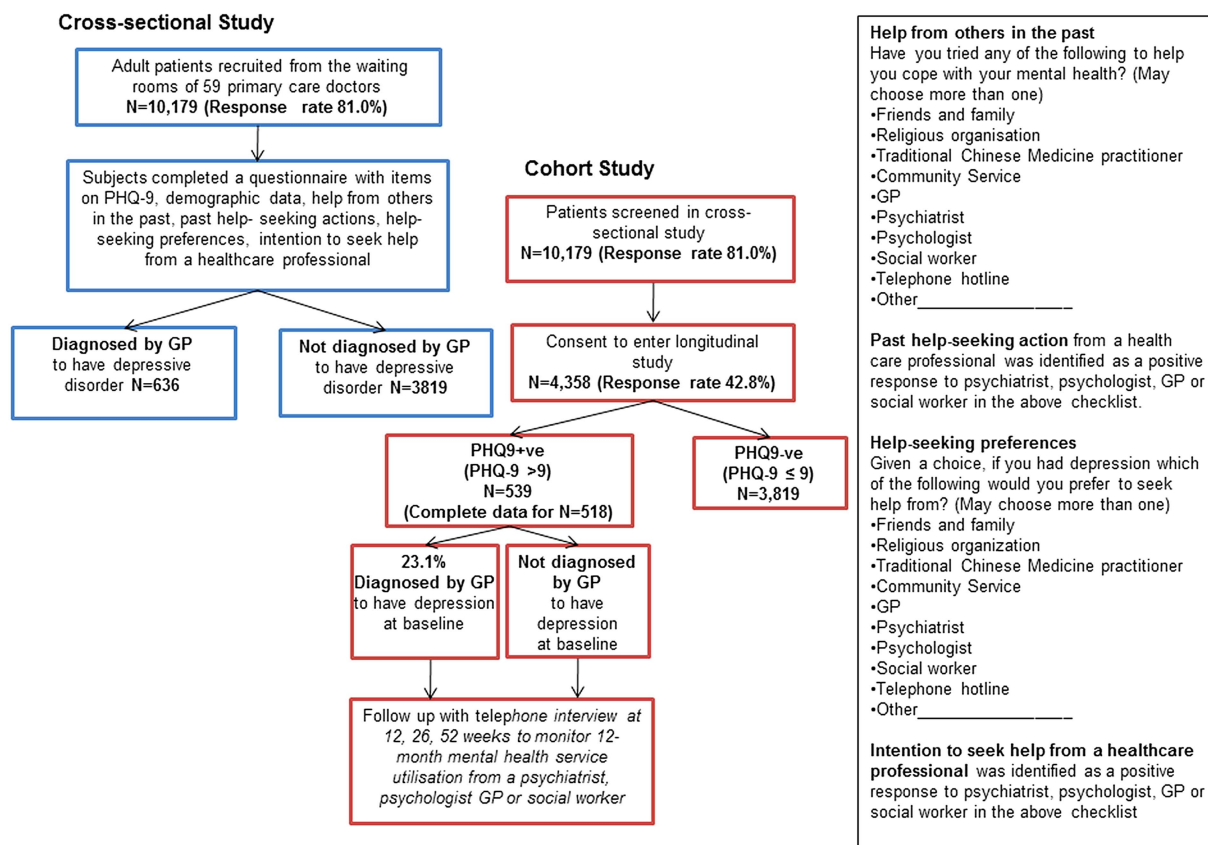


Figure 1 Study design (GP, general practitioner; PHQ, Patient Health Questionnaire).

were depressed and was identified as checked response to the GP, psychiatrist, psychologist or social worker options in the item on 'help-seeking preferences'.

Subsequent 12-month mental health service use. Participants who consented to longitudinal follow-up were telephoned at 12, 26 and 52 weeks to monitor for subsequent mental health service use. Respondents were asked to report whether they had received mental health treatment or psychological counselling from a psychiatrist, GP, psychologist or social worker in the previous 3 months. The subset of the cohort sample who had screened positive for depression at baseline was used to identify predictors for 12-month mental health service use.

Doctor's case report form: At baseline, study doctors blinded to their patient's PHQ-9 screening scores were asked to document on a case report form whether or not they thought their patient had depression. This was used to examine detection rates for depression.

Analysis

Using a PHQ-9 cut-off score of >9 to define a screened-positive case, the prevalence of depression was estimated with a 95% CI taking into account the clustering effect by the study doctor.

Proportional differences in help-seeking between the patient subgroups that screened PHQ-9 positive and negative were examined using χ^2 tests of independence.

Multiple logistic regression analyses were conducted to inspect the predictive significance of each of the patient demographic variables and self-reported clinical characteristics towards (1) a positive intention to seek help from a healthcare professional (reported at baseline), (2) having received psychological help from a psychiatrist, psychologist, GP or social worker in the past (reported at baseline) and (3) use of mental health services during the 12-month follow-up period (among the subset of follow-up cohort who screened PHQ-9 positive at baseline). In view of the relatively large sample size and possible data distortion with using missing data treatments, complete-case analysis was adopted for all regression models. All patient variables were entered in a single block and all were retained in the final model since the purpose of this study is not to build the most parsimonious predictive models. Nevertheless, the Hosmer and Lemeshow test statistics were reported to show how well each model fit the data, with a non-significant χ^2 goodness of fit at $p>0.05$ to indicate an adequate model fit. The statistical software SPSS V.21 was used for all quantitative analysis.

Sample size calculation

Previous literature showed that 33% of people with mental disorders were treated in the USA.¹⁸ Applying a well-known rule of thumb (1 in 10 rule)¹⁹ and with a total of 16 potential predictors considered, at least 485

patients were needed to evaluate the predictors for 12-month mental health service use. The full study protocol including sample size calculations for the larger epidemiological study has been published previously.¹⁵

RESULTS

A total of 10 179 patients completed the survey at baseline (response rate of 81.0%). Respondents were recruited from public settings (26.0%) and private settings (74.0%) in alignment with the overall delivery of primary care services in Hong Kong.²⁰ From the participants of the baseline survey, 4358 respondents consented to longitudinal follow-up (response rate of 42.8%) consisting of 539 participants who screened PHQ-9 positive ('PHQ+ve') and 3819 participants who screened PHQ-9 negative ('PHQ-ve'). Complete data were available for 518 of the PHQ+ve participants forming the cohort sample for analysis. The demographic characteristics of the cross-sectional and cohort participants stratified by their PHQ-9 screening status are shown in [table 1](#). In terms of demographic characteristics, the overall cohort sample was marginally older (mean age 49.6 vs 49 years); marginally more educated; and there were slightly more females than in the overall baseline sample. In terms of severity, 68.1% of the PHQ+ve cohort were categorised as being of moderate severity (PHQ-9 score 10–14), and 31.9% were categorised as being moderately severe or severe (PHQ-9 scores 15–19 and 20–27).

Prevalence and detection of depression

The cross-sectional prevalence of PHQ+ve screening was 10.69% (95% CI 9.71% to 11.67%). Among the PHQ+ve participants, study doctors identified 23.1% as having depression. The prevalence of patient self-reported history of depression diagnosed by a doctor was 6.64%.

Past help-seeking behaviours

Among the cross-sectional survey respondents (N=10 179), 54.1% (n=5503) overall and 65.6% of those who screened PHQ+ve reported having sought help from others in the past to cope with their mental health from either friends/family; religious organisation; TCM practitioner; community services; GP; psychiatrist; psychologist; social worker; telephone hotline or 'other not otherwise specified'. From these responses, it was observed that 6.9% (n=697) of all respondents and 17.5% of those who screened PHQ+ve reported at least one prior help-seeking action from a healthcare professional (either a psychiatrist, psychologist, GP and/ or social worker). A multiple logistic regression identifying the characteristics of patients who had sought help in the past from a psychiatrist, psychologist or GP is shown in [table 2](#). Characteristics of patients who had received help in the past from a GP included: lived on Hong Kong Island (relative to living in the New Territories and

Outlying Islands); had one or more medical comorbidities; had a history of depression or other mental illness; had a PHQ-9 score >9 at baseline; was a public sector patient. Characteristics of patients who had received help from a psychiatrist in the past included: had a history of depression or other mental illness. Characteristics of patients who had received mental healthcare from a psychologist in the past included: younger age; had attained a secondary education or above; non-married (single, divorced or widowed); had a household income >HK\$30 000; had a history of depression or other mental illness. Parallel analyses for social workers could not be reliably estimated due to the small group size.

Help-seeking preferences and intention to seek help for depression

Among the 10 179 cross-sectional survey respondents, 69.6% (n=7080) reported that they would seek help from other people if they thought they were depressed, preferring friends and family (46.5%) to a psychiatrist (24.9%), psychologist (22.8%) or a primary care physician (19.9%). The patient's self-reported help-seeking preferences for depression stratified by PHQ-9 screening status are shown in [table 3](#). Overall, there were no significant differences in the proportion of respondents who screened PHQ-9 positive or negative for any of the healthcare profession categories; however, it was observed that those who screened positive for depression were less likely to report that they would seek help from family and friends, but more likely to report that they would seek help from a TCM practitioner. In relation to the *first hypothesis*, it appears that the presence of depressive symptoms may have an impact on the patient's intention to seek help from informal and alternative sources but not on their intention to seek help from healthcare professionals.

Characteristics associated with a positive intention to seek help from a healthcare professional (psychiatrist, psychologist, GP or social worker) were identified using logistic regression analysis ([table 4](#)). The most significant predictor of a positive intention to seek help from a healthcare professional was having received help in the past from a healthcare professional. Other demographic factors associated with a positive intention to seek help from a healthcare professional included: higher household income; family history of mental illness; being female; being aged 18–34 years (compared with being aged >55 years); higher educational levels and being married. There was no relationship between PHQ-9 score and intention to seek help from a healthcare professional.

Predictors for subsequent 12-month mental health service use in patients with depressive symptoms

Baseline respondents who had consented to longitudinal follow-up were recruited into the cohort study and were monitored by telephone interview at 12, 26 and 52 weeks and asked about mental health service use in

Table 1 Characteristics of the cross-sectional and cohort participants by PHQ-9 status

	Baseline PHQ+ve (n=1079)	Baseline PHQ–ve (n=8791)	Cohort PHQ+ve (n=518)	Cohort PHQ–ve (n=3769)
Gender*†				
Female	702 (67.6%)	4896 (56.8%)	353 (68.9%)	2135 (56.9%)
Male	336 (32.4%)	3721 (43.2%)	159 (31.1%)	1620 (43.1%)
Age group, years*†				
18–34	316 (31.1%)	2200 (26.0%)	147 (29.0%)	860 (23.1%)
35–54	371 (36.5%)	3045 (35.9%)	197 (38.9%)	1336 (35.9%)
55+	329 (32.4%)	3232 (38.1%)	163 (32.1%)	1527 (41.0%)
Education				
Secondary or above	772 (75.0%)	6513 (75.9%)	391 (75.9%)	2834 (75.4%)
Primary or below	258 (25.0%)	2069 (24.1%)	124 (24.1%)	924 (24.6%)
Marital status*†				
Married	354 (34.3%)	2292 (26.7%)	168 (32.7%)	900 (23.9%)
All others (single, divorced, widow)	677 (65.7%)	6289 (73.3%)	346 (67.3%)	2860 (76.1%)
Working status*†				
Employed	583 (57.6%)	5394 (63.5%)	293 (57.9%)	2337 (62.7%)
All others (unemployed, retired, house-maker, student)	430 (42.4%)	3096 (36.5%)	213 (42.1%)	1391 (37.3%)
Household monthly income*†				
HK\$ 30 000 (US \$3800) or below	676 (75.4%)	4539 (60.6%)	346 (73.9%)	2062 (60.0%)
More than HK\$ 30 000	220 (24.6%)	2950 (39.4%)	122 (26.1%)	1372 (40.0%)
District of residence				
Hong Kong Island	431 (41.9%)	3554 (41.7%)	230 (44.6%)	1618 (43.1%)
Kowloon	227 (22.0%)	1969 (23.1%)	118 (22.9%)	899 (24.0%)
New Territories and Outlying Islands	372 (36.1%)	3010 (35.3%)	168 (32.6%)	1236 (32.9%)
Service sector*				
Private	761 (70.5%)	6559 (74.6%)	354 (68.3%)	2659 (70.5%)
Public	318 (29.5%)	2232 (25.4%)	164 (31.7%)	1110 (29.5%)
Doctor identification				
Diagnosed with depression by study doctor at baseline	249 (23.1%)	353 (4.0%)	153 (26.1%)	180 (4.8%)
Presence of professional HSI				
None	492 (49.1%)	4263 (50.4%)	226 (44.7%)	1680 (45.3%)
At least one	510 (50.9%)	4199 (49.6%)	280 (55.3%)	2030 (54.7%)
PHQ-9 severity level				
Minimum (0–4)	–	6221 (70.8%)	–	2657 (70.5%)
Mild (5–9)	–	2570 (29.2%)	–	1112 (29.5%)
Moderate (10–14)	759 (70.3%)	–	353 (68.1%)	–
Moderately severe (15–19)	235 (21.8%)	–	118 (22.8%)	–
Severe (20–27)	85 (7.9%)	–	47 (9.1%)	–

Missing value categories are omitted.

*Proportionately different at $p < 0.05$ between baseline PHQ+ve and baseline PHQ–ve by χ^2 test.

†Proportionately different at $p < 0.05$ between cohort PHQ+ve and cohort PHQ–ve by χ^2 test.

GP, general practitioner; HSI, health-seeking intention (intention to seek help from a healthcare professional, including a psychiatrist, psychologist, GP or social worker); PHQ, Patient Health Questionnaire.

the previous 3 months. Among the cohort sample who had screened PHQ+ve at baseline and who had complete follow-up data (N=518), 24.3% (n=126) reported receiving mental healthcare from a healthcare professional during the subsequent 12-month follow-up. Cumulatively over 12 months, 21.7% reported that they had consulted a psychiatrist or psychiatric clinic, 11.6% reported having received psychological treatment or counselling from a GP, and 3.6% from a psychologist. Multiple logistic regression analyses were performed to identify the predictors for subsequent mental health service use from a healthcare professional (table 5).

Predictors included: having a history of depression or other mental illness; identified as being depressed at baseline by the study doctor; attended a public sector clinic; having received help from a healthcare professional to help with their mental health in the past. In relation to the *second hypothesis*, a positive intention to seek help from a healthcare professional at baseline did not predict subsequent mental health service use and over 12 months, and there was no association between a positive intention to seek help from a healthcare professional at baseline and subsequent 12-month mental health service use.

Table 2 Characteristics of patients with past help-seeking actions from a GP, psychiatrist or psychologist*

Variable	GP OR (95% CI)	Psychiatrist OR (95% CI)	Psychologist OR (95% CI)
Gender (female)			
Male	1.08 (0.80 to 1.47)	1.30 (0.83 to 2.04)	0.79 (0.52 to 1.21)
Age group (18–34 years)			
35–54 years	0.94 (0.64 to 1.38)	1.04 (0.60 to 1.79)	0.76 (0.48 to 1.20)
55 years and above	0.93 (0.56 to 1.53)	0.81 (0.39 to 1.66)	0.22 (0.09 to 0.52)†
Education (secondary and above)			
Primary or no formal education	0.96 (0.63 to 1.48)	0.71 (0.39 to 1.30)	0.32 (0.11 to 0.96)†
Marital status (married)			
All others‡	1.32 (0.96 to 1.81)	1.44 (0.92 to 2.24)	1.72 (1.10 to 2.67)†
Employment status (employed)			
All others§	0.96 (0.67 to 1.37)	1.32 (0.81 to 2.16)	1.01 (0.61 to 1.67)
Household monthly income (≤HK\$ 30 000)			
>HK\$ 30 000	1.06 (0.77 to 1.46)	1.01 (0.63 to 1.62)	1.73 (1.14 to 2.62)†
District of residence (Hong Kong Island)			
Kowloon	0.68 (0.47 to 0.99)†	1.04 (0.62 to 1.74)	0.80 (0.47 to 1.35)
New Territories and Outlying Islands	0.59 (0.42 to 0.83)†	0.74 (0.45 to 1.23)	0.83 (0.53 to 1.30)
Physical comorbidities (none)			
At least one	1.51 (1.08 to 2.12)†	0.67 (0.41 to 1.09)	1.11 (0.71 to 1.75)
Family history of mental illness (no)			
Yes	1.42 (0.96 to 2.09)	1.23 (0.73 to 2.07)	1.01 (0.58 to 1.74)
Self-reported diagnosed depression (no)			
Yes	7.45 (5.28 to 10.52)†	43.85 (27.32 to 70.38)†	7.34 (4.43 to 12.18)†
Self-reported diagnosed other MI (no)			
Yes	4.25 (2.77 to 6.52)†	6.88 (4.21 to 11.26)†	5.32 (3.02 to 9.35)†
PHQ-9 score at baseline (≤9)			
>9	2.24 (1.59 to 3.15)§	1.22 (0.75 to 1.97)	1.00 (0.58 to 1.72)
Service sector (public)			
Private	0.47 (0.31 to 0.71)†	1.27 (0.75 to 2.18)	0.88 (0.46 to 1.67)

Brackets indicate reference categories.

Hosmer and Lemeshow tests suggested an adequate model fit for all three models: GP, $\chi^2=9.973$, $p=0.267$; psychiatrist, $\chi^2=10.092$, $p=0.259$; psychologist, $\chi^2=4.138$, $p=0.844$.

*Respondents included all cross-sectional participants at baseline.

†Statistically significant at $p<0.05$.

‡‘All others’ in marital status includes *being single, divorced or widow*.

§‘All others’ in employment status includes *being unemployed, retired, housemaker or student*.

GP, general practitioner; MI, mental illness; PHQ, Patient Health Questionnaire.

In relation to the *third hypothesis*, there was no correlation between the PHQ-9 severity and 12-month mental health services and patients with moderately severe or

severe symptoms of depression were not more likely to receive a mental health service than those who had only mild or moderate symptoms of depression.

Table 3 Patient help-seeking preferences by PHQ-9 status*

	Overall*(n=10 179)	Subgroup PHQ+ve (n=1079)	PHQ–ve (n=8791)	p Value
Friends and family	4738 (46.5%)	444 (41.1%)	4200 (47.8%)	0.001†
Religious organisation	852 (8.4%)	90 (8.3%)	740 (8.3%)	0.802
Social worker	1026 (10.1%)	116 (10.8%)	890 (10.1%)	0.304
General practitioner	2023 (19.9%)	216 (20.0%)	1754 (20.0%)	0.541
Community service	313 (3.1%)	41 (3.8%)	267 (3.0%)	0.114
Psychiatrist	2530 (24.9%)	277 (25.7%)	2195 (25.0%)	0.245
Psychologist	2325 (22.8%)	261 (24.2%)	2021 (23.0%)	0.130
Telephone hotline	230 (2.3%)	29 (2.7%)	196 (2.2%)	0.256
Traditional Chinese medicine practitioner	307 (3.9%)	46 (4.3%)	252 (2.9%)	0.006†
Others	81 (0.8%)	6 (0.6%)	74 (0.8%)	0.367

PHQ+ve=PHQ-9 screening score >9; PHQ–ve=PHQ-9 screening score ≤9.

*Respondents included all cross-sectional participants at baseline.

†Statistically significant at $p<0.05$ between groups by χ^2 test.

PHQ, Patient Health Questionnaire.

Table 4 Factors associated with patient-reported intention to seek help from a healthcare professional*

Variable	OR	95% CI range
Gender (female)		
Male	0.820†	0.743 to 0.905
Age group (18–34 years)		
35–54 years	1.095	0.958 to 1.250
55 years and above	0.679†	0.570 to 0.809
Education (secondary and above)		
Primary or no formal education	0.657†	0.568 to 0.760
Marital status (married)		
Being single, divorced or widow	0.862†	0.770 to 0.965
Employment status (employed)		
Being unemployed, retired, housemaker or student	0.935	0.826 to 1.059
Household monthly income (≤HK\$ 30 000)		
>HK\$ 30 000	1.342†	1.206 to 1.492
District of residence (Hong Kong Island)		
Kowloon	0.995	0.875 to 1.130
New Territories and Outlying Islands	1.068	0.951 to 1.200
Physical comorbidities (none)		
At least one	1.094	0.973 to 1.230
Family history of mental illness (no)		
Yes	1.457†	1.230 to 1.727
Self-reported doctor diagnosed depression (no)		
Yes	0.944	0.739 to 1.206
Self-reported doctor diagnosed other MI (no)		
Yes	0.824	0.596 to 1.138
Presence of past help-seeking action from professional (none)		
At least one	3.400†	2.590 to 4.463
PHQ-9 score at baseline (≤9)		
>9	0.888	0.754 to 1.047
Service sector (private)		
Public	1.029	0.899 to 1.178

Brackets indicate reference categories.

Hosmer and Lemeshow test suggested an adequate model fit, $\chi^2=7.549$, $p=0.479$.

*Respondents included all cross-sectional participants at baseline.

†Statistically significant at $p<0.05$.

PHQ, Patient Health Questionnaire.

Characteristics of patients who reported having received mental health services from a GP and from a psychiatrist are also shown in table 5. Detection of depression by the primary care doctor was associated with an increased likelihood of receiving 12-month mental health services; however, on subgroup analysis, detection was not associated with subsequent GP-provided mental health services, but was associated with subsequent psychiatrist-provided mental health services. Parallel analyses of health service use from a psychologist or social worker could not be reliably estimated due to the small group size and incomplete data.

DISCUSSION

The purpose of this study was to explore where Chinese primary care patients go to seek help for depression, and to identify the predictors for mental health service use. By using a cohort design, we were able to examine the factors associated with 12-month mental health service use and test the relationship between intention to seek help and subsequent service uptake.

Help-seeking preferences and intention to seek help from a healthcare professional for depression

Our *first hypothesis* was that patients experiencing depressive symptoms are less likely to report a positive intention to seek help from a healthcare professional. On the one hand, depression can diminish self-efficacy and make individuals question their ability to accomplish tasks, such as booking a doctor's appointment.⁵ On the other hand, depression can cause impairment to quality of life motivating people to seek help to alleviate their distress. In our study sample, the presence of depressive symptoms had no effect on intention to seek help from a healthcare professional. This was similar to a previous study conducted in Hong Kong which found no significant effect of mental health status on help-seeking intention.¹¹ One possibility is that the social stigma associated with mental illness may be so strong in the Chinese culture that sociocultural factors have a greater influence on help-seeking intention than actual service need.

Although it was observed that depressive symptoms did not have any effect on intention to seek help from a

Table 5 Factors associated with a 12-month subsequent mental health service use*

Variable	From GP OR (95% CI)	From psychiatrist OR (95% CI)	From any healthcare professional† OR (95% CI)
Gender (female)			
Male	0.58 (0.15 to 2.21)	1.44 (0.51 to 4.02)	2.35 (0.92 to 6.05)
Age group (18–34 years)			
35–54 years	0.41 (0.08 to 2.25)	0.88 (0.22 to 3.55)	0.77 (0.22 to 2.63)
55 years and above	1.31 (0.22 to 7.67)	1.26 (0.27 to 5.85)	1.39 (0.34 to 5.72)
Education (secondary and above)			
Primary or no formal education	0.21 (0.04 to 1.11)	0.60 (0.19 to 1.83)	0.44 (0.14 to 1.36)
Marital status (married)			
All others‡	0.55 (0.15 to 1.99)	1.00 (0.36 to 2.76)	0.91 (0.35 to 2.36)
Employment status (employed)			
All others§	0.88 (0.26 to 2.97)	0.88 (0.31 to 2.46)	0.80 (0.30 to 2.11)
Household monthly family income (≤HK\$ 30 000)			
>HK\$ 30 000	0.76 (0.18 to 3.18)	0.65 (0.18 to 2.36)	0.50 (0.16 to 1.56)
District of residence (Hong Kong island)			
Kowloon	0.40 (0.10 to 1.63)	0.93 (0.26 to 3.27)	2.17 (0.68 to 6.95)
New Territories and Outlying Islands	0.07 (0.01 to 0.62)¶	2.36 (0.78 to 7.14)	1.65 (0.59 to 4.57)
Physical comorbidities (none)			
At least one	0.58 (0.14 to 2.46)	1.06 (0.32 to 3.54)	0.51 (0.17 to 1.55)
Family history of mental illness (no)			
Yes	1.18 (0.30 to 4.59)	0.93 (0.28 to 3.15)	0.91 (0.27 to 3.05)
Self-reported diagnosed depression (no)			
Yes	10.88 (2.96 to 40.01)¶	8.86 (3.38 to 23.22)¶	17.86 (6.63 to 48.12)¶
Self-reported diagnosed other mental illness (no)			
Yes	7.35 (1.50 to 35.99)¶	7.08 (2.05 to 24.50)¶	18.99 (4.66 to 77.49)¶
Presence of professional help-seeking intention (none)			
At least one	3.42 (0.98 to 11.93)	1.13 (0.44 to 2.89)	1.80 (0.74 to 4.39)
Presence of a past help-seeking action (none)			
At least one	1.37 (0.37 to 5.04)	2.84 (0.96 to 8.41)	2.83 (1.07 to 7.53)¶
Doctor diagnosis of depression at baseline (no)			
Yes	1.26 (0.41 to 3.90)	4.02 (1.52 to 10.62)¶	2.85 (1.08 to 7.49)¶
PHQ-9 severity at baseline (mild-moderate)			
Moderately severe to severe depression**	2.18 (0.72 to 6.61)	1.28 (0.52 to 3.14)	1.83 (0.76 to 4.39)
Service sector (private)			
Public	1.49 (0.44 to 5.07)	7.25 (2.34 to 22.48)¶	4.21 (1.45 to 12.20)¶

Brackets indicate reference categories.

Hosmer and Lemeshow tests suggested an adequate model fit for all three models. For the GP model, $\chi^2=10.269$, $p=0.247$; psychiatrist, $\chi^2=6.369$, $p=0.606$; any professional, $\chi^2=7.691$, $p=0.464$.

*Respondents included PHQ screened-positive participants who entered the cohort study.

†Includes a GP, psychiatrist, psychologist, social worker and other professional.

‡'All others' in marital status includes *being single, divorced or widow*.

§'All others' in employment status includes *being unemployed, retired, house-maker or student*.

¶Statistically significant at $p<0.05$.

**PHQ-9 score: 10–14=mild to moderate depression; 15–27=moderately severe to severe depression.

GP, general practitioner; PHQ, Patient Health Questionnaire.

healthcare professional, our findings revealed that depressive symptoms did affect intention to seek help from family and friends. For most individuals, seeking help from friends and family is less threatening and more readily accessible than seeking professional help and Chinese patients often consult their family to confirm concerns and receive endorsement before seeking professional help.⁷ When an individual is not depressed, they may be more optimistic about the effect of family and friends in supporting them to cope with mental health issues. In the presence of a depressed mood, however, the associated negative thinking may

make individuals less likely to want to share their problems with family and friends as they may feel that they are just an added burden, their perception of the usefulness of family and friends may be altered, or the poor quality of life may make them preferentially seek other sources of help.⁷

Although only a small number of participants reported that they would seek help from a TCM practitioner, the presence of depressive symptoms also appeared to have an effect. This may be related to the nature of TCM, which is philosophically more holistic and aims to achieve balance rather than cure. One possibility is that

patients who are experiencing depressive symptoms may perceive themselves as feeling 'out of balance' or having a lack of well-being, which may make them more likely to report that they would seek help from a TCM practitioner. As many patients in our setting use both western and Chinese medicine, greater exploration is needed to understand why patients may prefer to seek help from a TCM practitioner for depression and the role of TCM in the delivery of depression care.

Overall, while 70% of respondents reported that they would seek help from others, around 30% appear to not want any outside help. Although this group was not studied in detail, it is apparent that a significant proportion of primary care patients do not intend to seek help from any external source if depressed. Further exploration is needed to better understand the unmet needs of patients who do not wish to seek help and how they can be addressed.

Predictors for subsequent 12-month mental health service use

Our *second and third hypotheses* related to predictors for 12-month mental health service utilisation in patients with depressive symptoms. We hypothesised that a positive intention to seek help from a healthcare professional and severity of depression could predict subsequent 12-month mental health service use. From our findings, however, a positive intention to seek help from a mental health professional and a higher severity of depression had no effect on subsequent mental health service use. Using Ajzen's theory of planned behaviour,⁶ an individual's behaviour may be influenced by their own personal beliefs (patient's own attitudes), subjective norms (the social norms) and control beliefs (perceived practical barriers).^{6 21} In our study population, it appears that the patient's intentions regarding help-seeking was an insignificant contributor to subsequent mental health service utilisation. Conversely, identification of depression by a doctor was a very strong predictor for subsequent action. It seems that being told that you have depression by a doctor can enable people who would otherwise not seek help to receive mental health treatments. One possible explanation is that when individuals are given the diagnosis of depression by doctor, they may be more accepting about seeking mental health treatments. Another possibility is that doctor detection facilitates access to care by overcoming some of the practical barriers to treatment such as knowing where to go.

Unfortunately, we found that PHQ severity was not a predictor for subsequent health service utilisation and that higher severity of symptoms at baseline was not associated with a greater likelihood of receiving subsequent mental health services as hypothesised. This suggests that patients with moderately severe to severe depressive symptoms, who potentially could benefit the most from mental health interventions, are not more likely to receive mental health services in our setting. Translated

to quality of care, this potentially has quite serious repercussions in terms of suicide prevention and poor quality of life. A wider exploration of interventions may help to promote detection, and service uptake for these patients is needed to help reduce the burden of depressive illnesses in our community.

In the analyses of the factors associated with 12-month mental health service use, it was identified that detection of depression by a primary care doctor at baseline was associated with subsequent mental health service use; however, on further subgroup analysis, no association was found between GP detection and subsequent 12-month GP-provided mental health service use. Instead, GP detection was positively associated with receiving specialist psychiatric services. This suggests that after patients are diagnosed by the GP, they subsequently receive mental health services from a psychiatrist rather than from the primary care doctor. One possible explanation is that the respondents in this study were not aware that their GP provided a mental health service. On the other hand, some GPs may not have exhibited sufficient empathy or skill in treating the patient's mood disturbance, causing them to seek treatment from other sources.¹⁴ The WHO recommends that common mental illness should be treated in primary care and that specialist psychiatric services should be reserved for more severely ill patients.²² In Hong Kong, the role of the primary care doctor is poorly delineated, and patients can directly consult specialists in the private sector without a GP referral.¹⁴ This has significant service implications as many patients bypass the gatekeeping function of the primary care doctor causing further burden to an already stretched specialist psychiatric service sector where the population to specialist ratio is approximately 1:44 202.²³ A closer examination of management practices by GPs may be warranted to identify whether it is feasible to transfer the delivery of care for depressive illnesses away from the specialist sector and into the primary care sector.

Strengths and weaknesses

This was the first wide scale epidemiological study to examine depressive disorders in Hong Kong's primary care. A major strength of this study was our success in enlisting a large number of primary care doctors to collaborate. Our wide sampling of practice types is reflective of the diverse service options available to patients seeking primary care in Hong Kong.

Our study has a number of notable limitations. Identification of patients with depressive symptoms was based on a screening instrument and a clinical diagnosis of depression was not confirmed by a diagnostic interview. We relied on the patient's self-report for collection of information on 12-month mental health service use, which incurs a risk of recall bias. It is possible that GPs or other providers may have provided psychological care as part of a general consultation, but that patients did not perceive this as receiving mental health treatment

resulting in an underestimation of mental health services provided by GPs. Our study was restricted to patients recruited through a primary care research network in Hong Kong, and may not be generalisable to other primary care settings. The cohort sample was self-selected, which incurs a risk of self-selection bias. The findings are only applicable to our study population and may not reflect the whole of Hong Kong's primary care population. Finally, our study only collected data on patient demographics and preferences for seeking help. As we did not include any items to assess personal attitudes to mental health treatments or regarding stigmatism, we were unable to examine the relationship between specific patient attitudes and subsequent health service uptake, which is an area that warrants further study.

CONCLUSION

Although much has been written about what influences mental health help-seeking attitudes, much less is known about what influences actual behaviour. Of particular interest to mental health service research is how we can help people who experience mental health problems but who do not receive appropriate medical attention. In Hong Kong, patients prefer to seek help from close family and friends above that of a healthcare professional, and prefer to seek help from a psychiatrist for depression over that of a GP. Almost three-quarters of patients experiencing a depressive episode will not receive any mental health services over a year, and patients with more severe symptoms are not more likely to receive medical attention. GPs need to maximise opportunities to enhance the mental health of their patients by improving their detection rates for depression so that delays in initiation of treatment can be reduced.

Acknowledgements The authors wish to acknowledge all the doctors of our Primary Care Research Network for their contribution to this study.

Contributors CLKL initially conceived the study. CLKL, TPL and WYC collectively designed and drafted the study protocol and sought funding and ethical approval. EYFW led the statistical analyses and contributed to the drafting of the manuscript. CLKL, TPL and KTYC contributed to recruitment and data collection. KTYC was the project coordinator, recruited and trained the fieldworkers, assisted with recruitment of study doctors, coordinated the data collection, and contributed to the drafting of the manuscript. WYC was the principal investigator of the funding application; he coordinated the research network and research team and drafted the manuscript. All authors have read the draft critically and approved the final manuscript.

Funding This work was supported by the Hong Kong Food and Health Bureau's Commissioned Research on Mental Health Policy and Service grant Reference No. SMH-27.

Competing interests None.

Ethics approval The Institutional Review Board of the University of Hong Kong/Hospital Authority Hong Kong West Cluster and all relevant regional and institutional ethics review boards.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement The data set is available on request by emailing the corresponding author at chinwy@hku.hk

Open Access This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license,

which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

REFERENCES

1. Murray C, Vos T, Lozano R, *et al*. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012;380:2197–223.
2. Miller BF, Druss B. The role of family physicians in mental health care delivery in the United States: implications for health reform. *J Am Board Fam Med* 2013;26:111–13.
3. Wang PS, Angermeyer M, Borges G, *et al*. Delay and failure in treatment seeking after first onset of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry* 2007;6:177–85.
4. Oliver MJ, Pearson N, Coe N, *et al*. Help-seeking behaviour in men and women with common mental health problems: cross-sectional study. *Br J Psychiatry* 2005;186:297–301.
5. Bell RA, Franks P, Duberstein PR, *et al*. Suffering in silence: reasons for not disclosing depression in primary care. *Ann Fam Med* 2011;9:439–46.
6. Schomerus G, Matschinger H, Angermeyer M. Attitudes that determine willingness to seek psychiatric help for depression: a representative population survey applying the Theory of Planned Behaviour. *Psychol Med* 2009;39:1855.
7. Hui A, Wong P, Fu K-W. Building a model for encouraging help-seeking for depression: a qualitative study in a Chinese society. *BMC Psychol* 2014;2:9.
8. Coppens E, Van Audenhove C, Scheerder G, *et al*. Public attitudes toward depression and help-seeking in four European countries baseline survey prior to the OSPI-Europe intervention. *J Affect Disord* 2013;150:320–9.
9. Kung WW. Cultural and practical barriers to seeking mental health treatment for Chinese Americans. *J Community Psychol* 2004;32:27–43.
10. Lee S. Mental health problems in transition: challenges for psychiatry in Hong Kong. *Hong Kong Med J* 1999;5:6–8.
11. Mo PK, Mak WW. Help-seeking for mental health problems among Chinese: the application and extension of the theory of planned behavior. *Soc Psychiatry Psychiatr Epidemiol* 2009;44:675–84.
12. Chin W, Chan K, Lam C, *et al*. Detection and management of depression in adult primary care patients in Hong Kong: a cross-sectional survey conducted by a primary care practice-based research network. *BMC Fam Pract* 2014;15:30.
13. Barbui C, Tansella M. Identification and management of depression in primary care settings. A meta-review of evidence. *Epidemiol Psychiatr Soc* 2006;15:276–83.
14. Wun YT, Lam TP, Goldberg D, *et al*. Reasons for preferring a primary care physician for care if depressed. *Fam Med* 2011;43:344–50.
15. Chin W, Lam C, Wong S, *et al*. The epidemiology and natural history of depressive disorders in Hong Kong's primary care. *BMC Fam Pract* 2012;12:129.
16. Kroenke K, Spitzer R, Williams J. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606–13.
17. Lo Y, Lam C, Lam T, *et al*. Hong Kong primary care morbidity Survey 2007–2008. *Hong Kong Pract* 2010;32:17–26.
18. Chisholm D, Flisher A, Lund C, *et al*. Scale up services for mental disorders: a call for action. *Lancet* 2007;370:1241–52.
19. Peduzzi P, Concato J, Kemper E, *et al*. A simulation study of the number of events per variable in logistic regression analysis. *J Clin Epidemiol* 1996;49:1373–9.
20. Food and Health Bureau. *My health my choice: healthcare reform second stage consultation document*. Hong Kong SAR: Government Logistics Department, 2010.
21. Ajzen I. The theory of planned behavior. *Organ Behav Hum Decis Process* 1991;50:179–211.
22. World Health Organization. mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings 2010. Secondary mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings. 2010. http://whqlibdoc.who.int/publications/2010/9789241548069_eng.pdf
23. Hong Kong College of Psychiatrists. *Submission of the Hong Kong College of Psychiatrists to the Panel on Health Services of the Legislative Council on mental health policy in Hong Kong*. Legislative Council Paper No. CB(2)373/07–08(05). Hong Kong, 2007.