A dissemination and education programme to improve the clinical behaviours of psychiatrists in accordance with treatment guidelines for schizophrenia and major depressive disorders: the Effectiveness of Guidelines for Dissemination and Education in Psychiatric Treatment (EGUIDE) project

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Background
Clinical practice guidelines for schizophrenia and major depressive disorder have been published. However, these have not had sufficient penetration in clinical settings. We developed the Effectiveness of Guidelines for Dissemination and Education in Psychiatric Treatment (EGUIDE) project as a dissemination and education programme for psychiatrists.

Aims
The aim of this study is to assess the effectiveness of the EGUIDE project on the subjective clinical behaviour of psychiatrists in accordance with clinical practice guidelines before and 1 and 2 years after participation in the programmes.

Method
A total of 607 psychiatrists participated in this study during October 2016 and March 2019. They attended both 1-day educational programmes based on the clinical practice guidelines for schizophrenia and major depressive disorder, and answered web questionnaires about their clinical behaviours before and 1 and 2 years after attending the programmes. We evaluated the changes in clinical behaviours in accordance with the clinical practice guidelines between before and 2 years after the programme.

Results
All of the scores for clinical behaviours in accordance with clinical practice guidelines were significantly improved after 1 and 2 years compared with before attending the programmes. There were no significant changes in any of the scores between 1 and 2 years after attending.

Conclusions
All clinical behaviours in accordance with clinical practice guidelines improved after attending the EGUIDE programme, and were maintained for at least 2 years. The EGUIDE project could contribute to improved guideline-based clinical behaviour among psychiatrists.

Keywords
Clinical practice guidelines; educational programme; schizophrenia; major depressive disorder; EGUIDE project.

Clinical practice guidelines for psychiatric disorders
Clinical practice guidelines provide recommendations for optimising patient treatment, and are based on a systematic review of evidence and an assessment of the advantages and disadvantages of alternative care options and standard tools for clinical decision-making. Various guidelines for the clinical practice of psychiatric disorders have been published, and in many countries, psychiatrists commonly make clinical decisions based on clinical practice guidelines. In Japan, clinical practice guidelines for psychiatric disorders were only published 9 years ago, and Japanese psychiatrists usually make clinical decisions based on their own experience or knowledge and not based on clinical practice guidelines. As a result, pharmacotherapy for psychiatric disorders in Japan has been different from that recommended in clinical practice guidelines in other countries. To change this situation, the Japanese Society of Neuropsychopharmacology published the ‘Guideline for Pharmacological Therapy of Schizophrenia’ (clinical practice guideline for schizophrenia) in 2015, and the Japanese Society of Mood Disorders published the ‘Treatment Guideline: Major Depressive Disorder’ in 2012, which was revised to the ‘Treatment Guideline II: Major Depressive Disorder’ (clinical practice guideline for major depressive disorder) in 2016.

Dissemination of clinical practice guidelines in Japan
Although the clinical practice guidelines of schizophrenia and major depressive disorder have been published, pharmacotherapy for these disorders has not undergone sufficient transformation in

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Japan. For example, our project previously showed that for patients with schizophrenia, 57.1% were prescribed antipsychotic monotherapy, 15.5% were prescribed antipsychotic monotherapy without any other psychotropics and 31.7% received no prescription of anxiolytics or hypnotics. To improve these statistics, prescribed antidepressant monotherapy and 25.1% received no pre-

To assess participants’ clinical behaviours with respect to general use of the clinical guidelines, a self-administered questionnaire was created consisting of six items rated on a five-point Likert scale (Supplementary Table 1 available at https://doi.org/10.1192/bjo.2022.44). Participants assessed their clinical behaviours in accordance with the clinical practice guidelines for schizophrenia and major depressive disorder by creating self-administered questions, each consisting of 14 items rated on a five-point Likert scale (Supplementary Tables 2 and 3). The evaluations of clinical behaviours were divided into the following six stages, according to the degree of achievement: not achieved (0–20% achieved), slightly achieved (21–40% achieved), approximately half achieved (41–60% achieved), moderately achieved (61–80% achieved), almost achieved (81–100% achieved) and no opportunity.

### Statistical analysis
As the representative value for each of the five achievement levels, an intermediate value was used: 10 for ‘not achieved’, 30 for ‘slightly achieved’, 50 for ‘about half achieved’, 70 for ‘moderately achieved’ and 90 for ‘almost achieved’. Therefore, there were five scores, and the scores ranged from 10 to 90. We excluded ‘no opportunity’ from the analysis. We used the Kolmogorov–Smirnov test to evaluate normality in the scores for the clinical behaviours. We assessed the homoscedasticity of variance with the Levine’s test. Data were analysed by the Kruskal–Wallis test with statistical significance, because the Kolmogorov–Smirnov test did not show normal distribution or homoscedasticity. To compare the changes in the scores for the clinical behaviours between before and 1 and 2 years after attending the programme, the Bonferroni correction was applied for multiple testing when the Kruskal–Wallis test was statistically significant. A significance threshold of 0.05 was applied for multiple testing. The data were initially imputed in Microsoft Excel for Mac (Microsoft Corp, 2010), and then analysed with SPSS version 24.0 for Mac (IBM SPSS Inc, 2016).

### Results
**Demographics of the participants**
A total of 607 psychiatrists from 134 medical institutions participated in educational programmes on the clinical guidelines for treatment of schizophrenia and depression during the 3 years of the EGUIDE project recruitment (October 2016 to March 2019). All of the participants attended a 1-day educational programme on schizophrenia and depression based on the clinical practice guidelines. Of these, 594 participants joined the email-based survey, 425 responded to the web questionnaires at baseline, 270 responded at 1 year and 140 responded at 2 years. Some participants have dropped out during each follow-up period. The numbers of participants who answered web questionnaires, excluding those who dropped out and those who reported ‘no opportunity’ for general use of the clinical guidelines at baseline and after the programmes, are shown in Supplementary Tables 4–6. They were aged 26–70 years, with an average age of 34.4 ± 7.6 years; 369 (72.5%) were male. Years of professional experience ranged from 1 to 35 years, with an average of 5.7 ± 6.7 years. A total of 463 belonged to university hospitals, 20 belonged to psychiatric hospitals, 25 belonged to general hospitals and one belonged to a clinic when attending the programme.

**Changes in the scores for clinical behaviours in accordance with the pre- and post-programme**
A comparison of all clinical behaviour scores in accordance with the pre- and post-programme is shown in Fig. 1. All of the mean scores had increased significantly at 1 year after attending the programme. Furthermore, the clinical behaviours of participants were still significantly higher at 2 years compared with the baseline, with the exception of...
Comparing clinical behaviour scores for the use of clinical guidelines at baseline and after the ‘Guideline for Pharmacological Therapy of Schizophrenia’ and ‘Treatment Guideline II: Major Depressive Disorder’ programmes. The x- and y-axes indicate the score for each question at baseline and the score for each question after programme participation, respectively. Details of each score are shown in Fig. 1. Blue circles indicate clinical behaviour scores that increased significantly 1 year after attending the ‘Guideline for Pharmacological Therapy of Schizophrenia’ programme, compared with before the course (S1–S14). Blue triangles indicate clinical behaviour scores that increased significantly 2 years after attending the ‘Guideline for Pharmacological Therapy of Schizophrenia’ programme, compared with before the course (S1–S14). Green circles indicate clinical behaviour scores that increased significantly 1 year after attending the ‘Treatment Guideline II: Major Depressive Disorder’ programme, compared with before the course (D1–D14). Green triangles indicate clinical behaviour scores that increased significantly 2 years after attending the ‘Treatment Guideline II: Major Depressive Disorder’ programme, compared with before the course (D1–D14). Red circles indicate clinical behaviour scores that increased significantly 1 year after attending the ‘Guideline for Pharmacological Therapy of Schizophrenia’ and ‘Treatment Guideline II: Major Depressive Disorder’ programmes, compared with before the course (G1–G6). Red triangles indicate clinical behaviour scores that increased significantly 2 years after attending the ‘Guideline for Pharmacological Therapy of Schizophrenia’ and ‘Treatment Guideline II: Major Depressive Disorder’ programmes, compared with before the course (G1–G6). Solid blue triangles indicate clinical behaviour scores that were not significantly elevated 2 years after attending the ‘Guidelines for the Pharmacotherapy of Schizophrenia’ programme compared with before the programme (S8).

Choosing treatment with modified electroconvulsive therapy for patients with treatment-resistant schizophrenia.

The mean and statistical results of the clinical behaviours in accordance with the general use of the guidelines for before and 2 years after programme participation are shown in Table 1, and the data of multiple comparisons are shown in Supplementary Table 7. In all subclasses of clinical behaviours consistent with the general use of the clinical guidelines, the mean scores increased significantly after attending the programme. Furthermore, the clinical behaviours of participants were maintained for 2 years, as the mean score was not significantly different between 1 and 2 years after the programme. One year after attending the programme, a large and significant change was observed in 'Using treatment guidelines when deciding on the treatment policy in discussions with patients and family' (Z = 12.75, P = 3.2 × 10⁻¹⁰, r = 0.50). Additionally, moderate and significant changes were seen in 'Trying to treat patients in accordance with guidelines if their previous treatments are not in accordance with guidelines' (Z = 12.81, P = 1.4 × 10⁻¹⁰, r = 0.50), 'Recommending pharmacotherapy for schizophrenia to fellow doctors in accordance with the guideline' (Z = 9.94, P = 2.9 × 10⁻¹⁰, r = 0.39) and 'Recommending treatment for depression to fellow doctors in accordance with the guideline' (Z = 9.83, P = 8.7 × 10⁻²³, r = 0.39).

Table 2 shows the changes in clinical behaviour scores before and after attending the educational programme for the clinical practice guideline for schizophrenia. Supplementary Table 8 shows the multiple comparison of clinical behaviour scores at baseline and 1 and 2 years after the programmes. The mean scores of all of the subclasses increased significantly after the programme. The clinical behaviours of participants, except 'Choosing treatment with modified electroconvulsive therapy for patients with treatment-resistant schizophrenia', were maintained for 2 years. A moderate and significant change was observed in 'Choosing antipsychotic monotherapy but not a combination of antipsychotics' (Z = 8.04, P = 9.0 × 10⁻¹⁶, r = 0.31) 1 year after attending the programme.

The following are notable points about several general clinical behaviours whose results differed from those previously reported in other countries. The mean score of 'Choosing antipsychotic monotherapy but not a combination of antipsychotics' increased after the programme, and a significant change was observed (H = 75.74, P = 3.5 × 10⁻¹⁰): the score was approximately 60 after the programme (46.4 at baseline, 60.5 at 1 year after the programme and 58.9 at 2 years after the programme). In addition, the mean score for 'Referring patients suffering from depression for psychiatric assessment' increased significantly after the programme (H = 68.10, P = 1.6 × 10⁻¹⁵), but the score was still <50 after the programme (31.7 at baseline, 44.1 at 1 year after the programme and 46.2 at 2 years after the programme). Although the score increased throughout the programme for 'For recovery from cognitive impairment in schizophrenia, referring from using benzodiazepines' (H = 46.84, P = 6.7 × 10⁻¹¹), the score at 2 years after the programme was 50.9.

Table 3 shows the mean values and the statistical results of the clinical behaviours before and after the programme for the clinical practice guideline for major depressive disorder. The multiple comparisons of the clinical behaviour scores at baseline and 1 and 2 years after the programme are shown in Supplementary Table 9. In all subclasses, the mean scores increased significantly after attending the programme, and the clinical behaviours were maintained for 2 years. One year after attending programme, moderate changes were observed in 'Diagnosing depression, including the classification of the severity, based on the DSM-5' (Z = 9.66, P = 4.6 × 10⁻²², r = 0.37), 'In diagnosis, assessing information from any person other than the patient and functional impairments before the onset' (Z = 8.27, P = 1.4 × 10⁻¹⁰, r = 0.32), 'When the treatment does not work well, reassessing the diagnosis, pharmacotherapy and environmental management' (Z = 8.65, P = 5.2 × 10⁻¹⁸, r = 0.33), 'For mild depression, adding cognitive–behavioural therapy and new-generation antidepressants to fundamental intervention if necessary' (Z = 9.23, P = 2.7 × 10⁻¹⁰, r = 0.36) and 'For sleep disorders, providing sleep hygiene instructions before pharmacotherapy' (Z = 8.72, P = 2.7 × 10⁻¹⁰, r = 0.34).

The following are notable points about several general clinical behaviours whose results differed from those previously reported in other countries. The score for the clinical behaviour 'Refraining...
a. The Kruskal-Wallis test was used for the statistical analysis as the Kolmogorov-Smirnov test did not indicate normal distribution of clinical behaviour scores at baseline or 1 or 2 years after the programme. The significance level was set at <0.05.

b. The mean scores of clinical behaviours increased significantly 1 year after attending the programme compared with baseline.

c. The mean scores of clinical behaviours increased significantly 2 years after attending the programme compared with baseline.

### Table 1 Comparison of clinical behaviour scores for the general use of clinical guidelines at baseline and after the programmes

|       | Baseline | One year later | Two years later | Statistics
|-------|----------|----------------|-----------------|-----------
|       | Mean ± s.d. | Mean ± s.d. | Mean ± s.d. | H | P-value |
| G1    | 34.0 ±22.2 | 59.8 ±21.3 | 59.8 ±21.0 | 204.97 | 3.1 × 10^-45 |
| G2    | 36.7 ±21.8 | 61.6 ±20.0 | 58.5 ±21.1 | 192.27 | 1.8 × 10^-42 |
| G3    | 48.5 ±22.4 | 59.9 ±21.7 | 62.2 ±21.4 | 62.40 | 2.8 × 10^-14 |
| G4    | 40.6 ±24.5 | 61.9 ±23.2 | 64.3 ±21.4 | 138.20 | 9.8 × 10^-31 |
| G5    | 48.7 ±23.4 | 62.2 ±20.0 | 63.0 ±21.5 | 73.49 | 1.1 × 10^-16 |
| G6    | 41.3 ±24.3 | 62.2 ±23.5 | 65.3 ±20.8 | 138.38 | 8.9 × 10^-31 |

The complete questions are noted in Supplementary Table 1. An intermediate value was used as the representative value for each of the five achievement levels: 0–20, 21–40, 41–60, 61–80 and 81–100. The scores ranged from 10 to 90.

a. The Kruskal-Wallis test was used for the statistical analysis as the Kolmogorov-Smirnov test did not indicate normal distribution of clinical behaviour scores at baseline or 1 or 2 years after the programme. The significance level was set at <0.05.

### Table 2 Comparison of clinical behaviour scores at baseline and after the ‘Guideline for Pharmacological Therapy of Schizophrenia’ programme

|       | Baseline | One year later | Two years later | Statistics
|-------|----------|----------------|-----------------|-----------
|       | Mean ± s.d. | Mean ± s.d. | Mean ± s.d. | H | P-value |
| S1    | 46.4 ±22.9 | 60.5 ±19.4 | 58.9 ±20.3 | 75.74 | 3.6 × 10^-17 |
| S2    | 31.7 ±20.9 | 44.0 ±23.8 | 46.2 ±21.4 | 68.10 | 1.6 × 10^-15 |
| S3    | 66.2 ±23.7 | 76.8 ±17.4 | 75.8 ±18.9 | 40.39 | 1.7 × 10^-9 |
| S4    | 62.7 ±23.5 | 75.0 ±18.1 | 73.7 ±20.3 | 56.86 | 4.5 × 10^-13 |
| S5    | 63.1 ±23.3 | 76.7 ±17.1 | 77.0 ±17.4 | 78.02 | 1.1 × 10^-17 |
| S6    | 58.3 ±26.9 | 72.4 ±20.7 | 72.1 ±21.4 | 54.31 | 1.6 × 10^-12 |
| S7    | 43.0 ±27.5 | 53.3 ±27.9 | 51.6 ±26.4 | 15.75 | 3.8 × 10^-4 |
| S8    | 45.3 ±25.9 | 54.2 ±26.1 | 49.5 ±27.5 | 12.35 | 2.1 × 10^-3 |
| S9    | 67.0 ±23.8 | 77.8 ±17.6 | 75.0 ±19.5 | 36.14 | 1.4 × 10^-8 |
| S10   | 47.7 ±23.8 | 60.0 ±24.1 | 54.9 ±25.6 | 36.13 | 1.4 × 10^-8 |
| S11   | 47.4 ±24.5 | 60.7 ±22.9 | 60.5 ±21.2 | 57.31 | 3.6 × 10^-13 |
| S12   | 39.1 ±23.3 | 50.7 ±24.3 | 50.9 ±24.1 | 46.84 | 6.7 × 10^-11 |
| S13   | 68.0 ±21.9 | 77.9 ±16.5 | 77.6 ±16.9 | 46.33 | 8.7 × 10^-11 |
| S14   | 59.9 ±23.1 | 70.8 ±20.0 | 73.1 ±19.4 | 55.92 | 7.2 × 10^-13 |

The complete questions are noted in Supplementary Table 2. An intermediate value was used as the representative value for each of the five achievement levels: 0–20, 21–40, 41–60, 61–80 and 81–100. The scores ranged from 10 to 90.

a. The Kruskal-Wallis test was used for the statistical analysis as the Kolmogorov-Smirnov test did not indicate normal distribution of clinical behaviour scores at baseline or 1 or 2 years after the programme. The significance level was set at <0.05.

b. The mean scores of clinical behaviours increased significantly 1 year after attending the programme compared with baseline.

c. The mean scores of clinical behaviours increased significantly 2 years after attending the programme compared with baseline.
Table 3  Comparison of clinical behaviour scores at baseline and after the ‘Treatment Guideline II: Major Depressive Disorder’ programme

|   | Baseline | One year later | Two years later | Statistics* |
|---|----------|----------------|-----------------|-------------|
|   | Mean ± s.d. | Mean ± s.d. | Mean ± s.d. | H | P-value |
| D1 | Diagnosing depression, including the classification of the severity, based on the DSM-5 | 46.2 ±23.3 | 65.2b ±22.8 | 65.2c ±21.1 | 116.36 | 5.4 × 10-26 |
| D2 | In diagnosis, assessing information from any person other than the patient and functional impairments before the onset | 55.4 ±22.6 | 69.8b ±18.8 | 67.6a ±20.2 | 79.14 | 6.5 × 10-18 |
| D3 | Focusing on empathic or supportive care and performing fundamental interventions such as psychological education first | 61.5 ±22.6 | 73.4b ±18.8 | 75.8a ±18.1 | 73.62 | 1.0 × 10-16 |
| D4 | When the treatment does not work well, reassessing the diagnosis, pharmacotherapy and environmental management | 58.2 ±22.4 | 72.7b ±18.5 | 74.6a ±16.9 | 101.99 | 7.1 × 10-23 |
| D5 | For mild depression, adding cognitive-behavioural therapy and new-generation antidepressants to fundamental intervention if necessary | 50.0 ±22.6 | 66.7b ±20.1 | 71.0a ±21.0 | 120.00 | 8.7 × 10-27 |
| D6 | For moderate/severe depression, using antidepressant monotherapy with adequate doses and timing and considering modified electroconvulsive therapy if necessary | 58.7 ±23.5 | 71.1b ±20.3 | 73.6a ±19.8 | 69.70 | 7.3 × 10-16 |
| D7 | For moderate/severe depression, if antidepressants are effective but not enough, treating with lithium or antipsychotics or T3/T4 as augmentation therapy | 51.6 ±25.1 | 64.6b ±24.2 | 69.8b ±22.0 | 67.84 | 1.9 × 10-15 |
| D8 | Refraining from using long-term administration of anxiolytics | 36.4 ±22.0 | 50.2b ±24.4 | 54.3c ±23.0 | 81.05 | 2.5 × 10-18 |
| D9 | Refraining from using long-term administration of hypnotics | 30.9 ±21.0 | 44.4b ±23.3 | 48.9b ±23.8 | 82.01 | 1.3 × 10-19 |
| D10 | For psychotic depression, using a combination of antidepressants and antipsychotics | 57.9 ±25.3 | 71.2b ±20.3 | 74.0a ±17.1 | 62.49 | 2.7 × 10-14 |
| D11 | For psychotic depression, using modified electroconvulsive therapy | 50.2 ±25.5 | 63.3b ±23.8 | 64.7c ±23.5 | 42.44 | 6.1 × 10-10 |
| D12 | For depression in children and adolescents, providing environmental management, psychological education, supportive intervention and family support before pharmacotherapy | 54.9 ±25.5 | 68.6b ±22.1 | 71.4c ±20.2 | 52.48 | 4.0 × 10-17 |
| D13 | For sleep disorders, considering differential diagnosis of primary sleep disorders such as obstructive sleep apnoea syndrome first | 45.6 ±25.2 | 60.4b ±24.9 | 63.4c ±23.4 | 74.39 | 7.0 × 10-17 |
| D14 | For sleep disorders, providing sleep hygiene instructions before pharmacotherapy | 51.2 ±24.8 | 68.4b ±22.6 | 72.1c ±19.7 | 112.55 | 3.6 × 10-25 |

The complete questions are noted in Supplementary Table 3. An intermediate value was used as the representative value for each of the five achievement levels: 0–20, 21–40, 41–60, 61–80 and 81–100. The scores ranged from 10 to 90.

a. The Kruskal–Wallis test was used for the statistical analysis as the Kolmogorov–Smirnov test did not indicate normal distribution of the clinical behaviour scores at baseline or 1 or 2 years after the programme. The significance level was set at <0.05.

b. The mean scores of clinical behaviours increased significantly 1 year after attending the programme compared with baseline.

The mean scores of clinical behaviours increased significantly 2 years after attending the programme compared with baseline.

from using long-term administration of anxiolytics’ increased significantly throughout the programme (H = 81.05, P = 2.5 × 10-18), but it was as low as approximately 50 after attending the programme (36.4 at baseline, 50.2 at 1 year after the programme and 54.3 at 2 years after the programme). Although a significant change was also observed in ‘Refraining from using long-term administration of hypnotics’ (H = 87.01, P = 1.2 × 10-11), the score was <50 after the programme (30.9 at baseline, 44.4 at 1 year after the programme and 48.9 at 2 years after the programme).

Discussion
This is the first study to investigate the effectiveness of the educational programme in the improvement of psychiatrists’ clinical behaviours in accordance with the clinical practice guidelines.

A total of 607 psychiatrists from 134 medical institutions participated in educational programmes on the clinical guidelines for treatment of schizophrenia and depression during the 3 years of the EGUIDE project recruitment, and all clinical behaviours in accordance with clinical practice guidelines improved after attending the EGUIDE programme and were maintained for at least 2 years. These results suggest that our educational programmes could help to improve psychiatrists’ clinical behaviours in accordance with the guidelines. To the best of our knowledge, no study has shown that educational programmes for clinical practice guideline have led to sustained improvements in clinical behaviour over years.

Previous studies have indicated that there could be a large gap between the development of evidence-based guidelines and their implementation in clinical settings, and that a combination of several guideline dissemination and implementation strategies aimed at healthcare professionals has failed to reduce antipsychotic polypharmacy for schizophrenia out-patients. The pathway from evidence to guidelines is highly developed, but the development of guideline implementation strategies has been insufficient and examined in only a few studies. Although the barriers to improving guideline adherence have not yet been generalised, some reports suggest that low awareness and dissemination of guidelines, as well as inadequate supply systems, could affect their
In this regard, the EGUIDE project has set up a supply system and provides the opportunity to learn about and become proficient in the guidelines.

The number of psychiatrists in Japan is almost 16,000, and approximately 1000 psychiatrists have already participated in the education programmes in the past 5 years. In 2020, only 6.3% of psychiatrists had completed these programmes, but the EGUIDE project estimates that 2000 psychiatrists will finish the programmes in the next 5 years. If >10% of psychiatrists in Japan achieve improvements in clinical behaviour in accordance with the clinical practice guidelines, treatment for schizophrenia and depression could change, which could lead to an improvement in quality of life for patients in Japan.

To better disseminate the clinical practice guidelines, the education programmes of the EGUIDE project need further improvement, and we seek to improve the delivery method annually. We revised the lecture materials associated with items for which knowledge was considered insufficient, and reported results suggesting that the revision of the lecture materials may have improved the degree of understanding of the clinical practice guidelines.

This study has several limitations that should be taken into account when interpreting the results. First, because this study was performed in a single-arm design without a control group, it was difficult to assess the precise effectiveness of the programme despite it being a before-and-after comparison study. Second, since the questionnaires used to evaluate clinical behaviours in accordance with clinical practice guidelines were not validated, and we used a subjective method of assessment, it was unclear whether the questionnaire could adequately assess whether clinical behaviours were in accordance with clinical practice guidelines.

Third, because of the lack of background information on the participants, we presumed that there might be many potential confounding factors related to the improvement of clinical behaviours. Fourth, although an annual web questionnaire survey works well as a reminder for past participants to recall the content of the educational programmes and make them aware of whether clinical behaviours are in accordance with clinical practice guidelines, this evaluation is subjective. To assess the precise effect of the education programme, it is necessary to assess changes in quality indicators, such as the prescriptions issued by participants. The results for the improvement of clinical knowledge regarding the clinical practice guidelines have already been published, and in-patient prescribing behaviour will be the object of another paper.

Despite these limitations, the educational programme of the EGUIDE project is considered to be an effective means of guideline dissemination and education. Further dissemination of clinical practice guidelines for schizophrenia and major depression in a variety of clinical settings is needed.

In conclusion, the EGUIDE project, as a dissemination and education programme for the clinical practice guidelines for schizophrenia and major depressive disorder, has the potential to contribute to improvement in clinical behaviours of psychiatrists in accordance with the guidelines.

Further research is needed to clarify the effectiveness of the EGUIDE project for the improvement of quality indicators in clinical situations.
the study and contributed to the interpretation of the data and writing of the manuscript. N. Hasagawa, K.M., K.M., K. Ono, N.Y.F., N.S., T.T., K. Ikihashi, N. Hashimoto, Y.T., J.I., H.H., K.F., K. Ogasawara and H.I. were involved in analysing the data and contributed to the interpretation of the data and the writing of the manuscript. S.N., M.T., I. Nagasawa, C.K., K.A., T.I., T.O., K.H., A.M.F., T. Nakamura, K.N., R.F., S.Y., H. Yamagata, E.K., A.M., S.O., M. Makinodan, M.K., T.K., Y.Y., M.U. and T.S. were involved in and contributed to the participant recruitment process and data collection, and the data interpretation. R.H. supervised the entire project, and was critically involved in data collection, design, analysis and interpretation of the data. All authors approved the final version of the manuscript and agree to be accountable for all aspects of this work.

Supplementary material
Supplementary material is available online at http://doi.org/10.11192/bjo.2022.44.

Declaration of interest
None.

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