Assessment of Suicide Risk: Validation of the Nurses' Global Assessment of Suicide Risk Index for the Portuguese Population

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A B S T R A C T

Background: Mental health problems, particularly depression, are a major risk factor for suicide. Currently, there is no way to predict, with 100% accuracy, who will make a suicide attempt, but during a clinical interview, it is possible to assess the risk presented by each patient based on the investigation of risk and protective factors. The assessment of these factors helps health care professionals make decisions on the interventions to put into practice, thus contributing to reducing risk. The use of suicide risk assessment tools, properly validated for the population under consideration facilitate communication and information gathering, with clinical nurse specialists in mental health playing an important role.

Method: Because of the shortage of suicide risk assessment tools properly validated for the Portuguese population, it was our aim to translate, adapt and validate the Nurses Global Assessment of Suicide Risk (NGASR) for the Portuguese population. In this study, a questionnaire was applied to a sample of 109 patients with depressive symptoms and risk factors for suicidal behaviors.

Results: The analysis of the results showed that most sample participants had a very high risk of suicide. The study of the psychometric properties of the NGASR showed moderate internal consistency and good content and criterion validity. Content validity, obtained through a panel of experts, was consensual. The NGASR index had good criterion validity, showing strong correlation with the SIQ, BDI and DASS-21 ($R = 0.830$, $p < 0.05$). The principal components analysis showed 6 factors, and the 15 predictive variables explained 66.92% of the total variance.

Conclusion: These results are similar to those obtained in studies conducted in other countries and, therefore, the application of the NGASR is believed to be reliable for the Portuguese population.

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The recent, and for some nations current socioeconomic crisis (Santos & Cutcliffe, 2013; Leahy, Healy, & Murphy, 2014) is having a very significant impact on the mental health of populations; though neither the full extent nor precise degree of causality has yet been established. Several data-based predictions (World Health Organization, 2002 Christodoulou & Christodoulou, 2013) and the preliminary evidence (Barbosa, 2013) all indicate that the prevalence of some mental health problems, most notably depression, is likely to increase; in addition to a corresponding and possibly dramatic rise in national suicide rate (DGS, 2013c). There is a substantial body of work that posits mental health problems, particularly depression, as major risk factors for suicide (WHO, 2014; Sadovk, 2007); with this risk being approximately 20 times higher in people with depressive symptoms (Lonnqvist, 2000). As a result, if the predictions of the dramatic increase in the incidence of mental health problems (most notably depression) turn out to be accurate, one can also expect a corresponding and sizeable increase in the rates of attempted and completed suicide in countries effected by the economic crisis.

Suicidal acts are a serious public health issue, and the economic costs of suicide amount to billions of Euros (DGS, 2013b; Azevedo et al., 2012). The Portuguese Directorate General for Health (DGS) (2013a) recommends that suicide should be prevented through improved diagnostic capacity, allowing for the early detection of mental health problems and a better follow-up of people with depression. According to a number of authors, most suicides among psychiatric patients are avoidable, hence the need for prevention (Sadovk, 2007; National Institute of Mental Health {NIMH}, 2015. Within Portugal, according to the Regulation of Specific Competences of the Clinical Nurse Specialist in Mental Health Nursing (Ordem dos Enfermeiros, 2011), one of key functions of the nurse is for her/him is to assess the individual's risk level, including the risk of suicide and other self-destructive behaviors. The consensus view within both the mental health and suicidology academy per se, is that thorough clinical interviews are essential for a comprehensive assessment of suicide risk (NZGG, 2003 Santos et al, 2012). Furthermore, the use of suicide risk assessment tools which have been adequately validated for the population under examination, has been found to be useful as they can augment the clinician's judgment, facilitate communication and information gathering in the context of interviews (Joe & Bryant, 2007; NZGG, 2003). Although there are some tools in the

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literature for health care professionals to assess suicide risk, their validity and applicability for the Portuguese population is unknown. The Nurses' Global Assessment of Suicide Risk index designed by Cutcliffe, (Cutcliffe & Bassett, 1997; Cutcliffe & Barker, 2004; Cutcliffe & Santos, 2012) is able to meet that purpose; however, despite its clinical relevance, translation into different languages and psychometric validation in numerous studies, thus far no study has been conducted to adapt it to and measure its psychometric properties in the Portuguese population.

Taking into account the relevance and broad use of the NGASR in both clinical practice and research in various countries (Cutcliffe & Barker, 2004; Mitchell, Garand, Dean, Panzak, & Taylor, 2005; Kozel, 2005; Garand, Mitchell, Deitrich, Hijjawi, & Pan, 2006; Registered Nurses Association of Ontario, 2009; Chen, Ye, Ji, et al., 2011; Shin et al., 2012; Constantino, Crane, & Young, 2013; Van Veen, Van Weeghel, Koekkoek, & Braam, 2014; Kozel, Grieser, Abderhalden, & Cutcliffe, in press) this study aimed at translating, adapting and validating this index for the Portuguese population, as well as assessing its psychometric properties in patients with depressive symptoms and risk factors for suicidal behaviors. Translating the NGASR index into Portuguese will allow for a more accurate assessment of the risk of suicidal behaviors in patients with depressive symptoms, thus contributing to the provision of additional nursing interventions to those patients and, hopefully, ultimately, a decrease in the number of completed suicides.

PSYCHOMETRIC EVALUATION AND CLINICAL APPLICATION OF THE NGASR

Since its origin in the late 1990s, the NGASR has been translated into Mandarin Chinese, German, Korean and Dutch. The instrument has been subjected to a number of psychometric tests for reliability and validity, it has been adopted in various different clinical settings (e.g. emergency rooms, care of the older adult, adolescent psychiatry, acute psychiatry). Further it has been woven into assorted best practice recommendations/guidelines (in several countries) and has, according to the literature, been dependably found to be feasible, user friendly and produces high user satisfaction scores.

Psychometric Tests

Kozel et al. (in press) translated the instrument into German and tested its validity and inter-rater reliability with a multi-disciplinary group ($n = 13$) composed of physicians, psychiatrists, psychiatric/mental health nurses, and occupational therapist. Using a combination of Kappa co-efficient and AC1 statistical calculations (Gwet, 2002) Kozel et al. (in press) found that for the NGASR-Index, all items scored from 'good' to 'very good' observer agreement (AC1: 9 items very high, 7 items high; Kappa: 5 items very high, 7 items high, 3 items medium, 1 item very poor). When subjected to a more precise consideration of the AC1–inter-rater pair statistics show that six items from the NGASR moderate agreement (1. quartil <0.6: "life events" 0.58, "hospitalization" 0.54, "family history" 0.57, "hopelessness" 0.57, "voices" 0.52, "depression" 0.52). Kozel et al. concluded that the German version of the NGASR Index shows for four risk steps (Kappa = 0.71) and the sum scores (ICC = .9) high to very high observer's agreement.

For the version translated into Korean, Shin et al. (2012) tested it's reliability and validity for a sample of 106 psychiatric inpatients in open and closed facilities. This was achieved using a statistical analysis comprised of Cohen's kappa coefficient, intraclass correlation, factor analysis and Jonckheere–Terpstra Test for ordered alternatives. Shin et al. report that the reliability of the index was supported with a total intraclass correlation coefficient of .890 (range from .722 to 1.000). Shin et al., reporting on the construct validity, indicate that 15 items loaded on six factors which explained 63.4% of total variance. Shin et al., also report that the Jonckheere–Terpstra test revealed a significant trend in the order of median scores of NGASR across the three groups of Evaluation of Suicide Risk (ESR). These results supported the criterion-

related validity of the index. Shin et al., concluded that the NGASR was reliable and valid in assessing suicide risk of psychiatric inpatients.

Similarly for the version translated into Chinese, Chen et al. (2011) tested its reliability and validity with a sample of 86 hospitalized schizophrenic clients. For their study, all participants completed a self-administered Beck Hopelessness Scale (Beck & Weissman, 1974) followed by several assessments using the NGASR. According to Chen et al. (2011) the internal consistency coefficient for the NGASR (using Cronbach α) was 0.815, the average entry–total score correlation coefficient was 0.367, and criterion-related validity BHS school was between 0.83 ($p = 0.009$), test–retest reliability was 0.91 after 1 week ($p < 0.001$), internal consistency correlation coefficient between the three raters to 0.82 ($p = 0.008$). Chen et al. (2011) concluded that the NGASR has good reliability and validity in hospitalized patients with schizophrenia.

In addition for the version translated into Dutch, Van Veen et al. (2014) sought to determine the psychometric properties of the Dutch version of the NGASR and the feasibility of its use in assessing suicide risk. Drawing on a sample of 252 psychiatric patients, these authors compared the NGASR to a concurrent instrument, using a concurrent assessment performed by physicians and with a 6-month follow-up. Van Veen et al., report that factor analysis identified five factors; Cronbach's alpha was .45. Intraclass correlation was .92 (95% confidence interval [CI] = .85–.95). Association between total NGASR and SIS was substantial and significant ($B = 0.66$, standard error of mean [SE] = 0.19, $\beta = .66$, $p = .003$). NGASR total score had a significant and moderately strong association with judgment by a physician on 'suicidal thoughts' (odds ratio [OR] = 1.24, $p < 0.001$) or 'suicidal thoughts or plans' (OR = 1.35, $p = 0.001$).

Clinical Applications and Best Practice Recommendations

Writing about suicide assessment in emergency rooms, Mitchell et al. (2005) make the case that the NGASR is a useful tool for helping clinicians gauge the client's risk of suicide. In addition on a related note, Constantino et al. (2013, p183) report that,

> "the NGASR provided valuable support for nurses who are novices in such assessments"

and that

> "health professionals who use the NGASR report consistent satisfaction with the ability to identify critical suicide risk factors".

The NGASR is also touted as having application in populations of older adults (Garand et al., 2006). Following their comprehensive search and critical analysis of the literature, the Emergency Nursing Resources Development Committee produced 'Clinical Practice Guidelines for Suicide Risk Assessment'. Their conclusion regarding the NGASR was that,

> "the NGASR was a feasible, valid and reliable instrument for use in the ED setting" (Brim, Lindauer, Halpern, et al., 2012, p. 11).

Likewise, after completing their systematic review of the literature, a multi-disciplinary panel, under the auspices of the Registered Nurses Association of Ontario (2009) published their 'Assessment and care of adults at risk for suicidal ideation and behaviour'. The NGASR was one rated in the top two instruments.

TRANSLATION INTO PORTUGUESE

The NGASR was cross-culturally adapted using a method that aimed at testing its psychometric properties and equivalence for the Portuguese population. The index was translated from the English original version into Portuguese by a specialist in Mental Health and Psychiatric