

Associated factors vs risk factors in cross-sectional studies

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Dear editor

We have read with great interest the study of Karukunchit et al¹ published in *Patient Preference and Adherence*. This study is important because it investigates a health problem that has not been well studied. However, we have some comments:

- a) It should be noted that cross-sectional studies are the best choice when the aim of the research is to estimate the prevalence of a characteristic in a specific population, they may also be useful if we wish to evaluate factors associated with a disease or condition.² On the other hand, when we wish to evaluate risk factors, we need to estimate the incidence; this measure of occurrence can be computed in longitudinal studies (involving follow-up); clear examples of this are cohort studies. That is why cross-sectional studies can only estimate the prevalence and associated factors of a condition or disease, unless we can assure temporality.³
- b) Another comment that we would like to make is about the use of odds ratio vs prevalence ratio. When working with a frequent outcome in the context of a cross-sectional study, the use of the odds ratio overestimates the association.^{4,5} In the study of Karukunchit et al,¹ the outcome is frequent, therefore, the use of prevalence ratio would have been a better measure of association.

Disclosure

The authors report no conflicts of interest in this communication.

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Dear editor

Thank you very much for taking the time to read our paper and for your helpful critique on our method and measures.

We note the difference between prevalence and risk factors and agree that a cohort study would have been a more useful approach. However, the disadvantages of using a cohort study design were threefold: (1) participants must be followed over a prolonged period of time for observations; (2) the possible loss of study participants to follow up; and (3) high costs. Moreover, in a retrospective cohort study the investigators must collect historical data on risk factors.^{1,2} In our study we did not collect historical data on risk factors such as body mass index and occupational characteristics.

Thank you for also pointing out the fact that a prevalence ratio would have been a preferred measure and that an odds ratio may have over-estimated the prevalence. Reading the

articles you referred to in your comments has furthered our understanding about this preferred measure. However, most of the recent studies we reviewed showed that the odds ratio (OR) remains the most popular measure of the exposure disease relationship in epidemiology.³⁻⁶ The OR has an important role in describing the results of cross-sectional studies, mainly due to mathematical convenience and the easy availability of advanced statistical or logistic regression analysis. Therefore, we reported the OR to evaluate risk factor associations.²

Disclosure

The authors report no conflicts of interest in this communication.

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