

## LETTER TO THE EDITOR

doi:10.1017/S1041610218001254

**Diagnosis and treatment of post-stroke depression in China: a cross-sectional survey of 350 senior clinicians in neurology, geriatrics, and rehabilitation departments**

Post-stroke depression (PSD) is the most common mood disorder after stroke (Esparrago Llorca *et al.*, 2015). The diagnosis of PSD can be challenging due to the presence of other stroke-related symptoms (such as difficult concentration, loss of appetite, and sleep disorders) (Rha and Saver, 2007). Although guidelines exist for the diagnosis and treatment of PSD, questionnaire-based surveys of clinicians, nurses, physiotherapists, psychologists, occupational therapists, and other medical staff can provide valuable information about actual clinical practice (Lees *et al.*, 2014). Therefore, we designed a questionnaire and distributed it to physicians in order to investigate the status of PSD diagnosis and treatment in tertiary hospitals in China.

The questionnaire included 41 entries (Table 1) and was pre-tested in 29 physicians working in different regions of China. Then, 361 physicians were administered this questionnaire. The questionnaire had high reliability (Cronbach's alpha coefficient = 0.769). The questionnaire has five dimensions that are risk factors of PSD—screening and assessment method, diagnosis status, treatment status, referral, and follow-up status of patients with PSD in China.

A total of 350 questionnaires were finally analyzed, with 280 (80%) from departments of neurology, 35 (10%) from geriatrics and 35 (10%) from rehabilitation. Almost all physicians believed that a history of stroke could significantly increase the risk of PSD, but some physicians (13%) lacked the knowledge of the available screening methods, particularly those working in geriatrics (31%) and rehabilitation departments (26%). Physicians (87%) would diagnose less than 30% of their stroke patients with PSD. Only 25% of physicians initiated pharmacology therapy immediately after the diagnosis of mild PSD. Most physicians (>70%) considered non-drug therapy as the first option for PSD prophylaxis. The reexamination rate of PSD is not high, ranging from 10% to 60%, and 68% of the patients do not go to review for depression.

The diagnostic rate of PSD was very low in China, mainly because of the complicated condition of some patients, especially those with aphasia and agnosia. Lack of proper diagnostic methods in some hospital departments would also affect the patients' PSD diagnostic rate. Besides, the physicians' clinical experience could be an important factor influencing the awareness of the detrimental effects of PSD. Many physicians ( $\approx 50\%$ ) were inclined to provide non-pharmacologic prophylaxis for PSD in China. Working in cities would also influence the physician's treatment protocols for PSD. The clinicians surveyed in our study believed that treatment with an antidepressant drug should last at least six months, consistent with international guidelines (Snow *et al.*, 2000). The clinicians preferred SSRIs for the pharmacologic management of PSD (Esparrago Llorca *et al.*, 2015). The review rate of patients with PSD was very low, which emphasizes the need for the implementation of new strategies to improve follow-up.

What we have found in this study provided new insights into current clinical practice regarding the diagnosis and treatment of PSD in China. Our finding also showed that a greater awareness of PSD by neurologists, geriatrics, and rehabilitations is needed to enable them to better diagnose and manage patients with PSD.

**Conflict of interest**

The authors declare that they have no conflict of interest.

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**Table 1.** Questionnaire on the diagnosis and treatment status of post-stroke depression (PSD)

ITEMS	QUESTIONS
1	For patients with a history of stroke, would the risk of PSD be significantly increase?
2	Which factors are the high-risk factors of PSD?
3	Do you agree that regular screening is necessary for stroke patients?
4	What is the most important reason that you or your colleagues don't have PSD screening for stroke patients?
5	When should the first screening of PSD be performed for stroke patients?
6	What kind of scale do you use to screen PSD patients?
7	Which of the following is most likely to result in missing diagnosis patients with PSD?
8	Which of the following scales do you most commonly use to assess PSD patients?
9	What is the proportion of patients diagnosed with PSD in your admission of stoke patients?
10	In your clinical practice, which of the following criteria do you use to diagnose PSD?
11	What do you think should be the main reasons for antidepressant treatment in patients with PSD? (multiple choice)
12	Which of the following scales do you use most commonly to assess PSD?
13	Do you agree that there is a need of prophylactic treatment for PSD patients?
14	Which of the following PSD prophylactic treatments do you think is most feasible?
15	How would you treat mild PSD patients?
16	How would you treat moderate to severe PSD patients?
17	Do you consider the medication treatment with antidepressants for patients assessed by PHQ-9 scale and with the PHQ-9 score >10?
18	What is the proportion of your patients with PSD who are willing to receive medical treatment?
19	What are the first-line antidepressants recommended by guidelines?
20	What is the first factor to consider when choosing antidepressants in clinical practice?
21	Which aspects of safety are you most concerned about when you prescribe antidepressants?
22	For moderate to severe PSD patients, when do you usually start the drug treatment?
23	How long do you think should be the medication course for PSD?
24	What's the effective rate of first-choice treatment medication?
25	Which drugs do you usually prefer for antidepressant treatment for PSD?
26	What is the primary reason for choosing escitalopram for antidepressant treatment in patients with PSD?
27	What is the primary reason for choosing sertraline for antidepressant treatment in patients with PSD?
28	What is the primary reason for choosing fluoxetine for antidepressant treatment in patients with PSD?
29	In your clinical experience, what is the dose of escitalopram to effectively improve PSD?
30	In your clinical experience, how long is escitalopram treatment onset?
31	In your clinical experience, in addition to improving the depression of PSD patients, which other aspects of patients can escitalopram improve most effectively?
32	What do you usually do with PSD patients who have symptoms of anxiety or worsened anxiety during the initial stages of taking escitalopram?
33	Does your hospital have regulations for the diagnosis and treatment of PSD?
34	Which of the following conditions will you refer patients with PSD to psychiatric or psychological department?
35	In your clinical experience, which department do PSD patients generally go for review?
36	What is the proportion of PSD patients who went to hospital for re-examination?
37	How often do PSD patients review?
38	What is the primary reason of not reviewing newly diagnosed PSD?
39	What is the common reason for PSD patients to discontinue medication?
40	How long did you work?
41	What is your education degree?

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