

Online Quiz

Test Your Knowledge: Ten Questions about Schizophrenia

This quiz is related to the Perspectives article in the May issue of *PLoS Medicine* (DOI: 10.1371/journal.pmed.0020151).

Gavin Yamey

Question 1. Based on the best evidence to date, what is the median incidence of schizophrenia?

- About 15 per 100,000 persons per year
- About 100 per 100,000 persons per year
- About 1,000 per 100,000 persons per year

Question 2. What is the average age of onset of schizophrenia?

- 15 years
- 25 years
- 35 years

Question 3. Roughly what proportion of people diagnosed with schizophrenia experience recurrent relapse and continued disability?

- About 90%
- About 75%
- About 50%

Question 4. Is the prognosis of schizophrenia better in developing or developed countries?

- Developing countries
- Developed countries

Question 5. Which of the following best reflects the evidence on the sex ratio of schizophrenia?

- The disease is equally as likely to affect men and women
- The incidence of the disease is higher in women
- The incidence of the disease is higher in men

Question 6. Which of the following best reflects the evidence on olanzapine as a treatment for schizophrenia?

- There is good evidence that the drug is better than standard antipsychotic drugs at reducing psychotic symptoms over six to eight weeks
- Olanzapine is better than clozapine at reducing suicidal behavior over two years in patients with a high risk of suicide
- Olanzapine is better than amisulpiride at reducing psychotic symptoms at two months
- Olanzapine is associated with fewer extrapyramidal adverse effects than standard antipsychotic drugs

Question 7. Which of the following drugs has been found consistently in clinical trials to reduce the negative symptoms of schizophrenia (de-motivation, self-neglect, and reduced emotion)?

- Chlorpromazine
- Perazine
- Zotepine
- Risperidone
- None of the above

Question 8. Which of the following best reflects the evidence on giving multiple sessions of a family intervention in the treatment of schizophrenia?

- Multiple sessions are no better than a single session at reducing the relapse rate at 12 months
- Multiple sessions of a family intervention are no better than standard psychiatric care at reducing the relapse rate at 12 months
- Multiple sessions of a family intervention reduce relapse rates at 12 months compared with usual care, single-session family interventions, or psychoeducational interventions

Question 9. Which of the following best reflects the evidence on the value of cognitive behavioral therapy (CBT) and behavioral therapy in treating schizophrenia?

- There is no evidence that behavioral therapy can help to improve rates of adherence to antipsychotic medication
- The best available evidence suggests that CBT is no better than standard care at reducing relapse rates
- There is very good evidence that CBT is better than standard care at reducing relapse rates

Citation: Yamey G (2005) Test your knowledge: Ten questions about schizophrenia. *PLoS Med* 2(5): e175.

Copyright: © 2005 Gavin Yamey. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Gavin Yamey is a senior editor at *PLoS Medicine*. E-mail: gyamey@plos.org

DOI: 10.1371/journal.pmed.0020175

Question 10. Which of the following best reflects the evidence on drug therapy for people with schizophrenia who are resistant to standard antipsychotic drugs?

- There is good evidence that clozapine is better than standard drugs at improving symptoms
- There is good evidence that clozapine is better than other newer “atypical” antipsychotic drugs at improving symptoms
- There is good evidence that olanzapine is better than standard drugs at improving symptoms

Answer 1. About 15 per 100,000 persons per year

In a systematic review of studies on the incidence of schizophrenia, McGrath and colleagues found that the median value was 15.2 per 100,000 persons per year [1].

References

1. McGrath J, Saha S, Welham J, El Saadi O, MacCauley C, et al. (2004) A systematic review of the incidence of schizophrenia: The distribution of rates and the influence of sex, urbanicity, migrant status and methodology. *BMC Med* 2: 13.

Answer 2. 25 years

The average age of onset is 25 years [1,2].

References

1. Nadeem Z, McIntosh A, Lawrie S (2003) Schizophrenia. *Clin Evid* 2003: 1208–1237.
2. Cannon M, Jones P (1996) Neuroepidemiology: Schizophrenia. *J Neurol Neurosurg Psychiatr* 61: 604–613.

Answer 3. About 75%

About three-quarters of people experience recurrent relapse and continued disability, although the proportion of people who improved significantly increased after the mid-1950s (mean 48.5% from 1956–1985 vs. 35.4% from 1895–1956) [1,2].

References

1. Nadeem Z, McIntosh A, Lawrie S (2003) Schizophrenia. *Clin Evid* 2003: 1208–1237.
2. Hegarty JD, Baldessarini RJ, Tohen M, Waternaux C, Oepen G (1994) One hundred years of schizophrenia: A meta-analysis of the outcome literature. *Am J Psychiatry* 151: 1409–1416.

Answer 4. Developing countries

The better prognosis of patients in developing countries has been well documented [1,2]. For example, a five-year follow-up of patients initially included in the International Pilot Study of Schizophrenia found that clinical and social outcomes were significantly better for patients in centers in Agra and Ibadan than for those in centers in developed countries [2].

References

1. Bhugra D (2005) The global prevalence of schizophrenia. *PLoS Med* 2: e151. DOI: 10.1371/journal.pmed.0020151
2. Jablensky A, Sartorius N, Ernberg G, Anker M, Korten A, et al. (1992) Schizophrenia: Manifestations, incidence and course in different cultures. A World Health Organization ten-country study. *Psychol Med Monogra Suppl* 20: 1–97.
3. Leff J, Sartorius N, Jablensky A, Korten A, Ernberg G (1992) The International Pilot Study of Schizophrenia: Five-year follow-up findings. *Psychol Med* 22: 131–145.

Answer 5. The incidence of the disease is higher in men

A meta-analysis of studies of the incidence of schizophrenia found that incidence-risk ratios for men to develop

schizophrenia relative to women were 1.42 (95% confidence interval [CI], 1.30–1.56).

References

1. Aleman A, Kahn RS, Selten JP (2003) Sex differences in the risk of schizophrenia: Evidence from meta-analysis. *Arch Gen Psychiatry* 60: 565–571.

Answer 6. Olanzapine is associated with fewer extrapyramidal adverse effects than standard antipsychotic drugs

One systematic review found no significant difference in psychotic symptoms over six to eight weeks between olanzapine and standard antipsychotic drugs [1]. The review and one subsequent randomized controlled trial (RCT) [2] found that olanzapine was associated with fewer extrapyramidal adverse effects than standard antipsychotic drugs.

One RCT, involving 890 people with schizophrenia at high risk of suicide, found that clozapine significantly reduced suicidal behavior over two years compared with olanzapine [3].

One RCT, involving 377 people, compared amisulpiride with olanzapine over two months and found no significant difference in symptoms at two months (assessed by the Brief Psychiatric Rating Scale score) [4].

References

1. Duggan L, Fenton M, Dardennes RM, El-Dosoky A, Indran S, et al. (2004) Olanzapine for schizophrenia. *Cochrane Database Syst Rev* 2004: CD001359.
2. Inada T, Yagi G, Miura S (2002) Extrapyramidal symptom profiles in Japanese patients with schizophrenia treated with olanzapine or haloperidol. *Schizophr Res* 57: 227–238.
3. Meltzer HY, Alphs L, Green AI, Altamura AC, Anand R, et al. (2003) Clozapine treatment for suicidality in schizophrenia. International Suicide Prevention Trial (InterSePT). *Arch Gen Psychiatry* 60: 82–91.
4. Martin S, Ljo H, Peuskens J, Thirumalai S, Giudicelli A, et al. (2002) A double blind, randomised comparative trial of amisulpiride versus olanzapine in the treatment of schizophrenia: Short term results at two months. *Curr Med Res Opin* 18: 355–362.

Answer 7. None of the above

In a review of the best available evidence on drug treatments for schizophrenia, Nadeem et al. concluded that “no intervention has been found to reduce negative symptoms consistently” [1].

References

1. Nadeem Z, McIntosh A, Lawrie S (2003) Schizophrenia. *Clin Evid* 2003: 1208–1237.

Answer 8. Multiple sessions of a family intervention reduce relapse rates at 12 months compared with usual care, single-session family interventions, or psychoeducational interventions

One systematic review of 11 RCTs compared multiple family interventions (usually involving education about the illness and training in problem solving over at least six weekly sessions) against usual care, single-session family interventions, and psychoeducational interventions [1]. The review found that multiple family interventions significantly reduced relapse rates at 12 months compared with other interventions.

References

1. Pilling S, Bebbington P, Kuipers E, Garety P, Geddes J, et al. (2002) Psychological treatments in schizophrenia: I. Meta-analysis of family interventions and cognitive behaviour therapy. *Psychol Med* 32: 763–782.

Answer 9. The best available evidence suggests that CBT is no better than standard care at reducing relapse rates

A systematic review of two RCTs (123 people) found no significant difference in relapse rates between cognitive behavioral therapy plus standard care versus standard care alone [1].

One small RCT (36 men) found limited evidence that behavioral interventions improved adherence to antipsychotic medication compared with usual treatment and with psychoeducational therapy [1], and a second RCT found that behavioral interventions improved adherence more than psychoeducational therapy [2].

References

1. Boczkowski JA, Zeichner A, DeSanto N (1985) Neuroleptic compliance among chronic schizophrenic outpatients: An intervention outcome report. *J Consult Clin Psychol* 53: 666–671.
2. Azrin NH, Teichner G (1998) Evaluation of an instructional program for improving medication compliance for chronically mentally ill outpatients. *Behav Res Ther* 36: 849–861.

Answer 10. There is good evidence that clozapine is better than standard drugs at improving symptoms

One systematic review (six RCTs) in people resistant to standard antipsychotic drugs found that clozapine improved symptoms after 12 weeks and after two years compared with standard antipsychotic drugs [1].

One systematic review (eight RCTs, five in people with treatment-resistant schizophrenia) found no significant difference in symptoms between clozapine and other newer antipsychotic drugs in people resistant to standard antipsychotic drugs [2].

One systematic review (one RCT) found no significant difference in psychotic symptoms over eight weeks between olanzapine and chlorpromazine [3].

References

1. Wahlbeck K, Cheine M, Essali MA (2004) Clozapine versus typical neuroleptic medication for schizophrenia. *Cochrane Database Syst Rev* 2004: CD000059.
2. Duggan L, Fenton M, Dardennes RM, El-Dosoky A, Indran S, et al. (2004) Olanzapine for schizophrenia. *Cochrane Database Syst Rev* 2004: CD001359.
3. Tuunainen A, Gilbody SM (2004) Newer atypical antipsychotic medication versus clozapine for schizophrenia. *Cochrane Database Syst Rev* 2004: CD000966.

References

- Aleman A, Kahn RS, Selten JP (2003) Sex differences in the risk of schizophrenia: Evidence from meta-analysis. *Arch Gen Psychiatry* 60: 565–571.
- Azrin NH, Teichner G (1998) Evaluation of an instructional program for improving medication compliance for chronically mentally ill outpatients. *Behav Res Ther* 36: 849–861.
- Bhugra D (2005) The global prevalence of schizophrenia. *PLoS Med* 2: e151. DOI: 10.1371/journal.pmed.0020151
- Boczkowski JA, Zeichner A, DeSanto N (1985) Neuroleptic compliance among chronic schizophrenic outpatients: An intervention outcome report. *J Consult Clin Psychol* 53: 666–671.
- Cannon M, Jones P (1996) Neuroepidemiology: Schizophrenia. *J Neurol Neurosurg Psychiatr* 61: 604–613.
- Duggan L, Fenton M, Dardennes RM, El-Dosoky A, Indran S, et al. (2004) Olanzapine for schizophrenia. *Cochrane Database Syst Rev* 2004: CD001359.
- Hegarty JD, Baldessarini RJ, Tohen M, Waterman C, Oepen G (1994) One hundred years of schizophrenia: A meta-analysis of the outcome literature. *Am J Psychiatry* 151: 1409–1416.
- Inada T, Yagi G, Miura S (2002) Extrapyramidal symptom profiles in Japanese patients with schizophrenia treated with olanzapine or haloperidol. *Schizophr Res* 57: 227–238.
- Jablensky A, Sartorius N, Ernberg G, Anker M, Korten A, et al. (1992) Schizophrenia: Manifestations, incidence and course in different cultures. A World Health Organization ten-country study. *Psychol Med Monograph Suppl* 20: 1–97.
- Leff J, Sartorius N, Jablensky A, Korten A, Ernberg G (1992) The International Pilot Study of Schizophrenia: Five-year follow-up findings. *Psychol Med* 22: 131–145.
- Martin S, Ljo H, Peuskens J, Thirumalai S, Giudicelli A, et al. (2002) A double blind, randomised comparative trial of amisulpiride versus olanzapine in the treatment of schizophrenia: Short term results at two months. *Curr Med Res Opin* 18: 355–362.
- McGrath J, Saha S, Welham J, El Saadi O, MacCauley C, et al. (2004) A systematic review of the incidence of schizophrenia: The distribution of rates and the influence of sex, urbanicity, migrant status and methodology. *BMC Med* 2: 13.
- Meltzer HY, Alphas L, Green AI, Altamura AC, Anand R, et al. (2003) Clozapine treatment for suicidality in schizophrenia. *International Suicide Prevention Trial (InterSePT)*. *Arch Gen Psychiatry* 60: 82–91.
- Nadeem Z, McIntosh A, Lawrie S (2003) Schizophrenia. *Clin Evid* 2003: 1208–1237.
- Pilling S, Bebbington P, Kuipers E, Garety P, Geddes J, et al. (2002) Psychological treatments in schizophrenia: I. Meta-analysis of family interventions and cognitive behaviour therapy. *Psychol Med* 32: 763–782.
- Tuunainen A, Gilbody SM (2004) Newer atypical antipsychotic medication versus clozapine for schizophrenia. *Cochrane Database Syst Rev* 2004: CD000966.
- Wahlbeck K, Cheine M, Essali MA (2004) Clozapine versus typical neuroleptic medication for schizophrenia. *Cochrane Database Syst Rev* 2004: CD000059.