Author's response to reviews

Title: Factor Analysis of the Zung Self-Rating Depression Scale in Patients with Major Depressive Disorder in Primary Care.

Authors:

Irene Romera (romera_irene@lilly.com)
Helena Delgado-Cohen (delgado-cohen_helena@lilly.com)
Luis Caballero (luiscabmar@yahoo.es)
Teresa Perez (teperez@estad.ucm.es)
Inmaculada Gilaberte (gilaberte_inmaculada@lilly.com)

Version: 2 Date: 5 September 2007

Author's response to reviews: see over
September, 2007
Dr Lolu da-Silva
Assistant Editor, BMC-series journals
Tel: +44 (0)20 7631 9921
BMC Psychiatry

Re: MS: 1521954268146121. “Factor Analysis of the Zung Self-Rating Depression Scale in Patients with Major Depressive Disorder in Primary Care”.

Dear Dr Lolu da-Silva:

Thank you for considering our manuscript for publication in BMC Psychiatry. We have revised the manuscript based on the comments from both the reviewers. A point-by-point response to the comments is given below. The new text in the revised manuscript is shown in **bold type** for clarity. We hope that the revised manuscript and our responses are satisfactory to you.

Hope to hear from you soon.

Kind regards,

Irene Romera, MD
Clinical Research Department
Lilly, SA
Avenida de la Industria, 30. Alcobendas E-28108.
Madrid, Spain
Tel.: +34.91.663.50.00. Fax: +34.91.663.52.31
E. mail: romera_irene@lilly.com
Point-by-Point Responses to Reviewers’ Comments

Reviewer: 1

General Comment: This is a very interesting and informative piece of information to the literature on depression symptomatology.

Response: The authors thank the reviewer for his thoughtful comment.

Comment #1: I think that the authors should perform confirmatory factor analysis (CFA) using these data and compared their factor structure and the other authors’ proposed factor structure (such as a three-factor structure).

Response: Instead of the CFA, the four-factor solution was validated with 25% of the sample obtaining an identical factor solution. References regarding the methodology used have been added in the revised manuscript on page #5. In addition a 3-factor solution was tested using the same statistical approach and rejected since the 3-factor structure emerged explained less of the total variance (33.3%), presented items loading in more one the factor and items with low factor weights (< 0.25). We have added this in the revised manuscript on page #8.

Comment #2: Secondly, using this large number of participants, I would be interested in whether the factor structure would differ in terms of sex and age group. The same may be the case for the severity grades of depression.

Response: The authors thank the reviewer for this comment. We have performed additional analysis in terms of sex and age group and the results are included in the revised manuscript on page #8.

Comment #3: References GADS, and the original MINI (Sheehan?)

Response: References have been added in the revised manuscript.
Reviewer 2

General comment: The aim of this multicenter study is to perform a factor analysis of the ZSDS in 1150 MDD in primary care, by using promax oblique rotation technique. On the whole, the paper is original and its aim is within the scope of the journal.

Response: The authors thank the reviewer for his thoughtful comment.

Comment #1. ZSDS is frequently used in non-psychiatric populations or in pre-post clinical trials and its psychometric validity was questioned [Schotte et al. Psychol Med 1996;26:1161-8]. On what basis was it chosen among the other self-administered scales for depression?

Response: The ZSDS was chosen mainly to evaluate the severity of depression, along with the Clinical Global Impression of Severity (CGI-S), in a cross-sectional epidemiological study, that evaluated the prevalence of somatic symptoms and physician’s attribution to their origin (Caballero et al. Psychosomatics. in press). The factor analysis presented in the current manuscript is a post-hoc analysis that corresponds to a secondary objective of the study. We have modified the text in the revised manuscript on page # 4 to reflect this.

We believe that the ZSDS is a valid, reliable instrument for assessing depression severity as shown in several validity studies (Biggs et al, 1978; Gabrys and Peters, 1985; Agrell and Dehlin, 1989, Maes M et al 1988). Other reasons for choosing this scale were: practical reasons (can be completed in 5 minutes, there are no training requirements, simple and easy to use) and wide use (has been used in a variety of other countries, cross cultural validations studies are available in many countries including Spain (Conde-López V de Esteban T. Validez predictiva de la SDS (Self-Rating Depression Scale) de Zung. Arch Neurobiol (Madr) 1975; 38:225-246).

Validity studies additionally show that the ZSDS is less sensitive to change in symptoms over time than other measures (Moran PW and Lambert MJ 1983), however our study has a cross-sectional design.

Regarding the comment by the reviewer “ZSDS is frequently used in non-psychiatric populations or in pre-post clinical trials” is worth mention that the ZSDS was developed for use in patient populations however has also been used in primary care and community setting (Rush JA et al, Handbook of Psychiatric Measures. APA 2005).

Schotte et al performed a previous factor analysis study of the ZSDS in an inpatient sample proposing a two factor solution. Our results differ from this factor solution however the population along with the statistical method used in both studies are different. We have added Schotte et al reference in the revised manuscript on page #10.

Comment #2. MINI interview was administered by GP’s and the authors do not mention a study of inter-rater reliability, neither a training of the raters. This might represent a source of significant bias.
Response: We agree with the reviewer. We have included further information in this regard in the revised manuscript on pages #4 and #5.

Comment #3. The 78% of observed patients suffered from a moderate to extreme “MDD” (episode?), while only the 31% of them were receiving an antidepressant treatment. This ratio appears to denote an undertreatment or an overestimate of major depressive disorder. The Authors should clarify this point in the discussion. Moreover, the Authors might state how many of them were referred to a psychiatrist.

Response: We agree with the reviewer. We have addressed this in the discussion section in the revised manuscript on page #10.

Comment #4. According to the factor analysis, 4 factors were obtained. Two of them explained 3.7% and 3.5% of the total variance, with the second factors accounting for the 5.8% of the total variance. As stated by the Authors in the Limitations, these appears small percentages of variance, compared with previous factor analytic studies in the literature [e.g. Chida et al. Psychiatry Clin Neurosci 2004; 58: 420-6].

Response: Despite of small variances we have considered such factors because of the following reasons: the items present high factor weights and thus load significantly in the appropriate factor; both factors are clinically meaningful; a similar somatic factor has been found in other studies as explained in the discussion section. In addition the stability of these 2 factors is maintained in the exploratory analysis on females, males and patients ≤ separately. We have added this in the revised manuscript on pages# 8 and #11.

Comment#5. Factor I (emotional) might be more appropriately labelled as “Pure depressive” or “Core Depressive”.

Response: We agree with the reviewer. We have modified the text in the revised manuscript to reflect core depressive dimension instead of emotional.

Comment#6. Factor II, labelled cognitive factor, includes “psychomotor retardation” and “fatigue”. These symptoms often belong to a somatic or depressive psychopathological dimension.

Response: Sugawara M and colleagues found a similar grouping of ZSDS items (item 11; confusion, Item 12; psychomotor retardation and Item 16; Indecisiveness) in a sample of women during pregnancy and the post-partum period labeled as “Attentional Symptoms”. In regard to fatigue we have added further clarification in the limitations section page#11.

Comment#7. Two out of three items of Factor III are “Irritability” and “Psychomotor agitation” and other Author interpreted these symptoms not as an anxiety component, but rather a “anger/hostile” dimension [e.g. Biondi et al. J Affect Disord 2005;84:133-9]. The authors might consider this point of view, in accordance of the aim of their study.
Response: We thank the reviewer for this suggestion. We agree that other authors have found an activation dimension (activation, rage/aggressiveness, impulsiveness) with an instrument able to detect such symptoms. However, the ZSDS does not include items to explore symptoms such as anger, aggressiveness, hostility, rage and impulsiveness hence we have interpreted irritability, psychomotor activation and sleep disturbances as an anxiety dimension since they are typical symptoms of anxiety disorders as stated in the discussion. Unfortunately we have not been able to include this suggestion in the discussion since all studies we refer to are all factor studies on the ZSDS and none on any other instrument.

Comment#8. The report would require a subediting by an English language expert. There are some typos in it. As far as I understand, reference 22 is wrong.

Response: Authors thank the reviewer for this suggestion. The manuscript has been edited by an English language and a CNS technical expert.