Letter to the Editor Regarding the Article “Geriatric Assessment of the Portuguese Population Aged 65 and Over Living in the Community: The PEN-3S study”. On Clinically Significant Depression and Validity of Cut-off Points.

Carta ao Editor Relativa ao Artigo “ Avaliação Geriátrica da População Portuguesa Com 65 ou Mais Anos a Residir na Comunidade: Estudo PEN-3S”. Depressão Clinicamente Significativa e Validade dos Pontos de Corte.

Keywords: Activities of Daily Living; Aged; Aged, 80 and over; Depression; Geriatric Assessment; Loneliness; Portugal

Observations
3
Probable ‘false negatives’?

We read with interest Madeira et al. paper on geriatric assessment,¹ which unveiled important findings about the physical and psychological health of older adults in a nationally representative sample. The authors brought together data on general health, as well as nutritional, cognitive and functional status of participants; remarkably, depression symptoms and loneliness were also evaluated. In fact, depression and loneliness have circular relationships, influencing cognition in old age, and perceived social isolation is a major health risk.² The paper elegantly endorses multi-dimensional non-disease specific models to address quality of life in aging.¹

We would like to comment on the results of the Geriatric Depression scale (GDS-15) (high-level major depression estimates assuming ‘GDS-15 caseness’ as a robust predictor). In a community survey, our group used comprehensive assessments, valid for geriatric depression.³ The prevalence was 4.4% (95% CI 2.8 - 8.1) using ICD-10 criteria. However, EURO-D (the SHARE study depression screening tool) estimates were 18.0% (95% CI 16.0 - 20.1). This broader definition (‘clinically significant depression’) means ‘depression that competent clinicians would consider needing therapeutic interventions’, including the non-pharmacological ones. Prince et al. made this point by discussing the pros and cons of narrow criteria (e.g. ICD-10), which arguably miss much of the community impact of depression. Asking ourselves what is the purpose of our measurement (i.e. a case for what?) must precede choice of method.⁴ That is why we would also like to comment on the MMSE, GDS-15 and UCLA Loneliness Scale cut-off points. Interpreting the results of rating scales by dichotomizing scores is difficult. The validity of cut-off-points is never fully established, often reflecting the characteristics of samples rather than the intrinsic properties of scales. Even with reported cut-off points, the trade-off between sensitivity and specificity is the price for replacing gold-standards, no matter how impractical these might be. Transcultural validity issues further complicate the picture. We cannot avoid this conundrum, but we acknowledge the limitations in predicting ‘caseness’ - no matter what cut-off point is chosen, among other doubts any researcher might have regarding particular scales (Table 1). We remain curious, for instance, about Madeira et al. GDS-15 score distribution, depression symptoms in cognitively impaired participants, or how

Table 1 – Cut-points for health measurement scales: conundrums and examples

<table>
<thead>
<tr>
<th>Following a cut-point suggested by international literature?</th>
<th>Are there alternatives to the cut-points used?</th>
<th>Probable ‘false negatives’?</th>
<th>Observations</th>
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<tr>
<td>- What about its exact validity? How was it determined? What would it mean to score above (or below) it?</td>
<td>- Any studies in different cultures/ settings (e.g. community versus hospital or primary care), namely the same of the present study?</td>
<td>- Following Prince et al. before trying to define a ‘case’ shouldn’t we ask ‘a case for what?’</td>
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<td>Examples*:</td>
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<td>- Geriatric Depression Scale (GDS-15) for ‘depression’: international cut-point - Pocklington et al. (2016)</td>
<td>Apóstolo et al. (2018); doi: 10.5944/rpcc.vol.23.num.2.2018.21050</td>
<td>A similar cut-point ≥ 4.5 was suggested in this Portuguese convenience sample [DSM 5 depression diagnosed by clinicians; sensitivity = 96%/specificity = 53%; AUC = 0.79 (95% CI 0.69 - 0.87)]. The AUC was ‘moderate’, and a validated geriatric psychiatry interview was not used as gold-standard.</td>
<td>Those below a score that predicts ‘major depression’ (but experiencing significant symptoms, disability and low quality of life).</td>
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<td>- UCLA Loneliness Scale for ‘loneliness’: national cut-point - Pocinho et al. (2000)</td>
<td>The cut-point corresponds to Pocinho et al. convenience sample mean score (using their 16-item and not the original 20-item version of the scale). The scale arguably displays non-normal, bimodal characteristics.⁵</td>
<td>Again, how to define a case? And what for?</td>
<td>Maybe difficult to establish definitive cut-offs.⁵</td>
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AUC: area under the curve; *as drawn from and cited by Madeira et al.
results could change with the recently revised MMSE cut-off points (Table 1). Concerning loneliness, reliance on cut-off points definitely calls for prudence and we wonder about the potential of the 3-item version for community use. Far too often, dichotomized scores are better suited as continuous data. Technically, dichotomization frequently implies loss of statistical power. In most cases the assessment of complex psychological constructs seldom fits simple, categorical models of nature, such as black and white without grey areas. Madeira et al publication is also important by lending itself to this discussion.

REFERENCES

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