

Short Version Of The Geriatric Depression Scale: Exploratory Study Of Its Validity In a Portuguese Sample

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Introduction

Depression is reported to affect between 1% to 3% community-dwelling older adults, whereas depressive symptoms are two to four times more prevalent (Mulsant et al., 1999; Rinaldi et al., 2003).

Fewer than 50% of older depressed subjects receive a correct diagnosis, and even fewer are adequately treated (OMS, 2001) mostly due to somatic and functional complaints similar to other illnesses, and to a devaluation of depression often viewed as “normal” adjustment to the changes that come in later life.

The Geriatric Depression Scale attempts to overcome such problems by discarding items regarding somatic complaints. Its first version comprises 30 items (Brink et al. 1982) but shorter versions have been developed and considered to be useful tools in research and community surveys.

This poster reports the results of the exploratory study of the short Geriatric Depression Scale (GDS, 5 items) in a sample of Portuguese community-dwelling older adults.

Methods

The presented results constitute a secondary data analysis from “Ageing and violence study” (Gil et al., 2014), which aimed at estimate the prevalence of violence against community dwelling older adults in Portugal. The analysis was conducted with two samples obtained during the project’s pilot phase (**Sample A**) and within the study (**Sample B**):

Convenience sample (Sample A, N = 71)

Target population: Individuals aged 60 and over recruited from a senior university, a day care centre and a civil parish

Data collection: Qualitative in-depth interviews and Focus Groups

Instruments: GDS-5, GDS-15 & BDI-II

Random probability population-based sample (Sample B, N = 1030)

Target population: Individuals aged 60 and over who had been living in Portugal in private households for at least 12 months

Data collection: Computer Assisted Telephone Interviews (CATI)

Instruments: GDS-5

GDS - 5 itens

1. Are you basically satisfied with your life?
2. Do you often get bored?
3. Do you feel that your situation is hopeless?
4. Do you prefer to stay at home, rather than going out and doing new things?
5. Do you feel pretty worthless the way you are now?

Internal consistency (Sample B)

Exploratory factorial analysis (Sample B)

Test-retest reliability with the GDS-15 and BDI-II and by calculating the sensitivity and specificity and the area under the ROC curve (receiver operating characteristics) that sets the most favorable cut-off point

Results

Internal consistency: Cronbach Alpha = 0.69

Exploratory factorial analysis

- Kaiser-Meyer-Olkin (KMO) = 0.74

	KMO
1. Are you basically satisfied with your life?	0.7244
2. Do you often get bored?	0.6616
3. Do you feel that your situation is hopeless?	0.7788
4. Do you prefer to stay at home, rather than going out and doing new things?	0.8090
5. Do you feel pretty worthless the way you are now?	0.8472

Table 1. Kaiser-Meyer-Olkin measure of sampling adequacy

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Exploratory factorial analysis

The exploratory factor analysis employed the tetrachoric correlations, given the binary nature of the items. Extraction of factors was developed without rotation which better suits the evaluated scale.

- Correlations varied between 0.37 and 0.80.
- The item 4 (*Do you prefer to stay at home, rather than going out and doing new things?*) seems to be the most problematic, with very low correlation values to all other items

	GDS_1	GDS_2	GDS_3	GDS_4	GDS_5
GDS_1	1.0000				
GDS_2	0.8004	1.0000			
GDS_3	0.5514	0.7351	1.0000		
GDS_4	0.3738	0.3763	0.3982	1.0000	
GDS_5	0.4590	0.5786	0.4684	0.4305	1.0000

Table 2. GDS5 tetrachoric correlations

- A solution of 3 factors was yield, with absolute values greater than 0.40
- Only 1 factor had a *eigenvalue* greater than 1 indicating the scale to be unidimensional

	Factor1	Factor2	Factor3	Uniqueness
GDS5_1	0.8878	-0.2227	0.0347	0.3186
GDS5_2	0.7966	0.0655	0.4758	0.1382
GDS5_3	0.9353	-0.3142	-0.0487	0.4085
GDS5_4	0.4282	0.7748	0.0242	0.6848
GDS5_5	0.8381	0.1285	-0.4470	0.5517

Table 3. GDS5 components, extraction without rotation (N = 1030)

- All the items, except for item four, presented a higher factorial saturation in factor 1

- Item 4 has a lower saturation (0.43) on factor 1 and a higher single variance (0.68), indicating that the item is not that relevant to the factor.

Test-retest reliability

The better suited cut value was found at ≥ 2 , which is in accordance to other studies (Iglesias et al., 2005; Rinaldi et al., 2005). Low sensitivity was found with the BDI and low specificity with self report depression diagnosis.

	GDS-5 * Self reported depression diagnose	GDS-5 * GDS15	GDS-5 * BDI-II
Sensitivity	79.0%	85.7%	70.0%
Specificity	47.4%	83.3%	85.3%
AUC	72.2 (63,8-80,5)	94.3 (81.8-99.3)	84,41 (69.9-93.4)
N	1030 (Sample B)	71 (Sample A)	

Table 4. GDS5 sensitivity and specificity with different standards

Conclusions

Short version of the GDS 5 demonstrated good potential not only for clinical purposes, but also as a screening tool. Administration speed enables its integration in surveys, without jeopardizing the participation and motivation of the participants. This is specially relevant in surveys targeting sensitive themes. The results are indicative of its reliability and validity and are similar to previous GDS5 studies (Iglesias et al., 2005; Rinaldi et al., 2003). The low specificity results observed in the Sample B for the depression diagnosis indicating false positives can be due to the use of self-reporting as standard criteria. Individuals may not be aware that they have depression or decide not to report it. Overall, this study indicates GDS5 as a promising screening tool of depressive symptoms.

References

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