Review of: "Parent reports of children's emotional and behavioral problems in a low- and middle-income country (LMIC): An epidemiological study of Nepali schoolchildren"

Hans Koot[1]

1 Free University Amsterdam

This study by Ma et al. (2021) is very well done with good sampling, the use of an internationally comparable instrument, and excellent fieldwork. The efforts needed to obtain reliable data on child and adolescent mental health in a country with the scientific and environmental infrastructure of Nepal should not be underestimated. My review is focused on two main aspects of the paper; the interpretation of the study's results on the 'prevalence' of emotional and behavioral problems (EBP) and the meaning of its association with demographics like cast, ethnicity and child sex.

First, there is the study's aim to estimate the prevalence of behavioral and emotional problems (EBP) in Nepali children and adolescents. The authors used the Child Behavior Checklist, a parent report form on child and adolescent EBP, that also has similar forms to be completed by teachers and adolescents (Achenbach & Rescorla, 2001). However, this instrument was not yet validated for use in the Nepali population. There are two types of validation that would be necessary before the meaning of values obtained by CBCL reports in any country can be ascertained. The first (after thorough forward and backward translation of the items) is by testing the applicability of its original structure in the society different from where it was developed originally (the USA). Methods like confirmatory factor analysis or analyses of measurement invariance would be applicable. The second is to establish the criterion-related validity of the scale scores. In the absence of a gold standard for child and adolescent psychopathology the literature uses mental disorder as defined by diagnostic schemes like the Diagnostic and Statistical Manual (DSM) or the International Classification of Diseases (ICD) established through structured interview or clinical diagnosis, functional limitations/impairments related to the reported and observed symptoms, or referral for mental health services reflecting need for help as perceived by parents, teachers, or others who know the child well. If the relation between the CBCL scores and the criterion has been tested, cutoff scores may be set based on the positive predictive value (sensitivity/specificity) of the scores. Based on that, norms for different age and sex groups may be established and the CBCL can be used as a screening instrument with known validity.

Given the lack of validity information and local normative data the authors used US norms as an estimation method and concluded that the prevalence of EBP in Nepal is comparable that in neighboring countries like India and China. However, this conclusion is not supported by the study results for three reasons. The first has been delineated above. One cannot establish the prevalence of a phenomenon if the validity of the instrument to measure it in the local situation is unknown. The second is that world-wide research using the CBCL has demonstrated that mean levels and variance of parent-reported EBP may significantly differ across society and culture (Rescorla et al., 2007; 2019), and that thus the distribution of scores across the population and their associated cut-off values may differ substantially. This has even led to the development of multicultural norms for the instrument, although the correct applicability of these is still unknown (e.g., see Magai et al., 2018). Very little research has directly compared CBCL data from different societies using background variables as controls. The third reason is that both the Indian and Chinese studies referred to in the paper are very different ones. The one from India is a meta-analysis of studies using multiple methods. The Chinese one (Qu et al., 2015) used a two-stage survey method in which parents completed the CBCL questionnaire for screening, followed by a one-to-one standard formalized examination using the MINI-KID for parents of children with positive CBCL results and a clinical diagnosis made by psychiatrists, based on DSM-IV criteria This is a highly preferable type of method, particularly if multiple informants and proper estimation methods are used (e.g., Verhulst et al., 1997).

Second, the study set out to explore differences in parent reported EBP between children/adolescents from different casts, ethnicity or sex. Several significant differences were reported and the possible meaning of these were discussed post hoc. However, discussion of findings is only meaningful in the context of hypotheses to be pitted against the study's findings if tested in a proper way. Discussing results becomes meaningful is the possible explanation for findings can be tested. For example, differences in reports of child/adolescent EBP between regions may be caused by differences in parental education, poverty rates, exposure to violence and a plethora of others. Findings on differences between regions become meaningful if they can be tested for these background differences. Equally importantly is the use of correct hypotheses against which findings are tested and results are interpreted. For example, the authors report that they did not find more Internalizing Problems in girls than in boys, contrasting to the findings from international meta-studies. However, the larger of the two meta-studies cited by the authors rightfully analyzed their data according to gender x age groups, as we know that the gender difference in internalizing problems becomes visible from puberty onwards (e.g. Copeland et al, 2019). Indeed the meta-study reported zero significant gender differences on internalizing problems for the younger group (ages 6-11 out of 28 societies), but 10 for older girls versus boys (ages 12-16, out of 27 societies) (Rescorla et al., 2007).

Despite these comments this is an important paper. We should realize that there can be no health without

mental health as discussed in the context of the UN sustainable goals (e.g. <u>Mental health 'neglected issue' but key to achieving Global Goals, say UN chiefs – United Nations Sustainable Development</u>). Thus, worldwide initiatives are deployed to improve the information on and awareness of child and adolescent mental health in countries worldwide. The paper reviewed here is highly commendable, and exemplary in the skills and efforts needed to achieve just that.

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