



Validation of Adolescent Suicide Assessment Protocol-20 (ASAP-20) to Sri Lankan adolescents[☆]

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ABSTRACT

Purpose: Youth suicide rates are rising worldwide, including Sri Lanka, where 46.5/100,000 among 15–19yrs was reported in 1986. Identifying high risk adolescents is vital. Dearth of trained professionals, demands an instrument utilizable by non-psychiatrists. Such was not available in Sinhalese. Adolescent Suicide Assessment Protocol (ASAP-20) and its' manual was translated and validated to Sri Lankan adolescents.

Method: A validation study. Forward/back translations followed by cultural adaptation. Face validity, operational equivalence were assessed. Panel of Psychiatrists assessed semantics, conceptual, content/construct validity using external criticism. Final Sinhalese version was applied to 100 Sinhalese speaking 10–19yr olds referred to Psychiatry units of two Teaching Hospitals following a suicide attempt or with suicidal ideation (cases) excluding psychotic disorder, acute emergencies or special needs and compared with same aged adolescents on treatment for respiratory problems as controls. Discriminant ability was calculated using area under the Receiver Operating Curve (AUC). Reliability was calculated using Cronbach's alpha.

Results: Sinhalese version showed satisfactory face/contents/construct validity and operational equivalence. Median suicide risk score was 18 and mean 17.99 (SD = 7.56) for cases, median = 4 and mean = 4.86 (SD = 2.41) for controls. AUC was 0.969 (SE = 0.11), indicating a high ability to discriminate moderate/high from low suicidal risk. Cut off value, 8.5 was lower than original tool at a sensitivity of 91% and a specificity of 91%. Cronbach's alpha was 0.811 indicating high reliability and consistency.

Conclusion: Sinhalese version of ASAP-20 is a successful screening instrument to detect high suicide risk among adolescents in clinical and non clinical settings.

1. Introduction

Suicide is a leading cause of mortality among adolescents worldwide and is a major challenge for mental health services. Southeast Asia and Eastern Europe reports the highest prevalence while in USA, it is the second leading cause of mortality for teenagers between 15 and 19 years (McLoughlin et al., 2015). Female teenagers have a higher risk of suicide attempts, while males have a higher risk of completed suicides. Worldwide, over twice (2.6: 1) as many males between 15 and 19 years complete suicide, likely due to risk factors such as co-morbid conduct and alcohol abuse disorders, using more lethal methods, higher levels of aggression/inclination towards violence and externalizing behaviours, rendering them more likely to make a lethal attempt than females

(McLoughlin et al., 2015). Mean suicide rate for 15–19yr olds, between 1985 and 2002, among 90 countries was 7.4 per 100,000 population of that age group (males -10.5 and females- 4.1) (Wasserman et al., 2005). Sri Lanka reported an extraordinarily high suicide rate in 1986, among aged 15–19yrs at 46.5/100,000 which was more than six times the mean rate for the 90 countries analysed (Wasserman et al., 2005). Suicide rate of male adolescents in Sri Lanka is significantly higher compared to many countries (Hawton et al., 2012). Sri Lanka reached the highest suicide rate in the world in 1995 at 47.0 per 100,000 population (Gunnell et al., 2007). Unemployment, alcohol misuse, domestic violence and civil war were identified as contributing psychosocial factors. The overall suicide rate fell after all class I (the most toxic) pesticides were banned, which was the commonest method. In

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Asia, mental illness, interpersonal conflicts, school problems and stress with military service are identified as prominent risk factors for youth suicides. Resolution of precipitant for suicide attempt was identified as a significant protective factor against youth suicide attempts (Choo et al., 2017). Furthermore, family problems and financial hardships were implicated as risk factors for adolescent suicides in an Indian study (Patel et al., 2012). Among Sri Lankan females, 17–25yrs continues to be the age category with the highest suicide rate from 1976 to 2011, although the overall rate dropped. The rate among 17–25yr old males were higher than other age groups until 1983 and started to decline. By 2011, highest suicide rate was reported among males above 55yrs (Knipe et al., 2014). Nevertheless younger males (21–39yrs) constitute the most numerous group when the actual numbers of suicides are considered (De Silva et al., 2012a). Hence adolescents with high suicide risk need to be identified.

Adolescent Suicide Assessment Protocol-20 (ASAP-20) created by Fremouw et al. in 2004, was developed with the aim of use by non psychiatrists such as “mental health intake officers, hotline workers, school counsellors, and other gatekeepers” who interact with adolescents (Fremouw et al., 2009). By assessing suicide risk objectively with a culturally appropriate instrument in Sinhalese (native language spoken by the majority), non psychiatrists who come into contact with adolescents has the opportunity to assess suicide risk in a structured manner in the community in a background of limited availability of regional Psychiatrists in Sri Lanka. Although there are multiple suicide risk assessment tools for adolescents, few have been validated for use with different racial/ethnic groups or cultures, especially in low and middle income countries. Lewinsohn has critically analysed suicide risk assessment tools for adolescents and has concluded that the majority has not been assessed for predictive validity and that a good outcome measure should focus on risk factors which helps intervention (Goldston, 2000). ASAP-20 was selected as a suitable instrument to be validated as its’ structure is based on a well-established instrument which assesses risk of violence; the Historical, Clinical, Risk Management-20 (HCR-20) with a good predictive validity (0.7–0.76) which has taken into account both static and dynamic risk factors in terms of historical, clinical and social domains. ASAP-20 has been developed following review of literature on suicide risk of adolescents to identify both static and dynamic factors related to suicide attempts and completed suicides. It analyses both risk factors and protective factors, a type of analysis of utmost significance when assessing child/adolescent age group in terms of risks. Being interviewer rated and having a manual to guide the interviewer increases the objectivity especially in this age group where the questions may not be answered objectively in a self-reporting version. ASAP-20 presents the 20 items most discriminating of low, medium and high suicide risk organized into four domains: Historical, Clinical, Contextual and Protective. ASAP-20 and its manual were selected as suitable to be translated into Sinhalese language preserving semantic validity, culturally adapt and validate to Sri Lankan adolescents aged 10–19yrs. Face, contents, semantics, idiomatic, experiential and conceptual validity of each item, operational equivalence, criterion validity, discriminant validity and reliability of the translated instrument was measured. This tool has been used to assess level of suicide risk in adolescents in a descriptive analysis of psychosocial factors associated with non-fatal adolescent suicide attempts in India, but has not been translated or validated (Kumar et al., 2016).

2. Methods

The study was conducted in 3 phases combining a qualitative and a quantitative approach (Fig. 1) at Psychiatric units and Paediatric Respiratory Disease and Medical Respiratory Disease clinics of two Teaching Hospitals in Sri Lanka.

2.1. Phase one- forward and back translation

ASAP-20 with its’ manual (guiding questions and scoring system) was translated to Sinhalese independently by two subject experts whose native language is Sinhalese. An independent subject expert and a bilingual expert compared the originals with the translated versions and agreed upon a synthesized final version. Sinhalese version was then back translated to English independently by two experts, blind to the tool and its use. Subject and bilingual experts compared the two back translated versions and created a single optimized version which was then compared with the original instrument and manual. The translated version was optimized to best suit the local culture and linguistics through discussion (Hawton et al., 2012). Item no.14 in the subsection of context items; “access to fire arms” was not culturally relevant, since commonest method of suicide locally was overdose of medicines or ingesting poisons (Hanwella et al., 2012). In order to achieve experiential equivalence, with authorization from creators of the tool, “access to poisons/medicines” was also included with ‘access to fire arms’ in the same item number.

2.2. Phase two

Face validity of the translated version was assessed by a review committee (Consultants and medical officers in psychiatry and social workers). The format of the translated instrument, mode of administration and method of scoring were assessed with regards to applicability in a Sri Lankan context to assess operational equivalence. Agreement regarding the preservation of original meaning of items with regards to semantic, idiomatic, experiential and conceptual equivalence together with content/construct validity was further assessed using external criticism method by 6 Consultant Psychiatrists, independent of those involved in the translation. “Validation of ASAP-20 to Sri Lankan adolescent population-*Questionnaire regarding the preservation of original meaning of items of ASAP-20 to check content, semantics, and conceptual validity*” was created for this purpose (Appendix A). Responses were rated in a Likert scale of 0–9, 0 indicating total disagreement and 9 indicating total agreement. A rating of 7 or above by 70% of respondents was considered acceptable for each component rated (Fink et al., 1984; Manoranjitham et al., 2007; Arip et al., 2013). Suggestions by the 6 Consultant Psychiatrists were reviewed by the review committee and accommodated as appropriate. Translated and culturally adapted instrument was applied on a sample of adolescent psychiatric referrals for pre testing. Final adjustments were made based on the pre test.

2.3. Phase three

Minimum required sample size was 100 at a confidence level of 95% and power of 80% (Jones et al., 2003). Translated and culturally adapted ASAP-20 was applied on a sample of 50 Sinhalese speaking adolescents aged 10–19yrs, referred to psychiatry units of two tertiary care centers, following a suicidal attempt/deliberate self harm and 50 adolescents referred for the first time with suicidal ideas (test group). First time attempters were used to reduce the bias possibly caused by variation in levels of risks (Abeyasinghe et al., 2012). Controls are a sample of 100 adolescents aged 10–19yrs, who were on treatment for respiratory problems excluded of having any axis I psychiatric disorder or suicidal ideas. Those with a current or preexisting diagnosis of a psychotic disorder or with current psychotic symptoms as assessed by Structured Clinical Interview for DSM-IV axis I disorders-patient version, those in acute psychiatric emergencies, with a chronic medical illness, with special needs/mental retardation diagnosed according to ICD-10 or who do not speak Sinhalese were excluded. Data collectors were trained with a question guide strictly followed to minimize bias. Clarifications were made when requested to participants. All participants were administered the tool. The test group was

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