Psychiatric epidemiology is the study of distribution and determinants of mental disorders, with the primary aim of understanding the incidence rates.[1] Although there is a long tradition of carrying out epidemiological studies in India, the variation in the methodology is wide. One of the major problems in psychiatric epidemiology is case ascertainment. Unfortunately, “caseness” is still determined by clinical impression based on the symptoms reported or elicited, and there are no objective laboratory or clinical parameters available (fever, blood pressure, etc.) which can be used. To further complicate the matter, current nosology systems suggest that no psychiatric disorder has pathognomonic symptoms. As the “caseness” depends on the assessment method, interpretation of the prevalence figures across studies is dependent on the assessment instrument, that is, whether a general or disorder-specific screening questionnaire or a structured diagnostic instrument was used.

Ideally, a prevalence study should be based on the assessment of all the individuals in a specific population with a structured diagnostic instrument by a mental health professional trained in using the instrument.[2] However, due to practical limitations, prevalence estimates are based on a sample drawn from the target population. Hence, most of the epidemiologic studies have a two-stage evaluation: initially, all the participants are screened on a questionnaire with high sensitivity, and subsequently, those found positive are evaluated using a structured instrument to ascertain the psychiatric diagnosis. It is essential to select an appropriate screening instrument which has been validated against standard diagnostic criteria or structured instruments.

Furthermore, the sensitivity and specificity of the screening questionnaire can influence the prevalence rates. For example, if the study uses a screening instrument with low sensitivity, then it is possible that many cases which may be positive would be considered as not having psychiatric morbidity and excluded from the second stage evaluation. To overcome this, it is suggested that a proportion of the participants found to be negative must be evaluated in the second phase too. Accordingly, factors that can influence the quality of an epidemiological study that uses the two-stage method include variables such as expectation bias (whether the person who was evaluating the participant in the second phase was blind to the results of the screening instrument, and vice versa) and work-up bias (i.e., did the participants found to be positive or negative in the first screening phase have an equal chance to be evaluated in the second stage or not).[3]

Another critical aspect of epidemiological studies is the appropriate adaptation of the instrument for use in the local population. It is suggested that the tool must be appropriately translated into the local language and adapted and/or designed for the particular study setting and population using standard World Health Organization methodology for translation and adaptation.[3] Also, the details of translation and adaptation should be included under study methodology so as to enable the readers to appraise the findings.

Besides the assessment, the prevalence is also influenced by the sampling technique, which may limit the generalizability of the findings. Representative samples should be randomly drawn, with clear mention of the exclusion criteria. A priori sample size calculation enables reliable estimates of prevalence. Response rates of at least 80% are considered adequate. Furthermore, the setting of the study too (e.g., whether it is community- or clinic-based) determines the usefulness of its findings.

While reporting prevalence rates, one should be mindful of the differences between point, period, and lifetime prevalence. Most estimates from cross-sectional studies are point prevalence rates, which are understandably lower than the period prevalence rates (e.g., in the past 1 year) and the lifetime prevalence rates. Furthermore, it is always desirable to report confidence intervals (typically 95%) along with the prevalence estimates.

In recent times, many independent researchers have ventured into the area of psychiatric epidemiology from India and the neighboring countries to generate data on mental morbidity and its determinants. This issue of Indian Journal of Psychological Medicine covers five such articles. It is exciting to see that these articles
are being covered in a single theme issue for the first time. We critically analyzed these studies, specifically from a methodological point of view, so as to inform future studies.

The study by Joshi et al.\textsuperscript{[4]} used the two-stage methodology to evaluate the psychiatric morbidity in Thakali community from Nepal. In the first phase, households were identified using systematic random sampling, and 917 individuals were screened using questionnaires that yielded 12.5% prevalence of probable psychiatric diagnoses. In the second phase, two psychiatrists independently evaluated screen-positive cases and found 10\% of probable psychiatric diagnoses. In the second phase, two psychiatrists independently evaluated screen-positive cases and found 10\% of probable psychiatric diagnoses. However, it is highly likely that one-time screening or 1 week of symptoms needed for depression diagnosis in KADS as opposed to 2 weeks in ICD-10). Wide discrepancies in the prevalence could be attributed to the assessment method (e.g., self-report questionnaire which was actually administered by the researchers, or 1 week of symptoms needed for depression diagnosis in KADS as opposed to 2 weeks in ICD-10). However, it is highly likely that one-time screening actually overestimates the prevalence rates. Hence, all screen-positive cases should have been evaluated using a structured instrument to obtain the true prevalence.

Shukla et al.\textsuperscript{[5]} evaluated depression among school-going adolescent girls in Barabanki district of Uttar Pradesh. They estimated the required sample size and used multistage sampling and a pretested questionnaire, Kutcher Adolescent Depression Scale (KADS), administered by trained personnel. The point prevalence of depression was 39.7\% among 2,187 students screened. The prevalence rates are higher than the findings of several previous studies from India, and their own study\textsuperscript{[6]} done 2 years back had found a prevalence of 18.7\% with a cut-off score of 6 in KADS (as against nine in the current study). Wide discrepancies in the prevalence could be attributed to the assessment method (e.g., self-report questionnaire which was actually administered by the researchers, or 1 week of symptoms needed for depression diagnosis in KADS as opposed to 2 weeks in ICD-10). However, it is highly likely that one-time screening actually overestimates the prevalence rates. Hence, all screen-positive cases should have been evaluated using a structured instrument to obtain the true prevalence.

Rathod et al.\textsuperscript{[7]} evaluated the prevalence of depression among the elderly population in Aurangabad district of Maharashtra. They had estimated the required sample size, used systematic random sampling, and screened the elderly persons using a translated version of Major Depression Inventory (MDI). Depression was found in 16.7\% [95\% confidence interval (CI) 13.3–20.6] of the 400 elderly persons screened. Indian studies on the prevalence of depression in the elderly population in the community samples have found, because of methodological differences, widely varying rates ranging from 9\% to 61\%, thus making a comparison difficult.\textsuperscript{[9]} The median prevalence rates of depression in the elderly population worldwide have been reported to be 10.3\% (95\% CI 4.7–16.0\%).\textsuperscript{[9]} It is possible that the index study overestimated the true prevalence, likely because of not confirming the diagnosis of screen-positive individuals using a structured diagnostic interview. Another reason could be using MDI in the elderly population, which is not validated in this sample.

Saha et al.\textsuperscript{[10]} estimated the psychiatric morbidity in adults of Bokultala slum of Bankura district, West Bengal using Bengali version of Self Report Questionnaire. The researchers had estimated the sample size needed and used a well-validated instrument. One-fifth (21.1\%) of the patients had probable psychiatric morbidity, and it was associated with food insecurity as assessed by Household Food Security. The rates are much higher than the current prevalence of 10.56\% (95\% CI 10.51\%–10.61\%) found in National Mental Health Survey.\textsuperscript{[11]} The higher prevalence rates could be an overestimation of the true rates as there was no confirmation of the diagnosis using any structured assessment. Alternatively, it is possible that higher rates could reflect the characteristics of the slum dweller sample that may truly have a higher morbidity compared with the general population. Thus, the generalization of the findings may be limited to the studied sample only and not the whole population.

The article by Wangdi and Jamtsho\textsuperscript{[12]} is based on a secondary analysis of the data from the National Health Survey 2012 from Bhutan. The point prevalence of current alcohol use was 30.6\% in a nationally representative sample of 31,066 adult participants. Betel chewing was widely prevalent, with more than 90\% admitting to its use. In contrast, current smoking was reported in only 4.2\% of the study population. The major strength of the study is nationwide sampling using a standard methodology which is likely to generate reliable estimates of current substance use in adults. However, adolescents were not included, and there was no data on problematic substance use.

It is heartening to see that more and more researchers are conducting community-based psychiatric epidemiological studies rather than limited-scope, hospital-based, cross-sectional studies. However, it is pertinent to remember that such studies will be meaningful and generalizable only if appropriate methodology, including representative samples and well-validated assessment instruments, are used. Among
the five studies, except for one, the other groups did not have a mental health professional. Because of this, it is possible that many technical issues related to the selection and adaptation of the instruments are not given due consideration. Ideally, psychiatric epidemiological studies should be carried out with inputs from experts from multiple fields such as epidemiology, statistics, and mental health. Therefore, a collaborative approach is essential to produce good quality epidemiological data which may have the translational potential not only for clinical services but also for policy-level implications as well.

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