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Psychometric tools for measuring outcomes of diabetes education; a critique of Eigenmann et al's assessment of suitability.

Eigenmann *et al.*'s article¹ listed criteria for appraising questionnaires suitable for measuring outcomes of diabetes education in Australia. One criterion was 'no fees attached, easy to access'. It is unclear why they felt it reasonable or desirable to expect such outcome measures to be free of charge. When authors of questionnaires publish the entire measure and declare that others are welcome to use the instrument without the need for a licence, this may at first sight appear altruistic. However, on further reflection it may be seen as neglect. Licence agreements are needed to set out the conditions of use and discourage changes to items/format that will invalidate a tool and produce misleading results. In one instance, Eigenmann *et al.* (page 434) referred us to a 1995 paper in *Diabetes Care*² for access to the PAID (Problem Areas in Diabetes) measure even though the actual questionnaire is not shown there and reconstruction of the instrument from the information provided would lead to many variations. They gave, as an alternative method of accessing the tool, an outdated email address for Dr Gary Welch. There have been several versions of the PAID since 1995 and Eigenmann *et al.* do *Diabetic Medicine* readers a disservice by encouraging unauthorised use of an early version without any indication of subsequent revisions or copyrights.

Eigenmann *et al.* also do us a disservice in misinforming readers that licence fees apply to my questionnaires when licence fees apply only to commercial companies (just as they do for the PAID). For non-commercial use no licence fees apply, though a contribution is requested to administrative costs. Exceptions to this rule include students, for whom no charges apply. Some administrative charges are necessary if good management of widely-used questionnaires is to be sustainable.

Eigenmann and colleagues acknowledged and dismissed three measures of diabetes knowledge including my own Audit of Diabetes Knowledge (ADKnowl). Their grounds for excluding the ADKnowl were that a licence fee applies (incorrect) and that it is 'too lengthy'. They appear to be unaware that the ADKnowl is designed so that users can select sections of the questionnaire suited to their needs.³ Eigenmann and colleagues also claimed that the ADKnowl was only tested in the UK when in fact it has been linguistically validated (including cultural adaptation) in several languages including English for Australia. Eigenmann and colleagues reported that they are developing and validating a new Australia-specific diabetes knowledge questionnaire. It will be interesting to see how they manage to administer, update and linguistically validate this instrument without making any charges.

Another of my instruments, the ADDQoL diabetes-specific measure of the impact of diabetes on QoL, has shown important improvements to QoL following Dose Adjustment For Normal Eating (DAFNE)⁴ and X-pert patient⁵ educational interventions. The ADDQoL was found wanting by the authors, not only because of the (wrongly assumed) licensing fee, but because it was, incorrectly, said that the latest 19-item version had 'not yet been retested for its psychometric properties'. The ADDQoL 19, linguistically validated in 36 languages, has had psychometric properties established in several independent studies, the first being published in 2006.⁶

Eigenmann *et al.* also misrepresented other questionnaires. Word restrictions prohibit detailing of errors made, but blanket dismissal of generic measures, including the W-BQ12 measure of well-being despite no lack of sensitivity to change in diabetes education programmes (e.g. DAFNE⁴), was ill judged.

Although the authors recognised that psychometric properties of an instrument need to be confirmed in different cultures they referred only to 'translation'. Linguistic validation, including detailed pilot testing with clinicians and patients, is expensive and time-consuming but vital, even when English versions are used in different countries; it should be an important criterion for selecting suitable instruments.

See www.healthpsychologyresearch.com for more up-to-date information about the ADKnowl, ADDQoL, W-BQ12 and other questionnaires, including languages available and linguistic validation process recommended.

Competing Interests: Clare Bradley is Director and majority share holder of Health Psychology Research Ltd which licences her questionnaires, including the ADKnowl, ADDQoL and W-BQ12 for others to use.

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Clare Bradley
Professor of Health Psychology and Director of Health Psychology Research Ltd
Royal Holloway, University of London
Egham, Surrey
TW20 0EX, UK