Suicidality scale: Suicidal ideation, intention and attempts as a risk factor in adolescents

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ABSTRACT

Objective: To develop an assessment of suicide scale based on suicidal ideation, intention and attempts for adolescents.
Study Design: Cross sectional analytical study.
Place and Duration: Department of Psychology, University of Gujrat from December 10th 2017 to 25th May 2018.
Methodology: The item pool of 78 items was generated with the help of literature review and interviews with target population. Among the 55 expert evaluated items after pilot study 52 items were retained which include the dimensions of suicide including ideation, intention and attempts. Additionally, in the final administration of this scale data was collected from 370 adolescents using self-reported questionnaire. The exploratory factor analysis, confirmatory factor analysis and reliability were used for data analysis.
Results: The final administration of 52 items was handed over to 370 participants. The model fit showed a P-value of .00 that established the structure validity and significance of the items to its subscales. At the final stage among the 52 items 25 were reliable.
Conclusion: A suicidality assessment on suicidal ideation, intention and attempts for adolescents is efficiently developed with 25 questions and three sub-scales.
Keywords: Suicidality, Suicidal ideation, Intention, Risk factor, Adolescents, Factor analysis, Suicidality scale

INTRODUCTION

The term suicide is explained as the act of killing oneself most probably resulted because of depression or any other mental disorder[1]. Further, the process of suicide is twofold including growth and progression of suicidality. Mostly alarming factor of suicide is ideation which is based on suicide thoughts or taking one's own life. Further, suicide intention is also a hazardous aspect of suicide that finished up with death which leads to suicidal attempt. Afterword these thoughts and intentions may lead towards suicide attempts[2]. Finally, the process of suicidality include ideation, intention and attempt of suicide.

Suicidal ideation reflected thoughts about suicide which leads to creates the risk to plan out successful suicide actions[3]. It was

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noted that the suicide convoy with or without the intent of death. Persons that intended to die after unsuccessful suicide attempt may adopt more harmful methods that end up with death. Further, persons without intention of death just try to threat others and hence, adopt less harmful methods for suicide. It may be summarized that suicidal intention is the conscious self-killing aim[4]. Moreover, a suicide attempt is an effort of a person to commit suicide yet survives. The attempts made to self-harm may be with or without the intention of death[5].

The prevalence of suicide was alarming throughout world as about 800,000 suicides reported. Further, it was more dreadful as globally 78% suicidal deaths witnessed in low- and middle-income countries[6]. The all forms of suicide have an alarming indication for the life security of individuals. This is basically a life threatening behavior which ultimately leads to harmful consequences. It is of prime importance to have screening scales that can measure the suicidality in population. There were many scales available for the assessment of various domains of suicide. Some of the world widely used scales of suicidality included the Beck Scale for Suicide Ideation,[7] Columbia-Suicide Severity Rating Scale,[8] Inter RAI Mental Health Severity of Self-Harm Scale,[9] Reasons for Living Inventory,[10] Modified Scale for Suicide Ideation,[11] Suicidal Behaviors Questionnaire[12] and Suicide Intent Scale[13]. Moreover, Canada had also put forth a great contribution in developing scales of suicide such as Geriatric Scale for Suicide Intent,[14] Nurses Global Assessment of Suicide Risk,[15] Scale for

Impact of Suicidality – Management, Assessment and Planning of Care,[16] Suicide Probability Scale[17] and Tool for the Assessment of Suicide Risk[18]. All of these scales were developed and validated on the western population where the living styles and brought up of population was entirely different from the eastern culture. The review of Pakistan literature confirmed that only one English scale was adapted into Urdu that was, Beck Scale for Suicide Ideation[19]. There is a great requirement for developing a measure that could be used to assess the thoughts and manifestation of suicide among the adolescents in Pakistan as the World Health Organization (WHO) confirmed that suicide rate in Pakistan is 7.5 per 100, 000 with 54% in females 46% in males[20]. Further, the most self-induced burn suicide injury was prevalent in young population in Pakistan[21]. These deliberate self-harm or suicidal ideation was encountered because of mental problems, low socio-economic status, being alone,[22] unhealthy behaviors[23] and social bonding with criminal[24] in Pakistan. Moreover, these statistics and factors indicated that suicide is a major problem in Pakistan. There is a profound need to develop a scale of suicide that best suits the culture and thinking pattern of Pakistani adolescent population so it can measured suicidality accurately and prevention and treatment can be done. In the context the current research would be a great contribution in the field of psychological assessment as it would develop a suicidality assessment on suicidal ideation, intention and attempts for adolescents. The current study conducted with an objective to develop an assessment of suicide scale based on suicidal ideation, intention and attempts for adolescents.

METHODOLOGY

This cross sectional analytical study was conducted in the Department of Psychology, University of Gujrat from December 10th 2017 to 25th May 2018. The data was collected from ILM college, Superior college, Leads college, vocational college and Shukat Model School of Gujrat city. The adolescents both male and females with age range 12-19 were included in the study using simple random sampling technique. Population age below 12 and above 19 years was excluded from the study.

The item pool of 78 questions was constructed by the researchers with a thorough review of literature. The experts extensively reviewed 78 items and hence, deleted 23 items. The pilot study was conducted with these 55 retained items. After analysis 52 items were considered as reliable for final administration. The 52 items measure the three sub-scales of Suicidal Ideation (SId), Suicidal Intention (SIn) and Suicidal Attempt (SA).

The ethical committee of the university given the permission for data collection. The participants (pilot study= 77 & field administration= 370) were taken from different school and colleges from Gujrat by the researchers using convenient sampling technique after institutional permission. Further, informed consent was taken from the participants and purpose of the study was explained to them. The data was collected with self-reported questionnaire. The respondents attempted

to read the questions carefully and opt the suitable response choice that reflects their mental condition. The respondent's responses were recorded on questionnaire. The respondent's identity was kept confidential.

Data Analysis: The exploratory factor analysis, confirmatory factor analysis, and reliability analysis were done using Statistical Package for Social Sciences (SPSS-21) and Analysis of a Moment Structures (AMOS-21) for windows.

RESULTS

After pilot study the reliable 52 items were further administrated on 370 adolescents. From 52 questions 29 were retained after exploratory factor analysis while deleting the insignificant questions.

Table-I: Factor loading of scale of suicide for adolescents (N=52)

Questions	Suicidal Ideation	Questions	Suicidal Intention	Questions	Suicidal Attempt
4	.525	6	.537	8	.564
11	.664	7	.635	27	.575
12	.524	10	.624	28	.685
15	.618	34	.755	29	.510
18	.653	37	.523	38	.665
20	.542	42	.525	39	.542
21	.543	55	.533		
23	.510				
24	.506				
33	.598				
35	.586				
41	.683				
51	.577				
52	.580				
53	.565				
54	.547				

The item numbers 4, 11, 12, 15, 18, 20, 21, 23, 24, 33, 35, 41 & 51-54 were considered as reliable for the sub-scale of Suicidal Ideation (SId). Further, the item numbers 6, 7, 10, 34, 37, 42 and 55 was reliable for Suicidal Intention (SIn). Finally, the item number 8, 27-29, 38 & 39 were reliable for Suicidal Attempt (SA).

Table-II: Model Fit Summary of 25 Items among (N=52)

Model Fit Summary					
P-Value	Chi Square	Goodness of Fit Index	Comparative Fit Index	Root Mean Square Error of Approximation	Root Mean Square Residual
.000	733.65	.914	.910	.052	.043

After Confirmatory Factor Analysis (CFA) among the 29 items four looked problematic hence, they were deleted with remaining 25 reliable items for the scale. The value of Comparative Fit Index (CFI) was .910 that was in the acceptable range with the p-value of .00 that is less than .05. The results confirmed the model fit of the scale of suicide and its sub-scales.

Table-III: Reliabilities of the Subscales (N=25)

Subscales	Total Items	Percentage	Cronbach Alpha r
Suicidal Ideation	15	60.00	.895
Suicidal Intention	05	20.00	.708
Suicidal Attempt	05	20.00	.709
Total	25	100	

Note: ** P<.01

The reliability of the full scale was .945 whereas the reliability of the subscales was .895, .708 and .709. The suitable limit of reliability is considered as .70 and above and in the current study the reliability values were according to the mentioned limit.

DISCUSSION

The measurement of psychological constructs based on culturally biased instruments might lead to the problems in the results and interpretation. Mostly, the assessment tools of suicide were developed in western culture therefore chances of bias exist. There was a great problem in the availability of culturally and socially competent standardized tools for assessment[25]. Further, the tool established for one population might not be valid and reliable for other population[26]. Hence, the tools with specification of culture were better for the assessment of that particular population[27]. To overcome these limitations and gaps the current research on the development of suicidality assessment scale on suicidal ideation, suicidal intention and suicidal attempts for adolescents will be a building block.

The initial item pool of 78 after expert evaluation was reduced to 55. After pilot study 52 items were used in final administration. Moreover, the exploratory factor analysis reduced the items to 29. The 4 problem creating questions which were detected with the help of confirmatory factor analysis were removed. At the end, 25 items were considered as reliable for further use.

Moreover, this scale included three domains that can be used for the measurement of three sub-scales of Suicidal Ideation, Suicidal Intention, and Suicidal Attempt. The sub-scale of ideation related to suicide consisted of 15 questions and literature established the fact that appropriate numbers of items have to be at least 4 to 5 for measuring a construct. Further, its reliability value was .895. In case of sub-scale of intention of suicide, the items were 5 with the reliability value of .708. Finally, the subscale of attempts of suicide consisted of 5 items; therefore, the number of items to a construct was appropriate as discussed in the literature[28]. The reliability of Suicidal Attempts sub-scale was .709. However, if foresee the reliability values, previous inquiry supported the findings of current study that argued that the reliability value of .70 or greater is considered as statistically suitable[29].

Furthermore, here the comparison of the reliability and CFI values of the suicidality assessment on suicidal ideation, intention and attempts for adolescents with the scales of job demands and resources[30] developed in Pakistan and Child Uncertainty in Illness Scale[31] was done. The developed scales

was considered as best fitted if the value of CFI was greater than .90 to .95 with p-value less than .05.[32] Further, as mentioned earlier, reliability values of .70 or greater is considered as statistically significant. The CFI values of suicidality assessment on suicidal ideation, intention and attempts for adolescents were .91 with the reliability of .945. Whereas the value of CFI of scales of job demands and resources was .92 with p-value less than .05, and reliability was in range of .70 to .92 and the Child Uncertainty in Illness Scale indicated the CFI of .97 and reliability of its subscale was in between .76 to .85. According to the statistically acceptable limits the values of newly developed scale of suicide were in significant ranges.

CONCLUSION

A suicidality assessment on suicidal ideation, intention and attempts for adolescents is efficiently developed with 25 questions and three sub-scales.

CONTRIBUTION OF AUTHORS

Zaqia B: Conceived idea, Designed research methodology, Literature review, Statistical analysis, Manuscript final reading and approval
Hajra A: Data collection, Literature review, Manuscript writing
Iram N: Data interpretation, Statistical analysis, Manuscript writing

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