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Primary care physicians' perceived barriers on the management of depression in China primary care settings

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Abstract

Background—Chinese patients with depression have limited access to mental health specialty care because of myriad barriers at different levels. Recently, there has been increased interest in targeting primary care settings for managing depression, because most depressed individuals visit their primary care physicians (PCPs) during the course of their depressive episodes. The present study examined PCPs' perceived barriers on the management of depression.

Methods—A total of 295 PCPs completed a 36-item survey by mail. The survey questions included demographics, years in primary care, mental health training experience, and perceived barriers regarding the management of depression in their clinical and current practices. Chi-square and t-test analyses were used to compare the difference of demographic variables between the two districts. For the correlates of PCPs' clinical practices and their perceived barriers, logistic regression models were used.

Results—At the practice level, lack of access to mental health specialists (37.8%) was the most commonly reported barrier and at patients' level, reluctance toward diagnosis of depression (34.6%) was the high barrier. Results have indicated that most PCPs (69.2%) felt comfortable discussing psychological issues with patients. Mental health training is significantly related to

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PCPs' clinical practice. When PCPs perceived moderate to high-level practice level barriers, prescription and referral were mostly preferred.

Conclusion—PCPs in China perceived some barriers in the management of depression, but they were open to modifications and enhancement of their skills related to managing depression.

Keywords

primary care physicians; barriers; depression management

1. Introduction

Depression is projected to have the greatest negative impact and highest disease burden among all illness by 2020 worldwide (Kessler et al., 2017; Lopez and Murray, 1998; Whiteford et al., 2015). Among community-dwelling older adults, the effects of depression are already evident. For older adults aged 75 years or older, a meta-analysis revealed a pooled prevalence of 7.2% (range 4.6% to 9.3%) for major depression and 17.1% (4.5% to 37.4%) for other depressive disorders (Luppa et al., 2012), making it the most common mental health disorder in elderly population. Late-life depression is associated with physical limitations, greater difficulty with daily tasks, increased utilization and cost of healthcare, and increased suicide and mortality (Alexopoulos and Kelly, 2009; Blazer, 2003). Late-life depression also represents a major public health issue in China. In Beijing, the 1-year prevalence of geriatric depression is 4.3% (Ma et al., 2008), whereas among patients in general hospitals in Shenyang, the rate is 11% (Qin et al., 2008). Rates of depression are even higher, approaching 33%, among patients with chronic diseases such as uncontrolled hypertension (Xue et al., 2017). In 2002, the total estimated cost of depression in China was US\$ 6.3 billion (Hu et al., 2007).

In China, patients with depression have limited access to mental health specialty care. Barriers to care include shortage of mental health professionals, limited mental healthcare access in the community (most mental health professionals in China work on inpatient units), and stigma related to seeking mental health care. The community mental health systems in several large cities such as Shanghai, Hangzhou, and Beijing primarily focus on treatment and management of psychosis, mental retardation, and seizure disorders, with much less emphasis on the treatment of depression (Xiao et al., 2004).

Currently, there is increased interest in targeting primary care settings for the treatment of depression, because most depressed individuals visit their PCPs during the course of their depressive episode (Coyne et al., 1994; Kutcher et al., 2016; Wun et al., 2011). Combinations of pharmacological and psychosocial interventions, currently available to PCPs, have been found to be effective in treating patients with depression in primary care (Gensichen et al., 2006; Gilbody et al., 2006). In western countries, > 50% of all depression patients are treated in primary care clinics (PCCs) (Oxman et al., 2002). The proliferation of available antidepressants, such as selective serotonin reuptake inhibitors (SSRIs), has made it safer and easier for PCPs to treat depression (Olfson et al., 2002). Given the low rates of older adults seeking specialty mental health services (Hays and Gilreath, 2017; Klap et al.,

2003; Rice et al., 2017), it is crucial that PCPs recognize and treat older patients with depression on priority.

With the new health policies by the Central Government of China, the development of community health services will include: primary care as the central component of new strategy for health education and promotion; outpatient evaluation; and case management of chronic disease and physical rehabilitation as the major responsibilities of the primary care (Wang et al., 2007). And, mental disorders are considered as chronic diseases in these community health service policies. Depression is considered as chronic disease due to its frequently relapsing and recurring course.

In China, mental healthcare delivery offers various advantages to PCCs. First, they are convenient: in most of the urban areas, residents can conveniently find a PCC within half a mile. Second, government health insurance covers a greater proportion of care when delivered through the primary care system (90100%) as compared to care in hospitals (70–100%). Third, PCC professionals are trained and have expertise in the treatment and management of chronic diseases. Fourth, PCCs are associated with less stigma and fewer barriers. Epidemiological studies have shown that elderly Chinese have lower rates of depression as compared to western population (Parker et al., 2001). However, older adults are at greatest risk for suicide, with rates as high as 200 per 100,000 (> 65 years), over four times greater than the general Chinese population (Li et al., 2009); and depression is a major risk factor for suicide among older adults (Conwell et al., 1996; Dong et al., 2015). In elderly Chinese, Chinese culture, stigma, and the tendency to express depression somatically make them reluctant in seeking care from mental health specialists (Kleinman, 2004; Parker et al., 2001). In PCC, individuals are more likely to seek the treatment for mental health problems (Dwightjohnson et al., 2000), as less stigma is associated with primary care treatment as compared to mental health care clinics in China (Roeloffs et al., 2003).

Despite the potential role of primary care in the management of depression, low levels of detection and treatment of depression have been highlighted in primary care settings (Sirey et al., 2017; Tylee and Gandhi, 2005). Many barriers such as lack of awareness and reluctant behavior among healthcare professionals and patients respectively, and also some practice level barriers significantly contribute to the unsatisfactory recognition and management of depression in primary care settings (Coventry et al., 2011; Sirey et al., 2017). At the PCPs' level, they may portray late-life depression as a normative condition; or project their personal experiences with depression onto the patient, or fail to use screening tools on a routine basis (Main et al., 1993).

Attitude of PCPs' towards patients with depression play an important role in communication, engagement, and treatment decisions. Recognition, understanding, and support of the condition and treatment are considered to be the most important characteristics of communication between healthcare providers and their patients (Cooper et al., 2000; Wun et al., 2011). A provider's negative attitude towards depression adds to patient's experience of social stigma and discrimination (Hugo, 2001). Several studies among PCPs have shown that knowledge and attitude toward mental illness are associated with recognition of depression (Goldberg et al., 1982; Kutcher et al., 2016; Parchman, 1992;

Robbins et al., 1994). PCPs considering depression as a chronic disease recommend antidepressants than psychotherapy, and are significantly more likely to prescribe medications. However, those who reported greater professional unease in managing depressed patients, taking late-life depression as an inevitable, natural outcome of aging, were less likely to treat their depressed patients (Dowrick et al., 2000; Kerr et al., 1995; Ross et al., 1999).

PCPs' attitude towards patients significantly affects the confidence and ability to effectively diagnose and manage depression (Richards et al., 2004). Botega et al. (1992) (Botega et al., 1992) reported that PCPs experienced a more comfortable and rewarding work environment when they were trained to distinguish between depression and unhappiness in patients. In order for PCPs to help patients with depression, they first need to accept the responsibility of recognizing the problem. Primary care pediatricians recognizing maternal depression were more likely to assess cases more completely and intervene in those cases, and were also more willing to consider implementing change in their practice (Olson et al., 2002). Dowrick et al. (2000) reported significant association between PCPs' observed diagnostic ability and attitude toward depression, preference for psychotherapy, ease in managing depression, and belief in successful treatment (Dowrick et al., 2000). A western healthcare study demonstrated that mental health professional training in primary care setting significantly improved PCPs' attitude towards depression, and PCPs who had more practice in treating depressed patients are more likely to have a positive attitude, better confidence, and knowledge in managing depression and identifying barriers to care (Pincus et al., 2001).

To our knowledge, no such research has been conducted in China. Our objective was to investigate the significant barriers in the effective assessment and management of depression in Chinese PCPs.

2. Method

2.1 Procedure and participants

Two of the total eight urban districts of Hangzhou City, China, were randomly selected based on the random numbers generated by a computer program. The population size and social economic status of these two selected districts were similar, with 208 and 199 PCPs serving their residents respectively. All these 407 PCPs were sent a package including an anonymous questionnaire; a self-addressed stamped envelope; statement outlining the purpose of the research; and a written informed consent form. The 5-page questionnaire took approximately 20 minutes to complete. Each participant would be paid 20 yuan (RMB) after completion of the questionnaire.

The survey was approved by the ethics committee of the Mental Health Center of Hangzhou Zhejiang University, and the Health Departments of the two districts.

2.2 Measures

Based on the prior research, we assembled items to measure the following constructs:

2.2.1 Clinical background questionnaire and self-reported practice—We collected demographic information about PCPs clinical background including age, gender, education, years of experience in primary care, and whether they had any kind of mental health training. We asked PCPs to outline the percentage of adult patients diagnosed with depression in their clinic in the past six months (perceived depression rate). PCPs were also asked to indicate how often they provided the following services: (a) prescription of antidepressants; (b) counseling or psycho-education; (c) prescription of traditional Chinese medicine; and (d) referring patients to mental health professionals.

2.2.2 PCPs' perceived barriers—Based on Pincus and colleague's study (Pincus et al., 2001) and the scale used in Richards' study (2004) (Richards et al., 2004), we tried to address barriers to the treatment of depression on three levels based on current Chinese primary care practice: patients' level, providers' level, and practices' level. To achieve this, PCPs were provided with a list of possible barriers and asked to assess how each might limit their capacity in providing care to patients with depression. Initially, the list was a 30-item set. We first translated the item set into Chinese; two bilingual (English-Chinese) psychologists translated it back into English. The item set was narrowed; content validity was assessed by a panel of PCPs, within the relevant specialties, which reviewed the proposed items for accuracy. The final set had 21 items. The item set included four items to address PCPs' perceived barriers on patients' level (e.g. inability/unwillingness to discuss depressive symptoms), 11 items to address barriers on providers' level (e.g. incomplete knowledge of available treatments for depression, confidence in treating depression and/or anxiety with evidence-based treatments), and six items to address barriers on practices' level (e.g. usual consultation time preventing adequate assessment of depression). The results from each of the participants were analyzed using a 3-point score: 0 = none or low, 1 = moderate and 2 = high. It was designed to take approximately 10 minutes to complete. The reliability of the final scale was good; Cronbach's Alpha was 0.73.

2.3 Data analyses

The aim of the study was primarily descriptive, therefore mean and percentages were calculated for demographic data, clinical practices, and 3-level perceived barriers. Chi-square and t-test analyses were used to compare the differences on demographic variables between the two districts. Four logistic regression models were used to correlate PCPs' clinical practices which included the following dependent variables: antidepressants, psychological consultation, traditional Chinese medicine, and mental health professional referral. Based on the descriptive analysis for each independent variable, we coded age (1 = 35 years, 2 = >35 years), gender (1 = male, 2 = female), mental health training (1 = yes, 0 = no), years of experience in primary care (1 = 8 years, 2 = > 8 years), and three barrier levels (0 = none or low, 1 = moderate, 2 = high). All the analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 16 (SPSS, Inc., Chicago IL).

3. Results

3.1 Participants' characteristics

Of the all 407 participants, 295 PCPs completed the survey (responding rate = 73%). Research team did the telephone review for the 112 PCPs (27%) to ask the reasons of rejection. Most of them reported lack of time and 30% of the respondents said lack of experience in mental health and did not want to answer the survey. Among the 295 participants, 56% (n = 167) were female. The age in this group ranged from 24–63 years with the mean of 35 years. Only 24.4% (n = 72) of the PCPs had mental health training within the past six months, with one day as the average of mental health training. The amount of time the PCPs spent in primary care ranged from six months to 42 years with a mean of 11 years; with 51.5% (n = 174) of the PCPs having eight years or less experience in primary care. There was no difference in the demographic characteristics between the participants from two districts.

3.2 PCPs' perceived barriers in managing of patients with depression

The common perceived barriers in managing patients with depression are illustrated in Table 1.

At the practice level, lack of access to mental health specialists was the most commonly reported high-level barrier (37.8%) in depression management. At the patients' level, many PCPs (34.6%) reported reluctance of patients or their families toward diagnosis of depression. Finally, at the provider level, 69.2% of the PCPs reported being comfortable in discussing psychological issues with patients. This relatively high-level of comfort in dealing with patients should encourage PCPs in further developing strategies in addressing the barriers associated with mental health. However, many PCPs experienced a lack of confidence in the diagnosis and treatment of depression with drugs or psychotherapy, and 35.6% felt a lack of confidence in the management of depression.

3.3 PCPs' current clinical practice

PCPs were asked to answer four self-reported questions to ascertain the treatment of patients with depressive symptoms. The self-reported questions included whether PCPs engaged in the prescription of antidepressants, offering psychological consultation, prescription of traditional Chinese medicine, and referral to mental health specialists. The survey showed very low rates of the following practices: of 295 total PCPs, 15.6% prescribed antidepressants, 16.3% offered psychological consultation, 23.7% prescribed traditional Chinese medicine, and 26.8% made referral to a mental health specialist.

3.4 Correlates of PCPs' clinical practice

We analyzed the possible correlates to PCPs' clinical practice which included demographic variables and the level of perceived barriers. The level of each perceived barrier was recorded as low or high. For the perceived barrier to be considered as high, a level of three for perceived practice barriers (six items), two for perceived patient barriers (four items), and six for perceived provider barriers (11 items) was considered. The results of logistic regression for these variables are given in Table 2.

Mental health training experience was directly proportional to high rates of clinical practice on depression, which included prescriptions of antidepressants [Odds Ratio (OR) = 14.28, $p < 0.01$], Chinese medicine (OR = 9.79, $p < 0.01$), psychological consultation (OR = 2.62, $p < 0.01$) and, rate of referring patients to mental specialists (OR = 11.67, $p < 0.01$). The moderate to high level of perceived practice-level barriers was related to PCPs' prescription of antidepressants (OR = 2.93, $p < 0.05$) and the referral to mental health specialists (OR = 2.28, $p < 0.05$). On the practice level, the highly reported barriers were lack of access to mental health specialists and lack of time for appropriate treatment. These barriers allowed PCPs for prescription or referral only. The perceived provider-level and patient-level barriers were not related to PCPs' practice.

4. Discussion

4.1 Main findings

Primary care physicians have the opportunity to detect depressive symptoms early and provide adequate care or a timely referral to their patients. However, many barriers prevent the appropriate depression management in primary care settings in China (Katz et al., 1998). These barriers may impact the healthcare decisions of individuals with depression. Our results provided a deeper understanding of these barriers as perceived by PCPs. The growing awareness among PCPs is essential in addressing the barriers to achieve better health outcomes. Currently, social stigma is one of the biggest barriers to mental health care. More than 34.6% of the PCPs have reported that the patients with depression or their families were reluctant toward diagnosis of depression; nearly 80% of patients were hesitant in consulting a mental health specialist. These results were consistent with findings in other countries (Pincus, 1987; Richards et al., 2008). Patients' awareness of depression and the practice arrangements in primary health-care can intensify the challenges associated with effective depression management. According to Pincus' Practice Delivery System (Pincus, 1987), a fully integrated team approach, in which both PCPs and mental health specialists are involved in patient care and have frequent communication, is most suited in delivering quality healthcare to patients with chronic disease. Based on this approach, the collaborative care management for depression in primary care settings has been testified effectively in the US and some other western countries (Fortney et al., 2009; Unutzer et al., 2002).

In addition to patients' barriers to receiving treatment, our study also reported PCPs' barriers to care. First, many PCPs reported a lack of access to mental health specialists. This reflects the symptomatic structure of the current healthcare system in China. There are three levels of healthcare systems: PCCs, county or district-level hospitals, and city-level hospitals. However, there is no direct communication between the different levels. Each provider offers independent services; PCPs lack access to mental health specialists. Second, PCPs have limited time to handle depression management in their practice (Richards et al., 2004). However, our findings have suggested that PCPs were willing to devote more resources in the future. More than 85% of the PCPs believed that time spent on depression management were well spent. Furthermore, attitude towards discussing psychological issues with patients are changing; nearly 70% of the PCPs felt comfortable in discussing with the patient. These positive attitudes suggested the need for implementing collaborative care for patients with

depression in Chinese urban primary care environment. In current study, majority of PCPs reported either no training or poor training with mental health knowledge and skills, and the mental health training was highly related to PCPs' practice on the management of depression. Additionally, lack of access to mental health specialists was reported as the biggest barrier on practice-level by PCPs, therefore more attention is required to improve coordinated care.

4.2 Recommended strategy

To overcome these perceived barriers and improve PCPs' practice on the management of depression in primary care settings, collaborative care model may be appropriate. Collaborative care typically utilizes a structured approach to care based on chronic disease management principles. It provides the reasonable approaches for nonmedical specialists, such as PCPs and primary care nurses, who work closely with mental health specialists (Gilbody et al., 2006). The core components of collaborative care for depression in primary care include: (1) allied health professionals to support primary care providers by providing patient education on depression, close patient follow-up, and tracking the process of treatment and; (2) psychiatrist consultation for back-up and supervision to depression care managers. In the collaborative care model, the role of PCPs is very important for three main reasons: 1) they work closely with the case manager; b) they receive support from mental health specialist; and 3) they recognize, diagnose, and treat depression using evidence-based treatments (Bebbington, 2001; Richards et al., 2008).

Based on the World Health Organizations' (WHO) strategy to mental health, enhanced management of depression is essential in primary care settings (Bebbington, 2001). There is sufficient evidence from randomized control trials to demonstrate the effectiveness of collaborative care for late-life depression in US (Gilbody et al., 2006). Various randomized studies from other counties have demonstrated the effectiveness of collaborative care model in the management of late-life depression in primary care settings (Richards et al., 2008).

4.3 Limitations

Findings from our study were evaluated in light of the following limitations: results were based on a small, geographical sample, thus we were not able to generalize to other populations and areas. Results of the study could be strengthened by relative high response rate in current survey.

5. Conclusion

Results from the study reported that PCPs were open to modifications and enhancement of their skills and practices related to managing depression. In addition, most PCPs felt comfortable on discussing psychological issues with patients, and majority of them believed the time spent on depression management was well spent. Our findings suggested that PCPs required more training on mental health care. Certain educational interventions have shown promising results in the past; however, results from the multifaceted approach not only improved PCPs' knowledge but also enhanced their skills in managing depression. Our findings for PCPs' perceived barriers in the current study, with the experience from the

evidence-based collaborative care model in western countries, will help in implementing an appropriate collaborative care model in the management of depression in primary care settings in China. Additionally, our findings can also help implement collaborative care model, thereby paying special emphasis on the challenges faced by the mental health system in China.

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References

- Alexopoulos GS, Kelly RE. Research advances in geriatric depression. *World Psychiatry*. 2009; 8:140–149. [PubMed: 19812743]
- Bebbington P. The World Health Report 2001. Social psychiatry and psychiatric epidemiology. 2001; 36:473–474. [PubMed: 11768843]
- Blazer DG. Depression in late life: review and commentary. *The journals of gerontology Series A, Biological sciences and medical sciences*. 2003; 58:249–265.
- Botea N, Mann A, Blizard R, Wilkinson G. General Practitioners and Depression—First use of the Depression Attitude Questionnaire. *International Journal of Methods in Psychiatric Research*. 1992; 2:169–180.
- Conwell Y, Duberstein PR, Cox C, Herrmann JH, Forbes NT, Caine ED. Relationships of age and axis I diagnoses in victims of completed suicide: a psychological autopsy study. *The American journal of psychiatry*. 1996; 153:1001–1008. [PubMed: 8678167]
- Cooper LA, Brown C, Vu HT, Palenchar DR, Gonzales JJ, Ford DE, Powe NR. Primary care patients' opinions regarding the importance of various aspects of care for depression. *General hospital psychiatry*. 2000; 22:163–173. [PubMed: 10880709]
- Coventry PA, Hays R, Dickens C, Bundy C, Garrett C, Cherrington A, Chew-Graham C. Talking about depression: a qualitative study of barriers to managing depression in people with long term conditions in primary care. *BMC family practice*. 2011; 12:10. [PubMed: 21426542]
- Coyne JC, Fechner-Bates S, Schwenk TL. Prevalence, nature, and comorbidity of depressive disorders in primary care. *General hospital psychiatry*. 1994; 16:267–276. [PubMed: 7926703]
- Dong X, Chang ES, Zeng P, Simon MA. Suicide in the global Chinese aging population: a review of risk and protective factors, consequences, and interventions. *Aging and disease*. 2015; 6:121. [PubMed: 25821640]
- Dowrick C, Gask L, Perry R, Dixon C, Usherwood T. Do general practitioners' attitudes towards depression predict their clinical behaviour? *Psychological medicine*. 2000; 30:413–419. [PubMed: 10824661]
- Dwightjohnson M, Sherbourne CD, Liao D, Wells KB. Treatment preferences among depressed primary care patients. *Journal of General Internal Medicine*. 2000; 15:527–534. [PubMed: 10940143]
- Fortney JC, Pyne JM, Smith JL, Curran GM, Otero JM, Enderle MA, McDougall S. Steps for implementing collaborative care programs for depression. *Population health management*. 2009; 12:69–79. [PubMed: 19320606]
- Gensichen J, Beyer M, Muth C, Gerlach FM, Von Korff M, Ormel J. Case management to improve major depression in primary health care: a systematic review. *Psychological medicine*. 2006; 36:7–14. [PubMed: 16356292]
- Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Archives of internal medicine*. 2006; 166:2314–2321. [PubMed: 17130383]

- Goldberg D, Steele JJ, Johnson A, Smith C. Ability of primary care physicians to make accurate ratings of psychiatric symptoms. *Archives of General Psychiatry*. 1982; 39:829. [PubMed: 7165481]
- Hays K, Gilreath T. Profiles of depression help seeking among Black Americans: A latent class approach. *The Journal of nervous and mental disease*. 2017; 205:627–633. [PubMed: 27483112]
- Hu TW, He Y, Zhang M, Chen N. Economic costs of depression in China. *Social psychiatry and psychiatric epidemiology*. 2007; 42:110–116. [PubMed: 17235441]
- Hugo M. Mental health professionals' attitudes towards people who have experienced a mental health disorder. *Journal of Psychiatric & Mental Health Nursing*. 2001; 8:419–425. [PubMed: 11882162]
- Katz SJ, Kessler RC, Lin E, Wells KB. Medication management of depression in the United States and Ontario. *J Gen Intern Med*. 1998; 13:77–85. [PubMed: 9502366]
- Kerr M, Blizard R, Mann A. General practitioners and psychiatrists: comparison of attitudes to depression using the depression attitude questionnaire. *The British journal of general practice : the journal of the Royal College of General Practitioners*. 1995; 45:89–92. [PubMed: 7702889]
- Kessler RC, Bromet EJ, de Jonge P, Shahly V, Wilcox M. The Burden of Depressive Illness. *Public Health Perspectives on Depressive Disorders*. 2017:40.
- Klap R, Unroe KT, Unutzer J. Caring for mental illness in the United States: a focus on older adults. *The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry*. 2003; 11:517–524. [PubMed: 14506085]
- Kleinman A. Culture and depression. *The New England journal of medicine*. 2004; 351:951–953. [PubMed: 15342799]
- Kutcher S, Wei Y, Gilberds H, Brown A, Ubuguyu O, Njau T, Perkins K. Evaluating community health care providers knowledge and self-confidence in the identification, diagnosis and treatment of adolescent Depression in Tanzania. *Archives of Depression and Anxiety*. 2016; 2:26–30.
- Li X, Xiao Z, Xiao S. Suicide among the elderly in mainland China. *Psychogeriatrics*. 2009; 9:62. [PubMed: 19604327]
- Lopez AD, Murray CC. The global burden of disease, 1990–2020. *Nature Medicine*. 1998; 4:1241.
- Luppa M, Sikorski C, Luck T, Ehreke L, Konnopka A, Wiese B, Weyerer S, König HH, Riedel-Heller SG. Age-and gender-specific prevalence of depression in latest-life–systematic review and meta-analysis. *Journal of affective disorders*. 2012; 136:212–221. [PubMed: 21194754]
- Ma X, Xiang YT, Li SR, Xiang YQ, Guo HL, Hou YZ, Cai ZJ, Li ZB, Li ZJ, Tao YF, Dang WM, Wu XM, Deng J, Ungvari GS, Chiu HF. Prevalence and sociodemographic correlates of depression in an elderly population living with family members in Beijing, China. *Psychological medicine*. 2008; 38:1723–1730. [PubMed: 18366820]
- Main DS, Lutz LJ, Barrett JE, Matthew J, Miller RS. The role of primary care clinician attitudes, beliefs, and training in the diagnosis and treatment of depression. A report from the Ambulatory Sentinel Practice Network Inc. *Archives of family medicine*. 1993; 2:1061–1066. [PubMed: 8111487]
- Olfson M, Marcus SC, Druss B, Elinson L, Tanielian T, Pincus HA. National trends in the outpatient treatment of depression. *Jama*. 2002; 287:203–209. [PubMed: 11779262]
- Olson AL, Kemper KJ, Kelleher KJ, Hammond CS, Zuckerman BS, Dietrich AJ. Primary care pediatricians' roles and perceived responsibilities in the identification and management of maternal depression. *Pediatrics*. 2002; 110:1169–1176. [PubMed: 12456915]
- Oxman TE, Dietrich AJ, Williams JW Jr, Kroenke K. A three-component model for reengineering systems for the treatment of depression in primary care. *Psychosomatics*. 2002; 43:441–450. [PubMed: 12444226]
- Parchman ML. Physicians' recognition of depression. *Family practice research journal*. 1992; 12:431–438. [PubMed: 1481712]
- Parker G, Gladstone G, Chee KT. Depression in the planet's largest ethnic group: the Chinese. *The American journal of psychiatry*. 2001; 158:857–864. [PubMed: 11384889]
- Pincus HA. Patient-oriented models for linking primary care and mental health care. *General hospital psychiatry*. 1987; 9:95–101. [PubMed: 3569892]
- Pincus HA, Pechura CM, Elinson L, Pettit AR. Depression in primary care: linking clinical and systems strategies. *General hospital psychiatry*. 2001; 23:311–318. [PubMed: 11738461]

- Qin X, Wang W, Jin Q, Ai L, Li Y, Dong G, Liu L, Phillips MR. Prevalence and rates of recognition of depressive disorders in internal medicine outpatient departments of 23 general hospitals in Shenyang, China. *Journal of affective disorders*. 2008; 110:46–54. [PubMed: 18261805]
- Rice SM, Aucote HM, Parker AG, Alvarez-Jimenez M, Filia KM, Amminger GP. Men's perceived barriers to help seeking for depression: Longitudinal findings relative to symptom onset and duration. *Journal of health psychology*. 2017; 22:529–536. [PubMed: 26391789]
- Richards DA, Lovell K, Gilbody S, Gask L, Torgerson D, Barkham M, Bland M, Bower P, Lankshear AJ, Simpson A, Fletcher J, Escott D, Hennessy S, Richardson R. Collaborative care for depression in UK primary care: a randomized controlled trial. *Psychol Med*. 2008; 38:279–287. [PubMed: 17803837]
- Richards JC, Ryan P, McCabe MP, Groom G, Hickie IB. Barriers to the effective management of depression in general practice. *The Australian and New Zealand journal of psychiatry*. 2004; 38:795–803. [PubMed: 15369538]
- Robbins JM, Kirmayer LJ, Cathébras P, Yaffe MJ, Dworkind M. Physician characteristics and the recognition of depression and anxiety in primary care. *Medical care*. 1994; 32:795. [PubMed: 8057696]
- Roeloffs C, Sherbourne C, Unützer J, Fink A, Tang L, Wells KB. Stigma and depression among primary care patients. *General hospital psychiatry*. 2003; 25:311. [PubMed: 12972221]
- Ross S, Moffat K, McConnachie A, Gordon J, Wilson P. Sex and attitude: a randomized vignette study of the management of depression by general practitioners. *The British journal of general practice : the journal of the Royal College of General Practitioners*. 1999; 49:17–21. [PubMed: 10622010]
- Sirey JA, Banerjee S, Marino P, Bruce ML, Halkett A, Turnwald M, Chiang C, Liles B, Artis A, Blow F. Adherence to depression treatment in primary care: a randomized clinical trial. *JAMA psychiatry*. 2017; 74:1129–1135. [PubMed: 28973066]
- Tylee A, Gandhi P. The importance of somatic symptoms in depression in primary care. *Primary care companion to the Journal of clinical psychiatry*. 2005; 7:167–176.
- Unutzer J, Katon W, Callahan CM, Williams JW Jr, Hunkeler E, Harpole L, Hoffer M, Della Penna RD, Noel PH, Lin EH, Arean PA, Hegel MT, Tang L, Belin TR, Oishi S, Langston C. Treatment I.I.I.M.-P.A.t.C. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *Jama*. 2002; 288:2836–2845. [PubMed: 12472325]
- Wang J, Kushner K, Frey JJ 3rd, Ping Du X, Qian N. Primary care reform in the Peoples' Republic of China: implications for training family physicians for the world's largest country. *Family medicine*. 2007; 39:639–643. [PubMed: 17932797]
- Whiteford HA, Ferrari AJ, Degenhardt L, Feigin V, Vos T. The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. *PloS one*. 2015; 10:e0116820. [PubMed: 25658103]
- Wun YT, Lamb TP, Goldberg D, Lam KF, Donald Li KT, Yip KC. Reasons for preferring a primary care physician for care if depressed. *Family Medicine-Kansas City*. 2011; 43:344.
- Xiao Z, Worth J, Park JM. Mental Health Care in China: Recent Changes and Future Challenges. *Harvard Health Policy Review*. 2004:6.
- Xue J, Chen S, Bogner HR, Tang W, Li L, Conwell Y. The prevalence of depressive symptoms among older patients with hypertension in rural China. *International journal of geriatric psychiatry*. 2017; 32:1411–1417. [PubMed: 27892612]

Highlights

- Social stigma is one of the biggest barriers to mental health care, with more than 34.6% of the primary care physicians (PCPs) in our study have reported that the patients with depression or their families were reluctant toward diagnosis of depression; nearly 80% of patients were hesitant in consulting a mental health specialist.
- PCPs felt comfortable on discussing psychological issues with patients, and majority of them believed the time spent on depression management was well spent.
- Our findings suggested that PCPs required more training on mental health care.

Table 1

PCPs' perceived barriers in the management of depression (n = 295)

Barriers to management of depression	N/L	M	H
Practice level			
Usual consultation time prevents adequate assessment of depression	28.5%	46.4%	25.1%
Management of presenting problems limits time spent on depression	31.2%	46.4%	22.4%
Inadequate time for appropriate treatment	26.8%	45.8%	27.5%
Practice workload prevents adequate attention to depression	32.2%	41.7%	26.1%
Poor reimbursement for time spent on managing depression	34.2%	51.2%	14.6%
Lack of access to mental health specialists	20.8%	41.4%	37.8%
Patient level			
Patient reluctant to be referred to a mental health provider	21.1%	48.1%	30.8%
Patient inability/unwillingness to discuss depressive symptoms	23.4%	48.5%	28.1%
Patient reluctant to begin antidepressant medications	30.5%	42.4%	27.1%
Patient or family reluctance to accept diagnosis of depression	27.5%	38.0%	34.6%
Provider level			
Incomplete knowledge of diagnoses for depression	27.5%	43.4%	29.2%
Incomplete knowledge of available treatments for depression	29.5%	43.7%	26.8%
Feeling uncomfortable discussing psychological issues with patients	69.2%	24.4%	6.4%
Lack of confidence in diagnosing depression	24.5%	55.3%	20.2%
Lack of confidence in treating with medication	20.7%	47.1%	32.2%
Lack of confidence in treating with counseling	15.3%	53.2%	31.5%
Lack of confidence in treating with evidenced-based psychological treatment	24.1%	45.1%	30.8%
Lack of confidence in recognizing suicide risk	21.7%	50.5%	27.8%
Lack of confidence in assessing the degree of suicide risk	22.0%	47.5%	30.5%
Lack of confidence in working with mental health professionals	41.0%	44.7%	14.2%
Lack of confidence in managing depressed patients overall	13.9%	50.5%	35.6%

Note: PCP, primary care physician; N=None; L=Low; M=Moderate; H=High

Table 2

Correlates of PCPs' clinical practice (n = 295)

		Antidepressants (n = 46)		Psychological Consultation (n = 48)		Chinese medicine (n = 70)		Referral (n = 79)	
		Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI
Demographic variables									
Age	35 years	1.09	0.46–2.59	1.07	0.47–2.45	2.11 [*]	1.05–4.21	1.44	0.70–2.99
	Female	0.68	0.32–1.42	0.97	0.48–1.99	1.14	0.64–2.04	1.09	0.58–2.03
	Years in PC 9 years	0.76	0.32–1.79	0.97	0.43–2.18	1.14	0.64–2.04	0.87	0.42–1.77
Mental health training									
	Yes	14.28 ^{**}	6.08–33.51	9.79 ^{**}	4.63–20.72	2.62 ^{**}	1.41–4.88	11.67 ^{**}	5.92–23.00
Perceived barriers									
Practice level									
	M	4.62 [*]	1.38–15.49	0.47	0.16–1.44	1.37	0.57–3.26	1.45	0.56–3.72
	H	2.93 [*]	1.01–8.54	1.32	0.57–3.04	1.96	0.94–4.09	2.28 [*]	1.02–5.11
Patient level									
	M	0.61	0.20–1.81	1.53	0.54–4.31	0.76	0.33–1.73	0.89	0.38–2.13
	H	1.21	0.47–3.10	2.05	0.85–4.96	0.83	0.41–1.71	0.70	0.32–1.54
Provider level									
	M	2.28	0.77–6.74	1.05	0.40–2.73	1.03	0.46–2.28	2.32	0.96–5.61
	H	2.17	0.79–5.95	0.85	0.35–2.07	1.23	0.59–2.53	1.80	0.79–4.11

Note:

^{*} p<0.05;^{**} p<0.01;

PCP, primary care physician; PC, primary care; CI: Confidence interval; M, moderate; H, high.

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