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Translation, Adaptation, and Validation of Scale (GDS)- Short form

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Depression is a most common disorder that is associated with old age. In Pakistan depression is also the well-known psychiatric issue among the elderly. Previously it was revealed that the predominance of depression among older people in Pakistan is high (66%) as compared to the United States (40%). In Pakistan, no reliable and valid scale in Urdu was available to diagnose depression. So, Geriatric Depression Scale (GDS) short form was translated, adapted and validated in older individuals in Pakistan. The short form Geriatric Depression Scale is often used in the western context. However, there is a need to translate the GDS into Urdu. Since it is the national language of Pakistan and it would facilitate the understanding among the elderly, who are the focus of study. The method of back-to-back translation was used for translating the short form of geriatric depression scale into Urdu and verified by 50 respondents of ages 50-70 to establish the appropriate use of language. The Cronbach's alpha reliability coefficient for the translated GDS was 0.75. From the results it can be observed that the translated GDS is able to increase awareness among the common people generally and older individuals.

Keywords: Validation, Geriatric depression, older people, Pakistan

INTRODUCTION

Depression is a serious condition for individuals of any age but is common in older people. Older individual's depression is more connected with other co-morbid conditions, for example, physical inability (Baldwin, 2008) dementia and nervousness (Bryant, Jackson, and Ames, 2008) that increases the disturbances experienced by older individuals in their later life. Depressive issue in older individuals is a noteworthy general health issue. It is extremely common, however, frequently goes undetected in initial consideration, general medical units and in nursing homes. Upon recognition, it is not generally cured satisfactorily. The Prognosis of depression is very poor. There is an increase in death rates of older people having depression in old age. It not only causes inability at a psychological level but is a main reason for many physical issues. It decreases personal satisfaction.

Depression among the elderly is a crucial impact on well-being of the several developing nations and developed countries. According to DALYs (Disability Adjusted Life Years) it may take second place with 2020 and one of the major reasons of mental disorder by 2030 (World Federation for Mental Health, 2012). Likewise, it is intriguing that depression has four times higher mortality rate among the older people above 55 years than those without depression (WHO Report, 2001).

Depression mirrors a scope of organic and social components and it might be hard to analyze in elderly individuals as its presentation may contrast from that of younger individuals. Elderly individuals report less about depressive manifestations and do not recognize as miserable, down or depressed due to these reasons which are discussed below. The reason for this is age, disgrace and absence of comprehension for the confusion. Another reason in not discussing depression is the confession that they are unable in adapting to the situation. Regularly, basic depressive side effects, (for example, lost enthusiasm forever, absence of satisfaction in typical exercises, anxiety, poor rest, industrious considerations of death, constant unexplained torment, poor focus or disabled memory) are inaccurately ascribed to maturity, dementia or weakness. Too every family, companions and doctors perceive these side effects in that manner too. That's why the outcome that depression have in elders may go unnoticed and natural for quite a while. So, it is hard to diagnose due to the unawareness of the severity of the problem.

Non-melancholic depression is the most widely famous kind of depression in people of old age that is connected to many psychological ailments, personality traits and events of stressful life. Notwithstanding, the background marked by depression in earlier life is the factor of inheritance that may add to the course of the depressive disorders. Depression that creates in later life for the first time after age 60 relates to physical well-being issues that goes with aging. An elderly individual in good physical well-being with no history of previous episode has a comparatively low risk of emerging depression at a later age. Numerous individuals fell away from the social connections and have loneliness in later ages. Loss of family relationship, staying separated from children, away from their origin, or powerlessness (regularly through absence of transport) to effectively take an interest in the social groups develops depression in their old life. This situation paves the way with other prevailed common issues such as physical incapacitation, demoralization and depression.

As indicated by the United Nations (1995) the increase in old population in some Asian nations by 2025 is approximately four hundred percent. Such demographic patterns are foreseen for many South East Asian nations and will bring about the development of incapacity, new infectious disorders, changing societal mentalities and old peoples' communication ways. There

is a lack of researches on the elderly populace in Pakistan. Only standard information is present (Jalal and Younis, 2014). Quite a while prior, Hobbs and Damon (1996) contended that there is proof to propose a generous rise in the more established populace throughout the following two decades in the United States of America.

In Pakistan, depression is also the most well-known psychiatric issue among the elderly populace (Bhamani, Karim& Khan, 2013). The issue is much more noteworthy as compared to the extent it is identified. In developed and developing nations, many studies have been conducted to see the pervasiveness of depression among older people. In Pakistan the rate of the predominance of depression is high which is 66% among elderly as compared to the United States where the prevalence of depression is 40% (Javed& Mustafa, 2013). In Pakistan there has been no study on old people's depression (Bhamani, Karim and Khan, 2013). Notwithstanding, 34% were the mean pervasiveness of anxiety and depression in the normal population and not in older people (Mirza& Jenkins, 2004). In a study of Ganatra, Zafar, Qidwai, and Rozi (2008), it is recognized 22.9% of commonness of depression among elderly in Karachi, Pakistan.

Pakistan government plans (1999) a National Policy for the advancement in developing improved well-being of the old people. This project consolidated training of essential consideration of specialists in geriatrics, accessibility of dental facilities, multiple system of human services suppliers for old people plus General practitioners and employees of social work departments. "Green Slips" were additionally made for helping elders (Health Systems Profile—Pakistan Regional Health Systems Observatory—EMRO). Tragically, the usage of the above approach is not yet being anticipated. Few nursing homes works in huge urban communities of the big cities (Health Systems Profile—Pakistan Regional Health Systems Observatory—EMRO, 2007).

The adjustment of old people in managing social relationships and in sharing in social exercises is fundamental for fruitful later life. It is suggested that older people ought to remain socially dynamic in their later years (Bergstrom et al. 2000). This is a noteworthy admonition that requires a keen consideration of the general public, especially as one study distinguishes neglect rather than brutality, is type of misuse in Pakistan towards old people (Violence against the elderly 2011).

In Pakistan, geriatrics are not perceived as a different entity, particularly when the elderly is being dealt with the general experts or different doctors. Care received is sometimes fragmented and there are not satisfactory inpatient restoration communities for patients with strokes, cracks and so on. Outpatient physical therapy services are, however, broadly accessible yet utilizing is problematic (Sabzwari and Azhar 2010). Old people are more clients of health assets. As indicated by Sabzwari and Azhar (2010) one in five patients at the healing center in Karachi is old. It is evaluated that no less than 6–7 % of the elderly are using senior facilities at the Aga Khan University Hospital, Karachi are separated from their families (Sabzwari and Azhar 2010). This example in Pakistan's largest city is credited to kids that are leaving the extended family framework or moving to different places for more business prospects.

Based on previous researches, it was found that no substantial and scientific questionnaire in Urdu is accessible to diagnose depression among elderly in Pakistan. The elderly often requires long term regulated administrations and emotional wellness which are lacking. The ratio of Non-Governmental Organizations (NGOs) who are serving for elderly gathering in Pakistan is very few. Human services framework in Pakistan needs geriatric facilities and they are dealt with by general or family doctors (Ganatra, Zafar, Qidwai, Rozi, 2008). Health care experts must be trained to manage extraordinary problems with older people (Qidwai and Ashwaq, 2011). This developing problem is under-diagnosed and turning into a general well-being risk.

Therefore, there is a need to translate and validate the scale which is helpful in diagnosing depression among elderly. Although numerous techniques are utilized to study depression yet. In order to collect a large no of data, quantitative measures are convenient to use, and it spares time (Cohen and Swerdlik, 2005). Like most creating nations comprehensively, Pakistan has a fragile provisioning of benefits. Individuals principally depend on their kids to accommodate them after their retirement. The age of retirement in Pakistan for men and women are 60 and 55 years. In a study in Pakistan in 2007 it was reported that the total percentages of male and females that are elderly is 5.7 % male 7.04 % female above the age of 55 years. Thus, 12.74 % of the nation's populace were retired. Some private segment representatives have their pensions. A big part of the populace has no benefits provisioning—subject to the joint family emotionally supportive network. The researcher contends this is a prospect for independently employed to assemble their own financial reserves for the future. Open door for the corporate division to supplement or supplant provident assets with commitments to VPS for their workers and advantage from inflows into the business sector. Open door for NRPs to assemble pension stores in Pakistan. Open door for people to fabricate professionally oversaw portfolios, with the ideal resource assignment. This will convey market solidness to Pakistan (Barr, 2006).

In nations, for example, Pakistan, the difficulties of accommodating individuals' prosperity open doors for human services, and also access to quality social insurance—can be exacerbated by a quickly developing populace so there is a critical need such plans that will help individuals in their later ages. Present study can encourage in comprehending the basic reason for having depression as facilities providing for older individuals. The evidences founded in this study would assist the policy makers with adopting the compelling techniques for the inclusion of older people in social gatherings and deal with the problems in later life. So, if we know the root cause of depression in old age, we can provide them with counseling that will decrease the risk of deaths in old age. The present study aims at translating and validating a tool for older people of Pakistan. The back to back translation method in Urdu was used to develop psychometric properties of the scale.

RESEARCH METHOD

The present study objectives were accomplished by dividing methodology in two parts. The translation and adaptation of Geriatric Depression Scale (GDS) was consisted of part 1. The validation of Geriatric Depression Scale (GDS) in Urdu was done in this present research in part 2.

Part I: Translation and Adaptation of Geriatric Depression Scale

The Geriatric Depression Scale was developed to give a simple, easy to use approach to screening for depression in older adults. Sheikh & Yesavage (1988) developed the Geriatric Depression scale short form. The GDS Long Form has 30-item and it is a brief questionnaire in which respondents answer all questions with yes or no to their feelings over the past week. In this study a Short Form GDS will be used which has 15 questions and was developed in 1988. Because, as the sample of the present study consisted of old people, so it is easy for them to answer the short form of the scale. Out of the 15 items, positive answer to 10 items shows the presence of depression, while negative answer to the remaining question numbers 1, 5, 7, 11, 13 shows depression. Scores for normal condition is 0-4, on the bases of education, age, and complaints; 5-8 score for mild depression; 9-11 score for moderate depression; and 12-15 score for severe depression.

The Short Form is a quick measurement for physically impaired and mild to moderate demented patients as they have lack of long duration consistency or feel effortlessly exhausted. The time required to complete this form is approximately 5 to 7 minutes. According to the GDS measurement against diagnostic criteria, sensitivity found 92%, whereas specificity was measured 89%. The reliability and validity of the instrument have been upheld through both examination and clinical practice. In a study contrasting the Short and Long Forms of the GDS for self-rating of indications of depression, both were successful in separating depressed from non-depressed adults with a high correlation ($r = .84$, $p < .001$) (Sheikh & Yesavage, 1988).

Stage 1: Adaptation of GDS

English GDS was socially assessed with the goal that it might be utilized for Pakistani populace. At the initial stage of GDS was assessed in social setting from the 5 specialists (three experts with degree of Doctor of Philosophy and two Masters of Philosophy degree holders in social sciences).

In the second stage, the scale was advanced to a group of people consisted of Professors of Psychology and the researcher herself. Members of the committee review the changes of every construct critically and suggested the one which gives the best explanation of the items. The scale was controlled on a specimen of 30 individuals to assess the comprehension of the things in the third stage. Their training was from bachelor's to Master of Philosophy. 50-70 years was the age range with the mean and standard deviation ($M = 21.66$; $SD = 1.63$). Be that as it may, no inquiry was brought up by the members.

Stage 2: Translation of GDS

Brislin (1976) and Hambleton (1994) standard methodology of translation and back translation was utilized to complete the translation of GDS (Five bilingual specialists were approached for translation into Urdu. Among them; two translators were having master's degree in English from Islamia University, Bahawalpur, one translator was M. Phil in Psychology from Bahaudin Zakariya University and one with M.S. Clinical Psychology from the Islamia University of Bahawalpur, Pakistan were approached.

The expert members of committee examined these translated constructs precisely and chose the most exact ones which passed on the best interpretation. Every construct was re-assessed by the members of the committee and it was amended. It was hard to translate specific items definitively into the target language in this way, an exact interpretation with clarification in the bracket was given to pass on the sense. This would improve the phonetic proportionality between the original construct and their concerned interpretations.

A questionnaire was made an interpretation of back into English by the autonomous fluent specialists incorporating four experts of Psychology from the Islamia University Bahawalpur, one was a master of English, and one was a master's in economics. The original English constructs of GDS were not presented to bilingual specialists. Members of the same committee examined the translation of every construct analytically and tested the worthiness of the transformed construct. In the back-translation construct were fundamentally examined and were settled.

Stage 3: Pretesting

In this stage after translation pretesting was carried out.

Sample

Thirty participants, both male and female were selected from different areas of Punjab in pretesting. 50 to 70 years were age ranges with the mean and standard deviation of the following ($M = 34.7$, $SD = 7.50$). Female and males below the age of 50 and above the age of 70 were not included in the sample. At the minimum the research members ought to be able to read Urdu easily. Male and female, both were involved. For sampling, the simple random sampling technique was used. The sampling division of sample with other demographic variables was 15 males and 15 females, the group of males was further divided into 07 males doing business and the rest was job holders. The same procedure was repeated by the group of females.

Procedure

Initially, Participants were approached, and their written consent was pursued. Formally, overseeing the investigation, scientist clarified the destinations and nature of the study and guaranteed the members that outcomes should be preserved entirely secret and should be utilized just for examination reason. Screening of the participant was also done before administering the questionnaire by using a mini mental status examination to check the mental status of the participant. Cognitive functioning of five areas that are location, registration, attention and calculation, recall, and language were checked by using Mini mental status examination questionnaire. At that point, scale was given to the research participants and researcher instructed them to give an answer to every question do not leave any question unmarked. There was no time limit. If they encountered any difficulty in the questionnaire must mentioned by them,

Result

No query was raised by the participants while giving answers to the questionnaire, but lack of enthusiasm in answering due to the age of the respondents. For 15 items Cronbach's Alpha Reliability for GDS Urdu version (GDS-U) was 0.75. For 15 items Guttmann split half coefficient was 0.76. This demonstrated scale has high internal reliability for the utilization in the present research.

Part II: Validation of GDS-U

A sample of 20 male and female was taken for the cross-language validation of GDS-U (Cohen & Swerdlik, 2005). Exploratory Factor Analysis (EFA) was conducted to establish construct validity.

Cross-Language Validation

For the Cross-language validation and to evaluate the quality and empirical value of the GDS-U and original GDS English form was done on males and females with sample and mean and standard deviation respectively (N = 20) (M = 21.95; SD = 1.28). The convenience sampling technique was used to select the respondents and they all have master's degrees. They were also competent in both languages, i.e. English and Urdu. Previous approaches propose that it is hard to gather a large sample for issues in which old people are involved. So, the researcher built up cross-dialect validity of college students on convenience. Another goal was to verify the similarity of translated constructs. The participants were divided into two equal groups randomly having 10 members in each. The group one was given an English version of GDS on the first day and GDS-up on the 12 days. The second group was given GDS-U on the first day and the English version of the 12 days (Anastasi, 1976). Pearson Product Correlation Method was used to measure the Correlation of English and Urdu version of GDS the correlation of 1st group was (r =0.75, $p < 0.05$) and 2nd group was (r =0.90 $p < 0.01$). The total correlation coefficient was0.90 (p <0.01). Cross-language validity of GDS-U for both original and translated was indicated. So, this scale is a valid tool for measuring Depression among elderly.

Construct Validity The following method was followed to establish construct validity.

Sample one hundred and twenty male female of ages 50-70 from different districts of Punjab, Pakistan were taken. The level of education of respondents were minimum primary. At least the respondents know to read their native language. Purposive sampling technique was used to collect the data. All the respondents are aged and between the ages of 50 to 70. Division of sample was based on their demographic features were described in a table given below.

Table 1: Distribution of Sample based on Demographics (N = 120)

Characteristics	Frequency (%)
Gender	
Male	60(50)
Female	60(50)
Age	
50-54 years	30(25)
55-59 years	42(35)
60-64 years	24(20)
65-69years	18(15)
70-74years	6(5)
Education	
Primary 1-5	25(20.83)
Middle 6-8	25(20.83)
Matric 9-10	20(16.67)
Intermediate 11-12	25(20.83)
Degree 13-14	10(8.33)
Masters 15-16	10 (8.33)
M.Phil/ PhD 17andabove	5 (4.18)
Marital Status	
Married	30(25)
Unmarried	30(25)
Divorced	30(25)
Widow/Widower	30(25)

Geriatric Depression Scale-Urdu (GDS-U)

It was formerly established by Sheikh & Yesavage (1988) to measure depression among elderly in general and translated in the present study, depression is a normal part of aging. Out of the 15 items, positive answer to 10 items shows the presence of depression, while negative answer to the remaining question numbers 1, 5, 7, 11, 13 shows depression. Scoring of normal condition is 0-4, depends on education, age, and complaints; 5-8 score for mild depression; 9-11 score for moderate depression; and 12-15 score for severe depression. The GDS-U scale (N = 50) was obtained Alpha reliability of.75 in the present study (for GDS-U).

Procedure

The respondents were contacted and on paper permission to take part in the research was pursued. Formerly starting the procedure, the investigator described the aims and purpose of the research and guaranteed the contributors that findings must be retained firmly personal and used only for study perseverance. Firstly, Mini mental state examination was done to check the mental condition of participants as they were old. Then questionnaires were given to the participants of the research and researcher instructed them to provide answers for each and every item and they must not skip any single item of the question. They were asked to give their personal opinion regarding depression in old age. The participants were also requested to inform the researcher about their opinions if they have any trouble in responding the questions. No question raised in the development of scale administration initially sample of 50 was targeted.

Results

EFA was carried out to determine the factor structure of the GDS-U. Correspondently, building up the validity item-total correlation was processed.

Exploratory Factor Analysis. EFA was carried out as initially there was no evidence of GDS subjected to factor analysis. The sample (N = 120) was four times greater than total number of items (Field, 2005); therefore, factor analysis on GDS-U was decided to carry out to establish construct validity of the scale. To see the reliability of GDS-U Cronbach's alpha coefficient was computed. As a sample (N = 50) was utilized for the pilot study reason, hence, to set up of construct validity the scale reliability and validity was taken. To check the reasonableness of the information Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (.533) and Bartlett test of Sphericity ($\chi 2 = 4005.521$; df = 105; p < .000) were ascertained. It demonstrates constructs are positively correlated with one another. Hence conditions were met to carry out EFA. Validity is precluded if it is greater than 0.5 when KMO measure of sampling adequacy measure varies

between 0-1 and values closer to 1 are better. Another technique to measure the power of the variable relationships is Bartlett's test of Sphericity (Field, 2005). It is employed to examine the variables in the population correlation matrix are not correlated. It is to precede a factor analysis for the data. This is a minimum standard which should be attained prior a factor analysis would be conducted.

The Eigen values for each factor suggested 4 factor solution is graphically displays in a scree plot (Figure 1). Therefore, EFA was repeated for 4 factor solution.

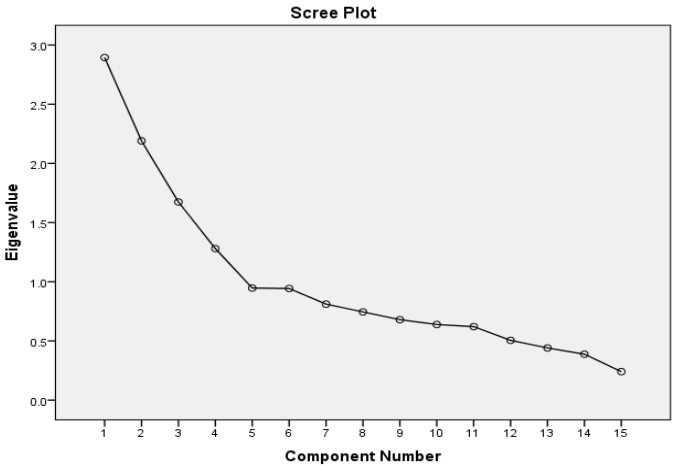

***Figure 1*:** Scree Plot for Factor Matrix of GDS (*N* = 120)

An investigation of the Figure 1, representing Scree plot, gave a clear solution. The line seems to begin to level off after the fourth component. It appears that the first, second, third and the fourth component should be retained and interpreted. Hence, the Scree plot in Figure 1 suggested that Factor 1, Factor 2, Factor3 and Factor 4 as a main factor. Items correlations showed that items were correlated significantly with each other.

Another way of determining the number of factors to retain is parallel analysis. Parallel analysis is done by using Monte Carlo PCA for parallel analysis. Monte Carlo parallel analysis gave random Eigen values that is compared with Eigen values provided in the total variance explained. If the Eigen values obtained by SPSS is greater than random Eigen values then retain this factor, if less reject it. The results of parallel analysis are described in the Table 2. The results of parallel analysis support the decision from scree plot to retain only four factors for further investigation.

Table 2: Comparison of Eigen values from PCA and Parallel analysis

Component number	Actual Eigen values from PCA	Criterion value from parallel Analysis	Decision
1	2.895	1.5971	Accept
2	2.190	1.4528	Accept
3	1.674	1.3573	Accept
4	1.281	1.2641	Accept

After checking the reliability and validity of the scale it was confirmed that the scale is appropriate. Now, the scale is ready to use with the desired population.

Discussion

The fundamental goal of the study is to build up a checklist to measure geriatric depression among elderly. In this manner, GDS was adjusted and translated in a social setting, with the goal that it could be utilized for Pakistani populace. After adaptation back to back translation was carried out (Brislin, 1978; Hambleton, 1994). According to Kaplan and Saccuzzo (1982), if the Cronbach alpha coefficient is good, then, the instrument reliability is confirmed. As for the GDS-U, the Cronbach alpha coefficient is 0.75. Cross-language validation (Anastasi and Urbina, 1988) showed that there is significant correlation between English and Urdu versions with each other that represents the compatibility in both versions across a period of 12 days that also represent test-retest reliability of GDS-U (Cohen and Swerdlik, 2007).

An individual endeavor all through his or her life for a good old life, money related security, well-being, relations and freedom, but then these things stay subtle to numerous on this planet. The feelings of sadness that go with routine life are typically fitting and fleeting and can even present an open door for self-improvement. In any case, when depression continues and weakens day by day life, it might be an indication of a depressive disorder. The principle reason for the present study is to have such methods in which elderly feel upbeat in their later ages. Geriatric depression scale Urdu version is a good device to check the signs of depression among elderly. Such sort of technique is not available to check the ratio of depression in older individuals. Each study is another progression toward comprehension and the arrangement of the problem and one next to the other there are constantly couple of restrictions on which further research can be based upon. In data accumulation at first 50 members were focused on because it is a preliminary research and based on the process of translation adaptation and validation, so it has its own limitations.

By and large, reservation and discrete states of mind was apparent because of the shame connected with the discourse of the mental disorders. In this way, socially attractive reaction may have constrained the evaluation of genuine reaction. Since having any kind of mental disorder is highly stigmatized in our culture. Subsequently scale is translated for much wider purpose despite of the sort of populace, in this manner, to build up the external validity further validation should be considering on much bigger data.

CONCLUSION

Henceforth, this research was done to translate and set up measures of GDS-U. The findings of the research assisted in giving complete information about old individual's state of mind towards depression in old age. Even though depression is the most prevalent Psychological turmoil in the old, it is frequently not diagnosed properly, perhaps because of the paradox that depression is one of the factors of aging instead of a treatable condition. This testing marvels needs quick consideration from the investigators, strategy planners and the government for its administration to upgrade the personal satisfaction of the elderly. The translation, adaptation and validation of GDS will help to better understand depression in old age.

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