



The Royal Australian & New Zealand College of Psychiatrists

Welcome to the RANZCP Multiple Choice Question (MCQ) Trial Examination.

This trial examination has a selection of 25 EMQs and 1 CAP.

The format and presentation of the actual MCQ examination will be similar to this trial examination. The questions will be displayed in the same format.

On behalf of the RANZCP Committee For Examinations and Written Sub-Committee, we hope you find this trial examination beneficial in familiarising and preparing for your assessments and to self-test under examination conditions.

The final actual MCQ examination will be held at PearsonVue test centres.

By clicking Next you will start the trial examination.

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EXTENDED MATCHING QUESTIONS (EMQ)

You are about to commence the EMQ component of the practice exam.

To view exam questions and options:

- The Question Instructions are on the left hand panel of the screen.
- The Questions and Answer options are on the right hand panel.
- Please read Question instructions, Questions and options CAREFULLY before answering.
- There may be a series of questions that could share the same list of answer options.

To flag and review questions later:

- To 'flag' a question and return to it later, press the "Flag for Review" button at the upper right of the window.
- Once you have answered the last question of the practice exam and click Next, you have access to the Review Screen. From here you can review all questions, review only the flagged questions, review only the incomplete questions (missing answer) or review a specific question.

To navigate between questions:

- Click 'Next' to move to the following question, or 'Previous' to go back.
- Click the 'Navigator' button to jump directly to the question you need.

There are 25 EMQ questions.

Please click Next to commence the EMQ questions.

For the following patient, please select the MOST likely disorder.

A 2-year-old child presents with unexplained episodes of hypoglycaemia. His mother who has insulin dependant diabetes refuses to leave his side and constantly berates medical and nursing staff for their failure to diagnose his problems.

- A. Body dysmorphic disorder.
- B. Conversion disorder.
- C. Factitious disorder.
- D. Generalised anxiety disorder.
- E. Hypochondriasis.
- F. Malingering.
- G. Munchausen's by proxy.
- H. Somatization disorder.
- I. Specific phobia.

For the following patient, please select the MOST likely disorder.

A woman undergoes a hysterectomy. After the operation, she is catheterised by an insensitive nurse and has a panic attack during the procedure. From then on she is unable to urinate, and nor is she able to insert her own catheter due to the degree of anxiety it causes her.

- A. Body dysmorphic disorder.
- B. Conversion disorder.
- C. Factitious disorder.
- D. Generalised anxiety disorder.
- E. Hypochondriasis.
- F. Malingering.
- G. Munchausen's by proxy.
- H. Somatization disorder.
- I. Specific phobia.

For the following patient, please select the MOST likely disorder.

The police bring Francesca, a 36-year-old accountant, to the emergency department, after they were called to the home of a male television celebrity. She had been standing at his door attempting to give him flowers and refusing to leave. For the last two years she had made many attempts to contact him, believing that they were destined to be partners, and he had taken out a court order when a solicitor's letter had no effect on her behaviour. Francesca presents well, has a network of friends and has recently been promoted at work. There are no features of elevated mood.

- A. Brief psychotic disorder.
- B. Cluster A personality disorder.
- C. Delusional disorder.
- D. Depression with psychotic features.
- E. Drug-induced psychosis.
- F. Mania with psychotic features.
- G. Psychosis due to general medical condition.
- H. Schizo-affective disorder.
- I. Schizophrenia.
- J. Schizophreniform disorder.

For the following patient, please select the MOST likely disorder.

Isabel, a 51-year-old divorcee, who calls herself an "astrotherapist", believes she can detect auras around people and thus diagnose their health status. Isabel fears that a male neighbour may be using magical powers to disrupt her love life. She has many books on the occult. On psychiatric interview, she has no clear-cut delusions, nor does she experience hallucinations. Her adult son says she has always been like this.

- A. Brief psychotic disorder.
- B. Cluster A personality disorder.
- C. Delusional disorder.
- D. Depression with psychotic features.
- E. Drug-induced psychosis.
- F. Mania with psychotic features.
- G. Psychosis due to general medical condition.
- H. Schizo-affective disorder.
- I. Schizophrenia.
- J. Schizophreniform disorder.

For the following constellation of neuropsychiatric symptoms and signs, please select the area of the brain that is MOST likely damaged.

Hyperphagia and obesity.

- A. Both right and left medial temporal lobe.
- B. Caudate, putamen.
- C. Dominant parietal lobe.
- D. Dorsolateral frontal lobe.
- E. Inferomedial temporal lobe.
- F. Lateral hypothalamus.
- G. Mammillary bodies.
- H. Orbitomedial frontal lobe.
- I. Substantia nigra.
- J. Ventromedial hypothalamus.

For the following constellation of neuropsychiatric symptoms and signs, please select the area of the brain that is MOST likely damaged.

Apathy, reduced motivation, and impaired self-care.

- A. Both right and left medial temporal lobe.
- B. Caudate, putamen.
- C. Dominant parietal lobe.
- D. Dorsolateral frontal lobe.
- E. Inferomedial temporal lobe.
- F. Lateral hypothalamus.
- G. Mammillary bodies.
- H. Orbitomedial frontal lobe.
- I. Substantia nigra.
- J. Ventromedial hypothalamus.

For the following constellation of neuropsychiatric symptoms and signs, please select the area of the brain that is MOST likely damaged.

Agraphia, acalculia, left-right disorientation, finger agnosia (Gerstmann's syndrome).

- A. Both right and left medial temporal lobe.
- B. Caudate, putamen.
- C. Dominant parietal lobe.
- D. Dorsolateral frontal lobe.
- E. Inferomedial temporal lobe.
- F. Lateral hypothalamus.
- G. Mammillary bodies.
- H. Orbitomedial frontal lobe.
- I. Substantia nigra.
- J. Ventromedial hypothalamus.

For the following constellation of neuropsychiatric symptoms and signs, please select the area of the brain that is MOST likely damaged.

Anterograde and retrograde amnesia.

- A. Both right and left medial temporal lobe.
- B. Caudate, putamen.
- C. Dominant parietal lobe.
- D. Dorsolateral frontal lobe.
- E. Inferomedial temporal lobe.
- F. Lateral hypothalamus.
- G. Mammillary bodies.
- H. Orbitomedial frontal lobe.
- I. Substantia nigra.
- J. Ventromedial hypothalamus.

For the following individual, please select the most appropriate pharmacological treatment.

A 43-year-old recently divorced woman who has been drinking about 150 grams of alcohol per day over the past 6 months. She was previously a "social drinker" and realises that her current usage is getting "out of control".

- A. Acamprosate.
- B. Buprenorphine.
- C. Bupropion.
- D. Calcium channel blockers.
- E. Clonidine.
- F. High dose methadone (greater than 60mg per day).
- G. Moderate dose methadone (less than 60mg per day).
- H. Naltrexone.
- I. Nicotine gum.
- J. Nicotine inhaler.
- K. Nicotine patches, gum and inhaler.
- L. Nicotine patches.

For the following vignette please select the MOST appropriate diagnosis from the list above.

A 27-year-old male computer technician wants help with his shyness. He has "never had a girlfriend" and would like to have a close relationship. He says he has "no confidence" and is afraid of rejection.

- A. Asperger's syndrome.
- B. Avoidant personality disorder.
- C. Dependent personality disorder.
- D. Generalised anxiety disorder.
- E. Obsessive-compulsive disorder.
- F. Obsessive-compulsive personality disorder.
- G. Panic disorder with agoraphobia.
- H. Panic disorder.
- I. Paranoid personality disorder.
- J. Post traumatic stress disorder.
- K. Schizoid personality disorder.
- L. Social phobia (Social Anxiety Disorder).

For the following vignette please select the MOST appropriate diagnosis from the list above.

A 55-year-old mail sorter presents with acute anxiety symptoms because his boss is asking him to work more quickly. He is not prepared to do this as he is "afraid of making mistakes".

- A. Asperger's syndrome.
- B. Avoidant personality disorder.
- C. Dependent personality disorder.
- D. Generalised anxiety disorder.
- E. Obsessive-compulsive disorder.
- F. Obsessive-compulsive personality disorder.
- G. Panic disorder with agoraphobia.
- H. Panic disorder.
- I. Paranoid personality disorder.
- J. Post traumatic stress disorder.
- K. Schizoid personality disorder.
- L. Social phobia (Social Anxiety Disorder).

For the following vignette please select the MOST appropriate diagnosis from the list above.

A 32-year-old female is referred to you by a dermatologist. The patient presents with dermatitis of both hands which the dermatologist believes to be psychogenic.

- A. Asperger's syndrome.
- B. Avoidant personality disorder.
- C. Dependent personality disorder.
- D. Generalised anxiety disorder.
- E. Obsessive-compulsive disorder.
- F. Obsessive-compulsive personality disorder.
- G. Panic disorder with agoraphobia.
- H. Panic disorder.
- I. Paranoid personality disorder.
- J. Post traumatic stress disorder.
- K. Schizoid personality disorder.
- L. Social phobia (Social Anxiety Disorder).

For the following patient presenting with memory loss, please select the most likely disorder.

In the course of talking about painful events in psychotherapy, Petria, aged 33, describes a sense of detachment from her body and a sense that she is observing herself and her life from the outside.

- A. Dissociation.
- B. Dissociative identity disorder.
- C. Factitious amnesia.
- D. Fugue state.
- E. Psychogenic amnesia.
- F. Transient global amnesia.
- G. Transient ischaemic attack.

For the following patient presenting with memory loss, please select the most likely disorder.

A 42-year-old man finds himself wandering around an unfamiliar city some days after his wife announced the end of their marriage.

- A. Dissociation.
- B. Dissociative identity disorder.
- C. Factitious amnesia.
- D. Fugue state.
- E. Psychogenic amnesia.
- F. Transient global amnesia.
- G. Transient ischaemic attack.

From the following psychopharmacological agents used prophylactically in the treatment of Bipolar Disorder, select the drug that most closely matches each of the following statements.

In Bipolar Disorder, this drug is more effective than placebo in preventing episodes of depression but not in preventing manic episodes.

- A. Carbamazepine.
- B. Clonazepam.
- C. Gabapentin.
- D. Lamotrigine.
- E. Phenytoin.
- F. Sodium valproate.
- G. Topiramate.

From the following psychopharmacological agents used prophylactically in the treatment of Bipolar Disorder, select the drug that most closely matches each of the following statements.

In Bipolar Disorder, this drug is more effective than placebo in preventing manic episodes.

- A. Carbamazepine.
- B. Clonazepam.
- C. Gabapentin.
- D. Lamotrigine.
- E. Phenytoin
- F. Sodium valproate.
- G. Topiramate.

From the following list, please select a legal concept that is MOST relevant to the following situation.

A developmentally delayed man sexually assaults a child.

- A. Actus reus.
- B. Disease of the mind.
- C. Duress.
- D. Fitness to stand trial.
- E. Insane automatism.
- F. Irresistible impulse.
- G. Mens rea.
- H. Provocation.
- I. Sane automatism.

For the following example of thought and language disorder, please select the phenomenological term that best describes it.

"Twas brillig, and the slithy toves/did gyre and gimble in the wabe/all mimsy were the borogoves/and the mome raths outgrabe".

- A. Clang associations.
- B. Derailment.
- C. Echolalia.
- D. Flight of ideas.
- E. Neologism.
- F. Over-inclusive speech.
- G. Poverty of content.
- H. Tangentiality.
- I. Verbigeration.

For the following example of thought and language disorder, please select the phenomenological term that best describes it.

"Mice and frogs and such small deer, have been Tom's food for seven long year.... The Prince of Darkness is a gentleman".

- A. Clang associations.
- B. Derailment.
- C. Echolalia.
- D. Flight of ideas.
- E. Neologism.
- F. Over-inclusive speech.
- G. Poverty of content.
- H. Tangentiality.
- I. Verbigeration.

For the following example of thought and language disorder, please select the phenomenological term that best describes it.

"It was the sandwich of the sandwich that sandwich over sandwich sandwich".

- A. Clang associations.
- B. Derailment.
- C. Echolalia.
- D. Flight of ideas.
- E. Neologism.
- F. Over-inclusive speech.
- G. Poverty of content.
- H. Tangentiality.
- I. Verbigeration.

For the following example of thought and language disorder, please select the phenomenological term that best describes it.

"I found it in my car, a guitar near a star a round hound went to ground".

- A. Clang associations.
- B. Derailment.
- C. Echolalia.
- D. Flight of ideas.
- E. Neologism.
- F. Over-inclusive speech.
- G. Poverty of content.
- H. Tangentiality.
- I. Verbigeration.

For the following vignette, select the most appropriate condition.

A 37-year-old woman, recently divorced, complains of derogatory voices saying she is "ugly and worthless". She reports a similar episode in her twenties when she believed she emitted a foul odour. The voices are so disturbing that she finds herself unable to sleep and contemplating suicide.

- A. Alcohol withdrawal.
- B. Bereavement reaction.
- C. Bipolar affective disorder - depressed phase.
- D. Bipolar affective disorder - manic phase.
- E. Culture-bound syndrome.
- F. Dementia - Alzheimer's type.
- G. Dementia - Lewy-body type.
- H. Hallucinogen use.
- I. Schizophrenia.
- J. Stimulant intoxication.
- K. Unipolar depression with psychotic features.

For the following vignette, select the most appropriate condition.

A 73-year-old woman presents two weeks after the sudden death of her husband. They had been married for nearly 50 years. She can't stop crying and at night believes she can see her husband and hear him talking to her.

- A. Alcohol withdrawal.
- B. Bereavement reaction.
- C. Bipolar affective disorder - depressed phase.
- D. Bipolar affective disorder - manic phase.
- E. Culture-bound syndrome.
- F. Dementia - Alzheimer's type.
- G. Dementia - Lewy-body type.
- H. Hallucinogen use.
- I. Schizophrenia.
- J. Stimulant intoxication.
- K. Unipolar depression with psychotic features.

For the following vignette, select the most appropriate condition.

A 15-year-old boy with a history of conduct problems recently diagnosed with attention deficit hyperactivity disorder (ADHD) presents in a paranoid state and complains that people are saying derogatory things about him.

- A. Alcohol withdrawal.
- B. Bereavement reaction.
- C. Bipolar affective disorder - depressed phase.
- D. Bipolar affective disorder - manic phase.
- E. Culture-bound syndrome.
- F. Dementia - Alzheimer's type.
- G. Dementia - Lewy-body type.
- H. Hallucinogen use.
- I. Schizophrenia.
- J. Stimulant intoxication.
- K. Unipolar depression with psychotic features.

For the following vignette, select the most appropriate condition.

A 23-year-old Malaysian man presents to an emergency department asking to have his tooth removed as he believes a radio transmitter has been implanted in it in order to relay information about him to the authorities in his home country.

- A. Alcohol withdrawal.
- B. Bereavement reaction.
- C. Bipolar affective disorder - depressed phase.
- D. Bipolar affective disorder - manic phase.
- E. Culture-bound syndrome.
- F. Dementia - Alzheimer's type.
- G. Dementia - Lewy-body type.
- H. Hallucinogen use.
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- K. Unipolar depression with psychotic features.

EXTENDED MATCHING QUESTIONS (EMQ)

You have completed the EMQ component of the practice exam.

Click the 'Next' button to commence the Critical Analysis Problem component of the exam.

CRITICAL ANALYSIS PROBLEMS (CAP)

You are about to commence the CAP component of the practice exam.

To view Abstract and graphs and/or tables:

- The Abstract and associated graphs and/or tables are on the left hand panel of the screen.
- Scroll down to view entire Abstract.
- Each graph and/or table has a "Click to enlarge" button at the bottom of it.
- Clicking this button will open the graph and/or table in a new window.
- You can move that window to the side so you can view the questions and options behind it.

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There are 13 questions in this sample CAP.

Please click Next to commence the CAP questions.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

"Mental Disorders and Suicide among Young Rural Chinese: A Case-Control Psychological Autopsy Study."

Zhang, J. Xiao, S. Zhou, L. American Journal of Psychiatry 2010; 167:773-781.

Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

Method:

In this case-control psychological autopsy study, face-to-face interviews were conducted to collect information from proxy informants for 392 suicide victims and 416 living comparison subjects. Five categories of DSM-IV mental disorders (mood disorders, schizophrenia and other psychotic disorders, substance use disorders, anxiety disorders, and other axis I disorders) at the time of death or interview were assessed using the Chinese version of the Structured Clinical Interview for DSM-IV. Sociodemographic variables, social support, and life events were also assessed.

Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Table 1. NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question (including systematic review)

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Aetiology ³	Screening intervention
1*	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies
2	A randomised controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study ⁶	A randomised controlled trial
3†	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Any case?	Any case?	A randomised controlled trial (i.e. alternate allocation or some other method)
3‡	A comparative study with concurrent controls <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group 	A comparison with reference standard that does not meet the criteria required for Level 2 (with 1 weakness)	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study
3§	A comparative study without concurrent controls <ul style="list-style-type: none"> • Historical control study • Two or more single arm study⁷ • Interrupted time series without a parallel control group 	Diagnostic case-control study ⁸	A retrospective cohort study	A case-control study	A comparative study without concurrent controls <ul style="list-style-type: none"> • Historical control study • Two or more single arm study
4	Case series with either prospective or historical data collection	Study of diagnostic yield (ie. reference standard) ⁹	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Click to Enlarge

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Aetiology ³	Screening intervention
1*	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies	A systematic review of Level 2 studies
2	A randomised controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study ⁶	A randomised controlled trial
3†	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Any case?	Any case?	A randomised controlled trial (i.e. alternate allocation or some other method)
3‡	A comparative study with concurrent controls <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group 	A comparison with reference standard that does not meet the criteria required for Level 2 (with 1 weakness)	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study
3§	A comparative study without concurrent controls <ul style="list-style-type: none"> • Historical control study • Two or more single arm study⁷ • Interrupted time series without a parallel control group 	Diagnostic case-control study ⁸	A retrospective cohort study	A case-control study	A comparative study without concurrent controls <ul style="list-style-type: none"> • Historical control study • Two or more single arm study
4	Case series with either prospective or historical data collection	Study of diagnostic yield (ie. reference standard) ⁹	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Click to Enlarge

Table 1 Explanatory Notes:

Aetiology: "If it is possible and/or ethical to determine a causal relationship using experimental evidence, then the 'Intervention' hierarchy of evidence should be utilised. If it is only possible and/or ethical to determine a causal relationship using observational evidence (ie. cannot allocate groups to a potential harmful exposure, such as nuclear radiation), then the 'Aetiology' hierarchy of evidence should be utilised." (Source NHMRC)

Diagnostic accuracy: The dimensions of evidence apply only to studies of diagnostic accuracy. To assess the effectiveness of a diagnostic test there also needs to be a consideration of the impact of the test on patient management and health outcomes. (Source NHMRC)

Intervention: A carefully controlled and monitored research study on human subjects or patients evaluating one or more health interventions (including diagnostic methods and prophylactic interventions). (Source INAHTA)

Prognosis: An assessment of the expected future course and outcome of a person's disease. (Source INAHTA)

Screening intervention: A screening intervention study compares the implementation of the screening intervention in an asymptomatic population with a control group where the screening intervention is not employed or where a different screening intervention is employed. The aim is to see whether the screening intervention of interest results in improvements in patient-relevant outcomes eg survival. (Source NHMRC)

Having regard to the abstract and the NHMRC hierarchy of evidence Table 1 in the stimulus (repeated above) and your other knowledge, select from Table 1 the CORRECT LEVEL of evidence attributable to this study. (1 mark)

- A. Level I
- B. Level II
- C. Level III-1
- D. Level III-2
- E. Level III-3
- F. There is insufficient information presented to make a judgement.

Table 1 NHMRC Evidence Hierarchy: designations of ‘levels of evidence’ according to type of research question (including explanatory notes)

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Aetiology ³	Screening Intervention
I ⁴	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomised controlled trial	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, ⁵ among consecutive persons with a defined clinical presentation ⁶	A prospective cohort study ⁷	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, ⁵ among non-consecutive persons with a defined clinical presentation ⁶	All or none ⁸	All or none ⁸	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: <ul style="list-style-type: none"> ▪ Non-randomised, experimental trial⁹ ▪ Cohort study ▪ Case-control study ▪ Interrupted time series with a control group 	A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: <ul style="list-style-type: none"> ▪ Non-randomised, experimental trial ▪ Cohort study ▪ Case-control study
III-3	A comparative study without concurrent controls: <ul style="list-style-type: none"> ▪ Historical control study ▪ Two or more single arm study¹⁰ ▪ Interrupted time series without a parallel control group 	Diagnostic case-control study ⁶	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: <ul style="list-style-type: none"> ▪ Historical control study ▪ Two or more single arm study
IV	Case series with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard) ¹¹	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Table 1 NHMRC Evidence Hierarchy: 'dispositions of levels of evidence' according to type of research question (including systematic review)

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Pathology ³	Screening intervention ⁴
1*	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies
2	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent standard comparison with a valid reference standard ⁵ using consecutive persons with a defined clinical presentation ⁶	A prospective cohort study ⁷	A prospective cohort study	A randomised controlled trial
3†	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent standard comparison with a valid reference standard ⁵ using consecutive persons with a defined clinical presentation ⁶	Non-randomised experimental trial ⁸	Non-randomised experimental trial	A randomised controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomised experimental trial ⁸ • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 with 1 weakness	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls • Non-randomised experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm study ⁹ • Interrupted time series without a parallel control group	Diagnostic case-control study ¹⁰	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm study
6	Case series with either prospective or historical case comparison	Study of diagnostic yield (ie. reference standard) ¹¹	Case series, or cohort study of persons in different stages of disease	A case series	Case series

Click to Enlarge

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Pathology ³	Screening intervention ⁴
1*	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies
2	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent standard comparison with a valid reference standard ⁵ using consecutive persons with a defined clinical presentation ⁶	A prospective cohort study ⁷	A prospective cohort study	A randomised controlled trial
3†	A randomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent standard comparison with a valid reference standard ⁵ using consecutive persons with a defined clinical presentation ⁶	Non-randomised experimental trial ⁸	Non-randomised experimental trial	A randomised controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomised experimental trial ⁸ • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 with 1 weakness	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls • Non-randomised experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm study ⁹ • Interrupted time series without a parallel control group	Diagnostic case-control study ¹⁰	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm study
6	Case series with either prospective or historical case comparison	Study of diagnostic yield (ie. reference standard) ¹¹	Case series, or cohort study of persons in different stages of disease	A case series	Case series

Click to Enlarge

Table 1 Explanatory Notes:

Aetiology: "If it is possible and/or ethical to determine a causal relationship using experimental evidence, then the 'Intervention' hierarchy of evidence should be utilised. If it is only possible and/or ethical to determine a causal relationship using observational evidence (ie. cannot allocate groups to a potential harmful exposure, such as nuclear radiation), then the 'Aetiology' hierarchy of evidence should be utilised." (Source NHMRC)

Diagnostic accuracy: The dimensions of evidence apply only to studies of diagnostic accuracy. To assess the effectiveness of a diagnostic test there also needs to be a consideration of the impact of the test on patient management and health outcomes. (Source NHMRC)

Intervention: A carefully controlled and monitored research study on human subjects or patients evaluating one or more health interventions (including diagnostic methods and prophylactic interventions). (Source INAHTA)

Prognosis: An assessment of the expected future course and outcome of a person's disease. (Source INAHTA)

Screening intervention: A screening intervention study compares the implementation of the screening intervention in an asymptomatic population with a control group where the screening intervention is not employed or where a different screening intervention is employed. The aim is to see whether the screening intervention of interest results in improvements in patient-relevant outcomes eg survival. (Source NHMRC)

Having regard to the abstract and the NHMRC hierarchy of evidence Table 1 in the stimulus (repeated above) and your other knowledge, select from Table 1 the correct COLUMN regarding the type of study described in the abstract. (1 mark)

- A. Aetiology
- B. Diagnostic accuracy
- C. Intervention
- D. Prognosis
- E. Screening intervention
- F. There is insufficient information presented to make a judgement.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

"Mental Disorders and Suicide among Young Rural Chinese: A Case-Control Psychological Autopsy Study."

Zhang, J. Xiao, S. Zhou, L. *American Journal of Psychiatry* 2010; 167:773-781.

Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

Method:

In this case-control psychological autopsy study, face-to-face interviews were conducted to collect information from proxy informants for 392 suicide victims and 416 living comparison subjects. Five categories of DSM-IV mental disorders (mood disorders, schizophrenia and other psychotic disorders, substance use disorders, anxiety disorders, and other axis I disorders) at the time of death or interview were assessed using the Chinese version of the Structured Clinical Interview for DSM-IV. Sociodemographic variables, social support, and life events were also assessed.

Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnosis accuracy ²	Prognosis	Etiology ³	Preventing intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁶	Not used ⁶	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 2 specific evidence	Not used ⁶	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnostic case-control study ⁷	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
6¶	A case series with either prospective or historical case exposures	Study of diagnostic yield in reference standard ⁴	Case series, or cohort study of persons at different stages of disease	A case series study or other series	Case series

Click to Enlarge

Question 3

Selection of Information Sources

'For each suicide victim and each comparison subject, we tried to interview at least two informants. To obtain parallel data between the two groups, we also used proxy information from the comparison subjects. Those individuals who were most familiar with the subject's life and circumstances and were available and consented to participate were interviewed by the research team. Although target persons could be as young as 15 years of age, informants had to be 18 or older. For both suicide victims and comparison subjects, the first informant was always a parent, a spouse, or another important family member, and the second informant was always a friend, coworker, or neighbour. ... only four informants for suicide victims and six living comparison subjects refused to participate in the study. ...'

Having regard to the further extract given above from the methods section and your other knowledge answer the following question by selecting the ONE CORRECT answer from the list below.

From the below list choose the issue likely to be of MOST importance to the reviewing ethics committee. (1 mark)

- A. Any payments to participants.
- B. Contact details of a person to receive complaints.
- C. Establishing the means for minimising the risks.
- D. Financial or other relevant declarations of interests of researchers, sponsors or institutions.
- E. How privacy and confidentiality will be protected.
- F. How the research will be monitored.
- G. Identifying the potential benefits of the study and identifying to whom benefits are likely to accrue.
- H. Identifying whom (participants and/or others) the risks may affect.
- I. Provision of services to participants adversely affected by the research.
- J. The likely benefit of the research must justify any risks of harm or discomfort to participants.
- K. The participant's right to withdraw from further participation at any stage, along with any implications of withdrawal.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁶	Not used ⁶	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 2 specific evidence	Not used ⁶	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnosis done without study ⁴	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
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Selection of Information Sources

'For each suicide victim and each comparison subject, we tried to interview at least two informants. To obtain parallel data between the two groups, we also used proxy information from the comparison subjects. Those individuals who were most familiar with the subject's life and circumstances and were available and consented to participate were interviewed by the research team. Although target persons could be as young as 15 years of age, informants had to be 18 or older. For both suicide victims and comparison subjects, the first informant was always a parent, a spouse, or another important family member, and the second informant was always a friend, coworker, or neighbour. ... only four informants for suicide victims and six living comparison subjects refused to participate in the study. ...'

Having regard to the further extract given above from the methods section and your other knowledge answer the following question by selecting the ONE CORRECT answer from the list below.

From the below list choose the issue MOST likely to be of paramount importance to the researchers. (1 mark)

- A. Any payments to participants.
- B. Contact details of a person to receive complaints.
- C. Establishing the means for minimising the risks.
- D. Financial or other relevant declarations of interests of researchers, sponsors or institutions.
- E. How privacy and confidentiality will be protected.
- F. How the research will be monitored.
- G. Identifying the potential benefits of the study and identifying to whom benefits are likely to accrue.
- H. Identifying whom (participants and/or others) the risks may affect.
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- J. The likely benefit of the research must justify any risks of harm or discomfort to participants.
- K. The participant's right to withdraw from further participation at any stage, along with any implications of withdrawal.

(20 marks)

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Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Etiology ³	Screening/Intervention
1*	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies	A systematic review of level 2 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	None/None ⁷	None/None ⁷	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 2 (level 2, reference standard)	None/None/Prognostic factors amongst persons in a single arm ⁸ (i.e. randomized controlled trial)	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnostic case-control study ⁹	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
6	A case series with either prospective or historical case exposures	Study of diagnostic yield (i.e. reference standard)	Case series, or cohort study of persons at different stages of disease	A case series study or other series	Case series

Click to Enlarge

Question 5

Measures

'We used the Chinese version of the Structured Clinical Interview for DSM-IV (SCID) (14) to generate current diagnoses for both the suicide group and the comparison group. Diagnoses were made by psychiatrists on each team in consensus meetings during which all responses from each informant were presented by the nonpsychiatrist interviewers....'

Interviewing Procedures

'For suicide victims, interviews with informants were scheduled between 2 and 6 months after the suicide incident... Interviews with informants for living comparison subjects were scheduled as soon as these participants and their informants were identified. Each informant was interviewed separately by one trained interviewer. The average time for each interview was 2.5 hours....'

Having regard to the 'Methods' section of the abstract and the 'Measures' and 'Interviewing Procedures' sections above, answer the question below.

Choose the MOST likely threats to internal validity the authors intended to overcome by using informants for living comparison subjects. GIVE TWO (2) ANSWERS ONLY. (2 marks)

- A. Definitions of cases/non-cases
- B. Experimental mortality
- C. Hawthorne effects
- D. Instability (regression to the mean)
- E. Instrument changes
- F. Interviewer bias
- G. Quality control
- H. Random error
- I. Recall bias
- J. Selection bias
- K. Systematic error

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnosis accuracy ²	Prognosis	Etiology ³	Preventing intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁷	Not used ⁷	A randomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomized, experimental trial ⁸ • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 specific evidence	History of prognostic factors amongst persons in a single article ⁹ or randomized controlled trial	A retrospective cohort study	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm trials ¹⁰ • Interrupted time series without a parallel control group	Diagnostic case-control study ¹¹	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm trials
6¶	Case series with either prospective or retrospective exposures	Study of diagnostic yield per reference standard ¹²	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Click to Enlarge

Question 6

Measures

'We used the Chinese version of the Structured Clinical Interview for DSM-IV (SCID) (14) to generate current diagnoses for both the suicide group and the comparison group. Diagnoses were made by psychiatrists on each team in consensus meetings during which all responses from each informant were presented by the nonpsychiatrist interviewers....'

Interviewing Procedures

'For suicide victims, interviews with informants were scheduled between 2 and 6 months after the suicide incident... Interviews with informants for living comparison subjects were scheduled as soon as these participants and their informants were identified. Each informant was interviewed separately by one trained interviewer. The average time for each interview was 2.5 hours....'

Having regard to the 'Methods' section of the abstract and the 'Measures' and 'Interviewing Procedures' sections above, answer the question below.

The authors used the Chinese version of the Structured Clinical Interview for DSM-IV (SCID) and used psychiatrists in team meetings to review the results of the lay interviewers.

Choose from the list below the TWO MOST IMPORTANT problems common to this type of study that the authors intended to overcome. GIVE TWO (2) ANSWERS ONLY. (2 marks)

- A. Definitions of cases/non-cases
- B. Experimental mortality
- C. Hawthorne effects
- D. Instability (regression to the mean)
- E. Instrument changes
- F. Interviewer bias
- G. Quality control
- H. Random error
- I. Recall bias
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Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Etiology ³	Screening/Intervention ⁴
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁵ using consecutive persons with a defined clinical presentation ⁶	A prospective cohort study ⁷	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁵ using non-consecutive persons with a defined clinical presentation ⁶	Not used ⁸	Not used ⁸	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomized, experimental trial ⁹ • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 specific evidence	History of prognostic factors amongst persons in a single article ¹⁰ or randomized controlled trial	A retrospective cohort study	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm trials ¹¹ • Interrupted time series without a parallel control group	Diagnostic case-control study ¹²	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm trials
6¶	Case series with either prospective or retrospective exposures	Study of diagnostic yield per reference standard ¹³	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Click to Enlarge

Question 7

Measures

'We used the Chinese version of the Structured Clinical Interview for DSM-IV (SCID) (14) to generate current diagnoses for both the suicide group and the comparison group. Diagnoses were made by psychiatrists on each team in consensus meetings during which all responses from each informant were presented by the nonpsychiatrist interviewers....'

Interviewing Procedures

'For suicide victims, interviews with informants were scheduled between 2 and 6 months after the suicide incident... Interviews with informants for living comparison subjects were scheduled as soon as these participants and their informants were identified. Each informant was interviewed separately by one trained interviewer. The average time for each interview was 2.5 hours....'

Having regard to the 'Methods' section of the abstract and the 'Measures' and 'Interviewing Procedures' sections above, answer the question below.

Interviews with informants were conducted as soon as practicable, between two and six months following a suicide.

Choose the MOST likely threat to internal validity the authors intended to overcome. GIVE ONLY ONE (1) ANSWER. (1 mark)

- A. Definitions of cases/non-cases
- B. Experimental mortality
- C. Hawthorne effects
- D. Instability (regression to the mean)
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3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not rated ⁷	Not rated ⁷	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 2 (level 1) evidence	Not rated ⁷	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnostic case-control study ⁸	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
6¶	Case series with either prospective or historical case exposures	Study of diagnostic yield in reference standard ⁴	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Click to Enlarge

Question 8

Table 2:

TABLE 2. Characteristics of Suicide Victims and Living Comparison Subjects in a Study of Suicide Among Rural Chinese 15-34 Years of Age

Characteristic	Suicide Victims (n=392)		Comparison Subjects (n=416)	
	Mean	SD	Mean	SD
Age ^a	26.0	6.4	25.7	6.2
Education ^b (years)	6.1	8.5	9.4	6.7
State social support index, total score ^c	29.8	6.0	37.1	4.4
Male	214	54.5	202	48.6
Marital status ^d				
Currently married	205	52.3	267	64.2
Never married	301	41.1	144	34.6
Divorced, separated, or widowed	26	6.6	5	1.2
Living alone ^e	35	8.9	17	4.1
Employed	257	65.5	275	66.1
Annual family income ^f (yuan)				
<10,000	242	61.7	291	69.3
10,001-19,999	58	15.1	46	11.1
≥20,000	91	23.2	69	16.6
Number of recent life events ^g				
0	226	57.6	276	66.4
1	87	22.2	26	6.7
≥2	79	20.0	13	3.9
Number of long-term life events ^h				
0	68	17.6	226	52.9
1	71	18.1	87	20.9
2	301	25.0	50	13.9
≥3	79	20.0	51	12.3

^a Significant difference between groups, p<0.01.
^b Significant difference between groups, p=0.005.
^c Significant difference between groups, p<0.005.

Click to Enlarge

Statistical Analysis

'Descriptive analyses, t tests, and chi-square tests were carried out to describe and compare the demographic characteristics...of the suicide and comparison groups. Adjusted odds ratios and 95% confidence intervals (CIs) derived from multivariate logistic regressions indicated associations between suicide and risk factors. Years of formal school education were categorized into three groups: <7 years, 7-9 years, and >9 years. The family's annual income in yuan (renminbi) was categorized into three groups: ≤10,000 yuan, 10,001-19,999 yuan, and ≥20,000 yuan. (During the study period, the exchange rate was approximately 7 yuan to the U.S. dollar.) Marital status was dichotomized as "not currently married" and "currently married," with the former including never married, divorced, separated, or widowed and the latter including those who were currently married or involved in a living [sic] relationship.....'

Table 2 in the stimulus (repeated above) reports a statistically significant difference between suicide and comparison groups in relation to the demographic variable, years of education.

Having regard to the extract regarding statistical analysis and Table 2 above, select from the list below the most appropriate statistical test likely to have been employed by the authors. (2 marks)

- A. Adjusted odds ratios
- B. Chi-square test
- C. Multivariate logistic regression
- D. One-sample t-test
- E. Two-sample t test

TABLE 2. Characteristics of Suicide Victims and Living Comparison Subjects in a Study of Suicide Among Rural Chinese 15–34 Years of Age

Characteristic	Suicide Victims (N=392)		Comparison Subjects (N=416)	
	Mean	SD	Mean	SD
Age ^a	26.8	6.4	25.7	6.2
Education ^b (years)	8.1	8.5	9.6	6.7
Duke Social Support Index, total score ^c	29.9	6.0	37.1	4.4
	N	%	N	%
Male	214	54.5	202	48.6
Marital status ^c				
Currently married	205	52.3	267	64.2
Never married	161	41.1	144	34.6
Divorced, separated, or widowed	26	6.6	5	1.2
Living alone ^b	35	8.9	17	4.1
Employed	257	65.5	275	66.1
Annual family income ^c (yuan)				
≤10,000	242	61.7	201	48.3
10,001–19,999	59	15.1	46	11.1
≥20,000	91	23.2	169	40.6
Number of recent life events ^c				
0	228	58.2	376	90.4
1	87	22.2	28	6.7
≥2	77	19.6	12	2.9
Number of long-term life events ^c				
0	69	17.6	220	52.9
1	71	18.1	87	20.9
2	101	25.8	58	13.9
≥3	151	38.5	51	12.3

^a Significant difference between groups, $p=0.01$.

^b Significant difference between groups, $p=0.005$.

^c Significant difference between groups, $p<0.001$.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

"Mental Disorders and Suicide among Young Rural Chinese: A Case-Control Psychological Autopsy Study."

Zhang, J. Xiao, S. Zhou, L. American Journal of Psychiatry 2010; 167:773-781.

Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

Method:

In this case-control psychological autopsy study, face-to-face interviews were conducted to collect information from proxy informants for 392 suicide victims and 416 living comparison subjects. Five categories of DSM-IV mental disorders (mood disorders, schizophrenia and other psychotic disorders, substance use disorders, anxiety disorders, and other axis I disorders) at the time of death or interview were assessed using the Chinese version of the Structured Clinical Interview for DSM-IV. Sociodemographic variables, social support, and life events were also assessed.

Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Etiology ³	Screening/Intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁷	Not used ⁷	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 2 or level 1 evidence	History of prognostic factors amongst persons in a single arm ⁸ (i.e. randomized controlled trial)	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnostic case-control study ⁹	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
6¶	Case series with either prospective or historical case exposures	Study of diagnostic yield in reference standard ⁴	Case series, or cohort study of persons in different stages of disease	A case-control study or case series	Case series

Question 9

Table 2:

TABLE 2. Characteristics of Suicide Victims and Living Comparison Subjects in a Study of Suicide Among Rural Chinese 15-34 Years of Age

Characteristic	Suicide Victims (n=392)		Comparison Subjects (n=416)	
	Mean	SD	Mean	SD
Age ^a	26.8	4.4	25.7	4.2
Education ^b (years)	6.1	4.5	6.6	4.7
State social support index, total score ^c	29.6	4.0	37.1	4.4
Male	56	5%	56	5%
Marital status ^d	214	54.5	202	48.6
Currently married	265	52.1	267	64.2
Never married	361	47.1	144	34.6
Divorced, separated, or widowed	26	6.6	5	1.2
Living alone ^e	35	8.9	17	4.1
Employed	237	60.5	275	66.1
Annual family income ^f (yuan)				
<10,000	242	61.7	201	48.3
10,001-19,999	56	15.1	46	11.1
≥20,000	91	23.2	95	22.6
Number of recent life events ^g				
0	228	58.2	276	66.4
1	87	22.2	28	6.7
≥2	77	19.6	12	2.9
Number of long-term life events ^h				
0	66	17.6	220	52.9
1	71	18.1	67	16.1
2	93	25.0	38	9.1
≥3	153	38.5	51	12.3

^a Significant difference between groups, p<0.01.
^b Significant difference between groups, p=0.005.
^c Significant difference between groups, p<0.0001.

Click to Enlarge

Statistical Analysis

Descriptive analyses, t tests, and chi-square tests were carried out to describe and compare the demographic characteristics...of the suicide and comparison groups. Adjusted odds ratios and 95% confidence intervals (CIs) derived from multivariate logistic regressions indicated associations between suicide and risk factors. Years of formal school education were categorized into three groups: <7 years, 7-9 years, and >9 years. The family's annual income in yuan (renminbi) was categorized into three groups: ≤10,000 yuan, 10,001-19,999 yuan, and ≥20,000 yuan. (During the study period, the exchange rate was approximately 7 yuan to the U.S. dollar.) Marital status was dichotomized as "not currently married" and "currently married," with the former including never married, divorced, separated, or widowed and the latter including those who were currently married or involved in a living [sic] relationship....'

Having regard to the extract regarding statistical analysis and Table 2 in the stimulus (repeated above), which ONE of the following statements is directly supported? (2 marks)

- A. Suicide victims had more life events
- B. There was less than a 0.1% chance that marital status did not truly differ between the groups
- C. Comparison subjects were more likely to be employed
- D. Males were over-represented in the group of suicide victims
- E. There was a 5% chance that there was no true difference between the groups in respect of living alone

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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Zhang, J. Xiao, S. Zhou, L. American Journal of Psychiatry 2010; 167:773-781.

Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

Method:

In this case-control psychological autopsy study, face-to-face interviews were conducted to collect information from proxy informants for 392 suicide victims and 416 living comparison subjects. Five categories of DSM-IV mental disorders (mood disorders, schizophrenia and other psychotic disorders, substance use disorders, anxiety disorders, and other axis I disorders) at the time of death or interview were assessed using the Chinese version of the Structured Clinical Interview for DSM-IV. Sociodemographic variables, social support, and life events were also assessed.

Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Etiology ³	Screening/Intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁷	Not used ⁷	A randomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 study ⁴ or without a defined clinical presentation ⁵	Not used ⁷	A retrospective cohort study	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm trials ⁸	Diagnostic case-control study ⁹	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm trials
6	Case series with either prospective or historical case exposures	Study of diagnostic yield for reference standard ⁴	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

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Question 10

Table 3:

TABLE 3. Categories of Mental Disorders Diagnosed in Male and Female Suicide Victims in a Study of Suicide Among Rural Chinese 15-34 Years of Age

Category ¹	Male (n=214)		Female (n=170)	
	n	%	n	%
Any mental disorder at time of death ²	110	55.1	70	39.3
Mood disorders ³	87	44.7	51	28.7
Schizophrenia and other psychotic disorders	10	4.9	25	14.0
Substance use disorders ⁴	26	11.7	0	0.0
Anxiety disorders	5	2.3	0	0.0
Other axis I disorders ⁵	1	0.5	1	0.6

¹The sum of all diagnoses exceeds the number of study subjects with any diagnosis because of multiple diagnoses.
²Significant difference between groups, p=0.003.
³Significant difference between groups, p=0.011.
⁴Significant difference between groups, p=0.003.

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Statistical Analysis

'Descriptive analyses, t tests, and chi-square tests were carried out to describe and compare the demographic characteristics...of the suicide and comparison groups. Adjusted odds ratios and 95% confidence intervals (CIs) derived from multivariate logistic regressions indicated associations between suicide and risk factors. Years of formal school education were categorized into three groups: <7 years, 7-9 years, and >9 years. The family's annual income in yuan (renminbi) was categorized into three groups: ≤10,000 yuan, 10,001-19,999 yuan, and ≥20,000 yuan. (During the study period, the exchange rate was approximately 7 yuan to the U.S. dollar.) Marital status was dichotomized as "not currently married" and "currently married," with the former including never married, divorced, separated, or widowed and the latter including those who were currently married or involved in a living [sic] relationship....'

Table 3 reports statistically significant differences between gender groups of suicide victims in relation to the presence or absence of mental disorder, particularly any mental disorder, mood disorders and substance use disorders.

Having regard to the extract given above regarding statistical analysis and Table 3 in the stimulus (repeated above), select from the list below the most appropriate statistical test likely to have been employed by the authors in generating these results. (2 marks)

- A. Adjusted odds ratios
- B. Chi-square test
- C. Multivariate logistic regression
- D. One sample t-test
- E. Two sample t test

TABLE 3. Categories of Mental Disorders Diagnosed in Male and Female Suicide Victims in a Study of Suicide Among Rural Chinese 15–34 Years of Age

Category ^a	Male (N=214)		Female (N=178)	
	N	%	N	%
Any mental disorder at time of death ^b	118	55.1	70	39.3
Mood disorders ^c	87	40.7	51	28.7
Schizophrenia and other psychotic disorders	19	8.9	25	14.0
Substance use disorders ^d	25	11.7	0	0.0
Anxiety disorders	5	2.3	3	1.7
Other axis I disorders	1	0.5	1	0.6

^a The sum of all diagnoses exceeds the number of study subjects with any diagnosis because of multiple diagnoses.

^b Significant difference between groups, $p=0.003$.

^c Significant difference between groups, $p=0.011$.

^d Significant difference between groups, $p<0.001$.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

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The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnosis accuracy ²	Prognosis	Etiology ³	Preventing intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A postintervention controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not used ⁷	Not used ⁷	A postintervention controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 2 and 3 evidence	History of prognostic factors amongst persons in a single arm ⁸ (i.e. randomized controlled trial)	A retrospective cohort study	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm study ⁹	Diagnostic case-control study ¹⁰	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm study
6	Case series with either prospective or historical case exposures	Study of diagnostic yield for reference standard ¹¹	Case series, or cohort study of persons in different stages of disease	A case-control study or case series	Case series

Question 11

Table 3:

TABLE 3. Categories of Mental Disorders Diagnosed in Male and Female Suicide Victims in a Study of Suicide Among Rural Chinese 15-34 Years of Age

Category ¹	Male (n=214)		Female (n=170)	
	n	%	n	%
Any mental disorder at time of death ²	110	55.1	70	39.3
Mood disorders ³	67	34.7	51	28.7
Schizophrenia and other psychotic disorders	10	6.9	25	14.0
Substance use disorders ⁴	26	11.7	0	0.0
Anxiety disorders	5	2.3	0	0.0
Other axis I disorders ⁵	1	0.5	1	0.6

¹The sum of all diagnoses exceeds the number of study subjects with any diagnosis because of multiple diagnoses.
²Significant difference between groups, p=0.003.
³Significant difference between groups, p=0.011.
⁴Significant difference between groups, p=0.003.

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Statistical Analysis

'Descriptive analyses, t tests, and chi-square tests were carried out to describe and compare the demographic characteristics...of the suicide and comparison groups. Adjusted odds ratios and 95% confidence intervals (CIs) derived from multivariate logistic regressions indicated associations between suicide and risk factors. Years of formal school education were categorized into three groups: <7 years, 7-9 years, and >9 years. The family's annual income in yuan (renminbi) was categorized into three groups: ≤10,000 yuan, 10,001-19,999 yuan, and ≥20,000 yuan. (During the study period, the exchange rate was approximately 7 yuan to the U.S. dollar.) Marital status was dichotomized as "not currently married" and "currently married," with the former including never married, divorced, separated, or widowed and the latter including those who were currently married or involved in a living [sic] relationship....'

Assume the results presented in Table 3 in the stimulus (repeated above) are directly applicable to the clinical population attending a clinic in which you are working as a trainee. The clinical director is concerned about a recent spate of suicides.

For which category of psychiatric disorders would improving detection and evidence based management likely be most effective at reducing suicide risk across the clinic population? Choose the ONE best answer. (1 mark)

- A. Anxiety disorders.
- B. Mood disorders.
- C. Other axis one disorders.
- D. Schizophrenia and other psychotic disorders.
- E. Substance use disorders.

Click to Enlarge

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

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Zhang, J. Xiao, S. Zhou, L. American Journal of Psychiatry 2010; 167:773-781.

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Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis ³	Etiology ⁴	Screening/Identification ⁵
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of level 1 studies with an independent, blinded comparison with a valid reference standard ⁶ using consecutive persons with a defined clinical presentation ⁷	A prospective cohort study ⁸	A prospective cohort study	A randomized controlled trial
3†	A nonrandomized controlled trial (i.e. alternate allocation or some other method)	A study of level 1 studies with an independent, blinded comparison with a valid reference standard ⁶ using non-consecutive persons with a defined clinical presentation ⁷	Not used ⁹	Not used ⁹	A nonrandomized controlled trial (i.e. alternate allocation or some other method)
4‡	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for level 1 (level 1 evidence)	History of prognostic factors amongst persons in a single article ¹⁰ (a randomized controlled trial)	A retrospective cohort study	A comparative study with concurrent controls • Non-randomized, experimental trial • Cohort study • Case-control study
5§	A comparative study without concurrent controls • Historical control study • Two or more single arm trials ¹¹ • Interrupted time series without a parallel control group	Diagnostic case-control study ¹²	A retrospective cohort study	A case-control study	A comparative study without concurrent controls • Historical control study • Two or more single arm trials
6¶	Case series with either prospective or historical case exposures	Study of diagnostic yield in individual patients ¹³	Case series, or cohort study of persons in different stages of disease	A case-control study or case series	Case series

Question 12

Table 4:

TABLE 4. Overall and Gender-Specific Multivariate Logistic Regression Models in a Study of Suicide Among Rural Chinese 15-34 Years of Age*

Predictor	Overall		Females		Males	
	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Age	1.05	0.99-1.10	1.04	0.97-1.11	1.06	0.99-1.14
Gender						
Male	1.00					
Female	1.14	0.79-1.64				
Annual Family Income (yuan)						
<15,000	1.24	0.77-2.02	0.97	0.50-1.88	1.62	0.76-3.43
10,001-19,000	1.38	0.69-2.77	0.93	0.36-2.48	2.19	0.75-6.43
≥20,000	1.00		1.00		1.00	
Employment						
Employed	1.00		1.00		1.00	
Unemployed	0.86	0.55-1.32	0.69	0.49-1.09	0.87	0.33-2.04
Education (years)						
<7	4.30	2.35-8.29	2.91	1.35-7.38	11.66	3.75-35.85
7-9	1.55	0.86-2.76	1.38	0.61-3.17	1.81	0.77-4.34
≥9	1.00		1.00		1.00	
Marital status						
Currently married	1.00		1.00		1.00	
Not currently married	1.85	1.43-2.40	2.32	0.95-5.68	4.79	1.70-12.85
Living alone						
Yes	0.42	0.26-0.67	0.46	0.12-1.51	1.11	0.31-3.97
No	1.00		1.00		1.00	
Any diagnosis						
Yes	10.85	5.81-20.25	0.73	1.63-21.00	15.48	4.11-60.26
No	1.00		1.00		1.00	
Duke Social Support Index, total score						
≤12	12.74	7.15-22.69	0.73	4.84-23.90	16.46	6.65-40.41
13-17	3.28	1.99-5.46	3.87	1.97-7.61	2.72	1.28-5.94
≥17	1.00		1.00		1.00	
Number of recent life events						
≥2	8.12	3.66-17.67	7.29	2.61-20.38	11.81	3.76-37.25
1	4.42	2.74-7.48	5.49	2.35-11.80	3.60	1.46-8.88
0	1.00		1.00		1.00	
Number of long-term life events						
≥5	3.25	1.83-5.78	4.58	1.95-10.17	2.88	1.08-8.26
2	3.15	1.78-5.55	2.61	1.20-5.67	5.04	2.01-12.67
1	1.41	0.74-2.52	1.44	0.69-3.11	1.65	0.63-4.35
0	1.00		1.00		1.00	

* For the overall model, Hosmer and Lemeshow test $\chi^2=11.980$, $p=0.172$; Nagelkerke $R^2=0.020$. For the model by gender, Hosmer and Lemeshow test $\chi^2=15.275$, $p=0.004$; Nagelkerke $R^2=0.061$. For the model by males, Hosmer and Lemeshow test $\chi^2=0.996$, $p=0.824$; Nagelkerke $R^2=0.016$.

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Having regard to Table 4 in the stimulus (repeated above), the additional information provided and your other knowledge...

With respect to the risk that a person with a psychiatric disorder is in the completed suicide group rather than the comparison group, the probability that the adjusted odds ratio is less than 5.81 is: (2 marks)

- A. 1/10
- B. 1/20
- C. 1/40
- D. 1/50
- E. 1/100

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TABLE 4. Overall and Gender-Specific Multivariate Logistic Regression Models in a Study of Suicide Among Rural Chinese 15–34 Years of Age^a

Predictor	Overall		Females		Males	
	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Age	1.05	0.99–1.10	1.04	0.97–1.11	1.06	0.99–1.14
Gender						
Male	1.00					
Female	1.14	0.79–1.64				
Annual family income (yuan)						
≤10,000	1.24	0.77–2.02	0.97	0.50–1.88	1.62	0.76–3.43
10,001–19,999	1.38	0.69–2.77	0.93	0.36–2.40	2.19	0.75–6.43
≥20,000	1.00		1.00		1.00	
Employment						
Employed	1.00		1.00		1.00	
Unemployed	0.88	0.55–1.42	0.88	0.49–1.59	0.87	0.38–1.98
Education (years)						
<7	4.70	2.35–9.79	2.91	1.15–7.38	11.60	3.73–25.93
7–9	1.55	0.86–2.78	1.39	0.61–3.17	1.83	0.77–4.36
>9	1.00		1.00		1.00	
Marital status						
Currently married	1.00		1.00		1.00	
Not currently married	3.03	1.61–5.70	2.32	0.95–5.68	4.78	1.78–12.83
Living alone						
Yes	0.62	0.26–1.47	0.40	0.12–1.33	1.11	0.31–3.97
No	1.00		1.00		1.00	
Any diagnosis						
Yes	10.85	5.81–20.25	8.73	3.63–21.00	15.68	6.11–40.26
No	1.00		1.00		1.00	
Duke Social Support Index, total score						
<32	12.74	7.15–22.68	10.73	4.84–23.80	16.40	6.65–40.41
32–37	3.28	1.99–5.40	3.87	1.97–7.61	2.72	1.24–5.98
>37	1.00		1.00		1.00	
Number of recent life events						
≥2	8.12	3.06–17.07	7.29	2.61–20.38	11.83	3.76–37.25
1	4.02	2.16–7.48	5.49	2.19–13.80	3.60	1.46–8.88
0	1.00		1.00		1.00	
Number of long-term life events						
≥3	3.25	1.83–5.78	4.50	1.99–10.17	2.60	1.08–6.26
2	3.13	1.78–5.53	2.61	1.20–5.67	5.04	2.01–12.67
1	1.41	0.79–2.52	1.44	0.69–3.13	1.65	0.63–4.35
0	1.00		1.00		1.00	

^a For the overall model, Hosmer and Lemeshow test $\chi^2=11.560$, $p=0.172$; Nagelkerke $R^2=0.650$; for the model in females, Hosmer and Lemeshow test $\chi^2=15.275$, $p=0.054$; Nagelkerke $R^2=0.583$; for the model in males, Hosmer and Lemeshow test $\chi^2=8.099$, $p=0.424$; Nagelkerke $R^2=0.726$.

(20 marks)

Please read the following abstract, table and figure and answer the questions based on this information and your other knowledge.

"Mental Disorders and Suicide among Young Rural Chinese: A Case-Control Psychological Autopsy Study."

Zhang, J. Xiao, S. Zhou, L. American Journal of Psychiatry 2010; 167:773-781.

Objective:

The authors examined the prevalence and distribution of mental disorders in rural Chinese 15-34 years of age who committed suicide. They hypothesized that mental illness is a risk factor for suicide in this population and that the prevalence of mental illness is lower in females than in males.

Method:

In this case-control psychological autopsy study, face-to-face interviews were conducted to collect information from proxy informants for 392 suicide victims and 416 living comparison subjects. Five categories of DSM-IV mental disorders (mood disorders, schizophrenia and other psychotic disorders, substance use disorders, anxiety disorders, and other axis I disorders) at the time of death or interview were assessed using the Chinese version of the Structured Clinical Interview for DSM-IV. Sociodemographic variables, social support, and life events were also assessed.

Results:

The prevalence of current mental illness was 48.0% for suicide victims and 3.8% for comparison subjects. Among suicide victims, mental illness was more prevalent in males than in females (55.1% compared with 39.3%). A strong association between mental illness and suicide was observed after adjustment for sociodemographic characteristics. Other risk factors included having a lower education level, not being currently married, having a lower level of social support, and having a history of recent and long-term life events. Additive interactions were observed between mental illness and lower level of social support.

Conclusions:

Although mental illness is a strong risk factor for suicide, it is less prevalent among rural Chinese young people who committed suicide, particularly females, in comparison with other populations in China and in the West.

Table 1

Level	Intervention ¹	Diagnosis accuracy ²	Prognosis	Etiology ³	Preventing intervention
1*	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies	A systematic review of level 1 studies
2	A randomized controlled trial	A study of level 1 studies with an independent, blinded comparison with a valid reference standard ⁴ using consecutive persons with a defined clinical presentation ⁵	A prospective cohort study ⁶	A prospective cohort study	A randomized controlled trial
3†	A postintervention controlled trial (i.e., alternate allocation or some other method)	A study of level 1 studies with an independent, blinded comparison with a valid reference standard ⁴ using non-consecutive persons with a defined clinical presentation ⁵	Not rated ⁷	Not rated ⁷	A postintervention controlled trial (i.e., alternate allocation or some other method)
4‡	A comparative study with concurrent controls	A comparison with reference standard that does not meet the criteria required for level 1 specific evidence	Not rated ⁷	A retrospective cohort study	A comparative study with concurrent controls
5§	A comparative study without concurrent controls	Diagnostic case-control study ⁸	A retrospective cohort study	A case-control study	A comparative study without concurrent controls
6¶	Case series with either prospective or historical data	Study of diagnostic yield in consecutive patients ⁹	Case series, or cohort study of persons in different stages of disease	A case-control study or case series	Case series

Question 13

Table 4:

TABLE 4. Overall and Gender-Specific Multivariate Logistic Regression Models in a Study of Suicide Among Rural Chinese 15-34 Years of Age*

Predictor	Overall		Females		Males	
	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Age	1.05	0.99-1.10	1.04	0.97-1.11	1.06	0.95-1.14
Gender						
Male	1.00		1.00		1.00	
Female	1.14	0.75-1.64				
Annual Family Income (yuan)						
<15,000	1.24	0.77-2.02	0.97	0.50-1.88	1.62	0.76-3.43
10,001-19,000	1.38	0.69-2.77	0.93	0.36-2.41	2.19	0.75-6.43
≥20,000	1.00		1.00		1.00	
Employment						
Employed	1.00		1.00		1.00	
Unemployed	0.86	0.55-1.32	0.69	0.49-1.09	0.87	0.33-2.04
Education (years)						
<7	4.20	2.35-6.79	2.91	1.75-4.78	11.46	3.75-25.85
7-9	1.55	0.86-2.76	1.38	0.61-3.17	1.81	0.77-4.34
≥9	1.00		1.00		1.00	
Marital status						
Currently married	1.00		1.00		1.00	
Not currently married	3.03	1.61-5.70	2.32	0.95-5.68	4.79	1.70-12.85
Living alone						
Yes	0.42	0.26-0.67	0.46	0.12-1.51	1.11	0.31-3.97
No	1.00		1.00		1.00	
Any diagnosis						
Yes	10.85	5.81-20.25	0.73	1.63-21.00	15.48	4.11-60.26
No	1.00		1.00		1.00	
Duke Social Support Index, total score						
<12	12.74	7.15-22.69	10.73	4.84-23.90	16.46	6.65-40.41
12-17	3.28	1.99-5.46	3.87	1.97-7.61	2.72	1.26-5.94
≥17	1.00		1.00		1.00	
Number of recent life events						
≥2	8.12	3.66-17.67	7.29	2.61-20.38	11.81	3.76-37.25
1	4.42	2.74-7.08	5.49	2.75-11.80	3.60	1.46-8.98
0	1.00		1.00		1.00	
Number of long-term life events						
≥1	3.25	1.83-5.78	4.58	1.99-10.17	2.88	1.08-8.26
2	3.15	1.78-5.55	2.61	1.20-5.67	5.04	2.01-12.67
1	1.41	0.74-2.52	1.44	0.69-3.11	1.65	0.63-4.35
0	1.00		1.00		1.00	

* For the overall model, Hosmer and Lemeshow test $\chi^2=11.980$, $p=0.172$; Nagelkerke $R^2=0.620$. For the model by gender, Hosmer and Lemeshow test $\chi^2=15.275$, $p=0.004$; Nagelkerke $R^2=0.501$. For the model in males, Hosmer and Lemeshow test $\chi^2=0.996$, $p=0.874$; Nagelkerke $R^2=0.726$.

Click to Enlarge

Having regard to Table 4 in the stimulus (repeated above), the additional information provided and your other knowledge...

Which of the following statements cannot be supported by Table 4 in the stimulus (repeated above)? (2 marks)

- A. Suicide was more likely when there was a low score on the index of social support.
- B. There was a significant association between not currently married and completed suicide. The association was due to the contribution of males.
- C. There was a slight but insignificant association between female gender and completed suicide.
- D. There was a strong association between the presence of any psychiatric diagnosis and completed suicide.
- E. The association between the presence of any psychiatric diagnosis and suicide was stronger in males than in females.

Click to Enlarge

CRITICAL ANALYSIS PROBLEMS (CAP)

You have completed the CAP component of the practice exam.

Review Screen

☰ Instructions

Below is a summary of your questions. You can review your questions in three (3) different ways.

The buttons in the lower right-hand corner correspond to these choices:

1. Review all of your questions and answers.
2. Review questions that are incomplete.
3. Review questions that are flagged for review. (Click the 'flag' icon to change the flag for review status.)

You may also click on a question number to link directly to its location in the exam.

☰ Practice Exam Section (34 Unseen/Incomplete)

Question 1	Question 2	Question 3
Question 4	Question 5 Incomplete	Question 6 Incomplete
Question 7 Incomplete	Question 8 Incomplete	Question 9 Incomplete
Question 10 Incomplete	Question 11 Incomplete	Question 12 Incomplete
Question 13 Incomplete	Question 14 Incomplete	Question 15 Incomplete
Question 16 Incomplete	Question 17 Incomplete	Question 18 Incomplete
Question 19 Incomplete	Question 20 Incomplete	Question 21 Incomplete
Question 22 Incomplete	Question 23 Incomplete	Question 24 Incomplete
Question 25 Incomplete	Display 26	Display 27
Question 28 Incomplete	Question 29 Incomplete	Question 30 Incomplete
Question 31 Incomplete	Question 32 Incomplete	Question 33 Incomplete
Question 34 Incomplete	Question 35 Incomplete	Question 36 Incomplete
Question 37 Incomplete	Question 38 Incomplete	Question 39 Incomplete
Question 40 Incomplete	Display 41	



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You have completed the MCQ Examination tutorial.

On the actual day of your MCQ Examination at the Pearson VUE test centre questions will be displayed under the same format.

For the following patient, please select the MOST likely disorder.

Isabel, a 51-year-old divorcee, who calls herself an "astrotherapist", believes she can detect auras around people and thus diagnose their health status. Isabel fears that a male neighbour may be using magical powers to disrupt her love life. She has many books on the occult. On psychiatric interview, she has no clear-cut delusions, nor does she experience hallucinations. Her adult son says she has always been like this.

Navigator - click on a question to go to it

Question # ▲	Status	Flagged - Review
Question 1	Incomplete	
Question 2	Incomplete	
Question 3	Incomplete	
Question 4	Incomplete	
Question 5	Unseen	
Question 6	Unseen	
Question 7	Unseen	
Question 8	Unseen	
Question 9	Unseen	
Question 10	Unseen	
Question 11	Unseen	
Question 12	Unseen	
Question 13	Unseen	
Question 14	Unseen	
Question 15	Unseen	
Question 16	Unseen	
Question 17	Unseen	
Question 18	Unseen	
Question 19	Unseen	
Question 20	Unseen	
Question 21	Unseen	
Question 22	Unseen	
Question 23	Unseen	

41 Unseen/Incomplete

Close