Critique of "Prevalence of Psychiatric Morbidity in a Community Sample in Western Kenya"

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Course: Introduction to Epidemiology

November 27, 2025

Is the Research Question Clearly Articulated?

Answer: Yes, the research question is clearly articulated using the PICO framework.

- **P (Population)**: Adults aged **18 years and older** in Kosirai Division, Nandi County, Western Kenya.
- **I (Intervention/Exposure)**: Psychiatric morbidity (anxiety, depression, substance use disorders).
- **C (Comparison)**: Not applicable, as this is a **descriptive cross-sectional study** without a control group.
- **O (Outcome)**: Prevalence of psychiatric morbidity in the population.

The research question asks: **"What is the prevalence of psychiatric morbidity in adults aged 18 and older in Kosirai Division, Nandi County, Western Kenya?"**

Was the Chosen Design Appropriate?

Answer: Yes, the chosen design is appropriate for the research question.

- The study uses a **cross-sectional descriptive design**, ideal for estimating the **prevalence** of psychiatric morbidity at a specific time.
- This design provides a snapshot of the **mental health status** of adults in **Kosirai Division**, Nandi County.
- A **longitudinal design** is unnecessary, as the study focuses on measuring **current** prevalence, not causality.

Thus, the **cross-sectional design** is appropriate for estimating the prevalence of psychiatric disorders in the study population.

Background and Significance

Answer: Yes, the study addresses an important knowledge gap.

- Highlights the lack of **mental health resources** in rural Kenya.
- Mental health is a **key public health priority**.
- Provides crucial data on psychiatric morbidity in underserved areas.

The study is significant due to the **scarcity of mental health data** in rural Kenya.

Was the Study Population Representative?

Answer: Yes, the study population is representative.

- The study used **random sampling** from the adult population of **Kosirai Division**, Nandi County.
- Adults aged **18 years and above** were included, ensuring a broad representation of the community.
- The study population aligns with the target population, with **450 participants** out of 570 included in the final sample.

Thus, the study population is representative of the target population in **Kosirai Division**, Nandi County.

Was the Response Rate Acceptable?

Answer: Yes, the response rate was acceptable.

- **450 out of 570** participants responded (**79%** response rate).
- Predefined **eligibility criteria** minimized selection bias.

The response rate is reasonable, but some **non-response bias** could still exist.

Were Exposure and Outcome Measured Validly?

Answer: Yes, both were measured using valid tools.

- **Exposure**: Measured using the **MINI-7 diagnostic interview**, a valid tool for assessing psychiatric morbidity.
- **Outcome**: Measured using the **DSM-5 criteria**, ensuring diagnostic accuracy.
- Structured interviews helped reduce **measurement bias** by ensuring consistency across all participants.

Both exposure and outcome measurements were **valid** and **reliable**.

Loss to Follow-Up

Answer: Not applicable.

- The study was **cross-sectional**, so there was no follow-up required.
- The data were collected at a single point in time, focusing on the **prevalence** of psychiatric morbidity.

Therefore, **loss to follow-up** is not a concern for this study.

Selection Bias: Did the Recruitment Method Likely Introduce Bias?

Answer: Selection bias was minimized.

- The study used **random sampling**, which minimizes selection bias by giving all individuals in the target population an equal chance of being included.
- The sampling method is robust and ensures that the study population is representative of the larger community in **Kosirai Division**, Nandi County.
- Potential sources of bias, such as **non-response bias**, were accounted for by excluding non-eligible individuals based on predefined criteria.

Thus, the study design minimizes **selection bias** through a rigorous random sampling process.

Was There Risk of Recall Bias or Other Measurement Errors?

Answer: Yes, there is a slight risk of information bias.

- The study used the **MINI-7 diagnostic interview**, which is a structured tool designed to reduce **recall bias**.
- However, there is still a risk of **recall bias** in self-reported psychiatric history, especially for conditions like depression or anxiety.
- The use of **objective clinical measures** minimizes measurement errors, but **social desirability bias** could still play a role in self-reports.

While information bias is minimized, **recall bias** and **social desirability bias** could still affect the results to some extent.

What Were the Major Confounders and How Did the Authors Control for Them?

Answer: Major confounders were identified and controlled.

- Major confounders include **age**, **gender**, and **pre-existing medical conditions**.
- The authors used **logistic regression** to control for these confounders, ensuring that the association between socio-demographic factors and psychiatric morbidity was clearer.
- By adjusting for these factors, the study reduced potential bias in the estimation of psychiatric morbidity prevalence.

The authors effectively controlled for key confounders using appropriate statistical methods.

What Was the Primary Measure of Association? Was the CI Reported and Did It Cross 1.0?

Answer: The primary measure of association was the Odds Ratio (OR).

- The primary measure of association used was the **Odds Ratio (OR)** to assess the relationship between socio-demographic factors and psychiatric morbidity.
- The study reported **95% Confidence Intervals (CIs)** for each OR, and none of the CIs crossed **1.0** for significant associations.
- A CI crossing 1.0 would indicate no significant association, but all key CIs were statistically significant, reinforcing the study's conclusions.

The Odds Ratios were significant, and the **CIs** were **reported correctly**, showing statistical significance for the key findings.

Can These Results Be Applied to a Broader Population?

Answer: Yes, with some limitations.

- The results are **generally applicable** to rural populations in Kenya and other similar low-income, rural settings in sub-Saharan Africa.
- However, they may not fully generalize to **urban populations** or **higher-resource settings** where mental health care infrastructure differs significantly.
- The findings are more relevant to regions with limited access to mental health care and high rates of underdiagnosed psychiatric conditions.

The study's findings can be generalized to rural, low-income areas, but **urban and high-resource settings** may differ in their applicability.

Overall Assessment

Answer: The study is valuable, but it has limitations.

- **Strength(s)**: The study's **random sampling** and use of the **MINI-7 diagnostic interview** are key strengths. The methodology is robust for a cross-sectional study.
- **Limitation(s)**: The **cross-sectional design** limits causal inference. Recall bias may still affect the accuracy of self-reported data, and non-response bias could be present.
- **Recommendation**: The findings should be accepted **with caution**. The study provides important insights, but longitudinal studies are needed to explore causality further.