DEVELOPMENT AND VALIDATION OF HEALTHY EXPERIENCE OF AGEING TOOL FOR PAKISTANI OLDER ADULTS

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ABSTRACT

OBJECTIVE

To develop an indigenous tool to measure the healthy experience of aging in Pakistani older adults

PLACE AND DURATION OF THE STUDY

The study was conducted in four cities of Punjab province; Lahore, Mandi Baha Uddin, Khaniwal, and Islamabad during September 2016 to April 2017.

SUBJECTS AND METHOD

Four hundred male and female participants having age range of 60 years and above were included. Participants of the study completed newly developed tool that consisted of 30 items. Data collected from four cities of Punjab province; Lahore, Mandi Baha Uddin, Khaniwal, and Islamabad were used for the purpose of factorial validity of tool.

RESULTS

Four factors were revealed i.e., Physical health, Psychological health, Social engagement and Ego Integrity. Reliability analysis of all sub-variables revealed an overall satisfactory Cronbach alpha (0.84). Convergent validity was estimated by correlating the HEAT scores with there on Perceived Well-Being Scale-Revised by Reker, G T (1995), $r=.744^{**}$, $p<0.001$. Discriminant validity was assessed by correlating the scores on Perceived Stress Scale by Cohen et al. (1988) with HEAT (N = 100). An inverse relationship was found between both measures $r = -.354^*$, $p<0.05$.

CONCLUSION

This tool is reliable for assessing the healthy experience of aging in Pakistani cultural context.

KEY WORDS

Health, Physical health, Psychological health, Social Engagement, Ego Integrity

INTRODUCTION

Ageing is an inherently significant life experience, which is generally considered as a process of wisdom and intelligence in Pakistani society. Ageing is increasingly visible in all around the world. In developing countries, the number of young people is on the decrease where the number of the elderly is on the increase. An estimated percentage suggests that there will be almost 43 million people (it would be 15.8 percent of Pakistan's total population) over the age of 60 in this country by 2050, as compared with 11.6 million of older people (6.5 % of the total population) at present[1].

Pakistan demographic profile (2015) suggests age structure of Pakistani older adults as 55-64 years are 5.1% (male 5,008,681 and female 5,041,434) while 65 years and over are 4.3% (male 3,951,190 and female 4,490,045). Dependency ratio of older people is 7.1% and potential support ratio 14.2 in Pakistan[2].

Health Canada defines healthy aging as "a lifelong process of optimizing opportunities for improving and preserving health and physical, social and mental wellness, independence, quality of life and enhancing successful life-course transitions"[3]. Healthy aging includes all aspects such as religious, physical, social, psychological, spirituality and well-being for old adults. This may indicate progressively more positive perception on older people's health and their well-being status. However healthy aging plays an important role in old age[4].

Good aging depends upon how the older adults analyze their aging process and how they experience their aging. Research findings have revealed that older adults with positive age attitudes tend to demonstrate a lower cardiovascular reaction to stress. These older adults tend to be connected in healthier activities in life[5]. Another research finding shows that older adults show more positivity in life events and accept positive aspects of life because they have spent a long life in which many times they perceived negative events as challenges[6].

Aging can come with a multiplicity of health challenges in our culture. However, we can take a number of actions to maintain and enhance good health and decrease the risk of illness and disability. Different scales and tools have been developed to maintain and promote healthy aging in the developed countries. A scale was developed and authenticates to measure the multidimensional nature of incentives to involve in healthy activities and behaviors practices among older people in the USA. Healthy Aging Incentives scale that had 20 items was developed by using a sample of 158 respondents who had participated to measure their health and wellness. Five themes were revealed by factor analysis that contributes to healthy aging practices: Locus of control, socialization attributes, psychological well-being, social functions, and health and fitness. Research finding was drawn that show literature support for this tool and the significant determinants for advancing healthy outcomes for USA's population[7].

Active aging plays an important and vital role in enhancing good quality of life for older people, but it is a little-explored area in case of Asian older persons. One of the earlier attempts in this regard has been the development of Active aging scale for Thai adults which consisted of 36-items and has seven factors of active aging such as being independent, active participation in social activities, development of spirituality and wisdom, ensuring financial security, maintaining a healthy lifestyle, keeping in touch with active learning, and increasing family ties to make sure care and respect in later life[8].

A study was conducted in South Korea to identify how healthy aging was influenced by psychosocial factors and to investigate their socio-demographic distinctiveness. Findings indicated that Perceived health status, participation in spare time activities, self-esteem, depression, self-achievement, ego-integrity, and isolation were closely associated with healthy aging[9].

A scale developed by Ko (2009) for Healthy Aging is used for assessing healthy aging factors. The scale consists of 20 items on a 5-point Likert-rating scale. This scale assesses primarily three special health-related factors: physical, social and cognitive-mental health. The scores ranged between 20 and 100, obtaining higher scores on scale indicate the significantly higher level in the development of healthy aging[10].

There are no such kinds of tools available in Pakistan to measure aging-related issues and problems, however, in 2015 a tool was developed and validated on General Adjustment to Aging in Pakistan; in this study 200 participants were used as a sample for the establishment of factorial validity. Males and females older adults age of 60-90 years old belonging from two cities Lahore and Islamabad were included. Factor analysis revealed four themes i.e., cognitive and emotional adjustment, attitude towards friends, attitude towards family and psychological adjustment. These study findings signified that adjustment level of older adults in Pakistani population is not in pleasant condition[11]. The basic purpose of this study is to develop an indigenous tool to measure healthy experience of aging in Pakistani older adults

SUBJECTS AND METHODS

This study involves a mixed method and multi-phases approach. It consists of the development of an indigenous tool for measuring the healthy experience of aging in older adults in Pakistan. Multiple steps were used to develop the healthy experience of aging scale also referred as HEAT in the following sections. The HEAT is developed as a comprehensive, culturally sensitive tool for older adults in Pakistan. The scale development took place in the following phases:

Phase I: Development of Indigenous Tool

Step I. Identifying the phenomenology of Healthy Experience of Ageing: The first step involves literature review for identifying indicators of healthy aging, problems of health and well-being of older adults and correlates of healthy behaviors. A focus group with ten older adults was also conducted to identify further culturally meaningful domains of healthy aging. These people were encouraged to talk about their lifestyles and how they are trying to adjust to their aging successfully. Open-ended questions were included in interviews which were related to physical, psychological

and social aspects of aging. The qualitative analyses yielded some special domains of healthy experience of aging. Combining the input from literature review with findings of the focus group provided a comprehensive and inclusive insight into healthy aging domains and facilitated the development of closed-ended items for the proposed scale.

Step II. Interviews with practicing psychologists: Two psychologists having professional experience of 4 to 5 years were interviewed. The purpose of the interview was items generation of healthy experience of aging in Pakistan. They reported their experience of the factors, findings, and problems they had observed in older people during their professional experience and how these people tried to live a healthy life in their existing social setup.

Step III. After the literature review, interviews with older people and psychologists, a list of 60 items was prepared as the initial pool.

Step IV. The items were scrutinized for their content. Some items were added and some rephrased whereas overlapping items were deleted. The sustaining 50 items were reviewed by a panel of six experts specializing in fields relevant to the study, two clinical psychologists, two psychiatrists and two health psychologists.

The experts endorsed each item on a scale based on relevance to the construct and clarity, ranging from 1 (not relevant) to 4 (highly relevant). In addition, the experts were asked to evaluate the clarity and appropriateness of the closed-ended items of HEAT by using "yes" or "no" responses to each item. They were also invited to suggest revised wordings for any items that seemed ambiguous, unclear, or inappropriate. The items rated at levels 3 or 4 were retained, whereas those rated at levels one or two by three or more experts were deleted or modified according to the experts' suggestions. Twenty items were deleted as they received less than 20 % endorsement. These items were 2,3, 7,9,5,13, 15,16,19, 21,25,28, 30,32, 36, 37, 42, 47,52,and 50. The final list of items for HEAT scale consisted of 30 items. A 5 point Likert scale from 1 (strongly agree=5) to 5 (strongly disagree=1) was adopted.

Step V. To check clarity and ease of understanding, the items of HEAT were used for pilot-testing in two locations Islamabad and Lahore with a purposive sample of 30 older adults with age range 60 years and above. Older people were instructed to fill the scale's statements and report if they found any statement unclear. After taking informed consent, the participants were given HEAT scale, data were analyzed. Participants reported the 30 items clear and understandable so these items were retained .0.84 Cronbach's alpha of this tool was calculated.

Participants

Factor analysis was done on a purposive sample of four hundred older adults. Factors were studied thoroughly and labeled after presenting to subject matter experts. Construct validity of a test can assess through factor analysis. The purpose of factor analysis is to assess the construct validity of a test or a number of tests (Kahn, 2006)[12].

Four hundred participants (220 males and 180 females) from four cities of Pakistan (Mandi Baha Uddin, Khaniwal, Islamabad and

Lahore) were selected. Participants coming from diverse socioeconomic backgrounds, educational levels, family compositions, professions and marital statuses were included. Their ages ranged from 60 years and above (M=65.1, SD=5.4). This sample was selected from different community groups, old age homes, parks where generally these people go for morning and evening walk as well as retired older people living in their homes. Information related to demographic variables is summarized in Table1.

Table 1
Demographic Information of Participants

Variables	*n*=400	%
Gender		
Male	220	55%
Female	180	45%
Age Range		
60-70 years	354	90%
71-80 years	37	09%
81 and above years	09	01%
Marital Statuses		
Unmarried	15	3.8%
Married	341	85.2%
Divorced	02	0.5%
Widow	22	5.5%
Widower	20	05%
Education Level		
Primary	41	10.3%
Middle	37	09.2%
Metric	86	21.5%
Intermediate	70	17.5%
Graduation	74	18.5%
Masters	92	23%
Family Composition		
Nuclear	154	38.5%
Joint	246	61.5%

Procedure

Healthy Experience of Ageing Tool (HEAT) was administered individually to each participant after taking informed consent. In all data collection as well as analysis processes privacy was assured and maintained. Data were analyzed by using SPSS.

RESULTS

In order to assess the factorial validity and psychometric properties of the scale factor analysis were run. Interpretability of the factors was maximized through Varimax rotation[12]. Bartlett's test of sphericity was significant (p =.001), indicating that the data were adequately distributed to allow an evaluation of the potential factor structure. The condition of the distribution of participants' responses was evaluated through Bartlett's test of sphericity [13]. The Kaiser-Meyer-Olkin measure of sampling adequacy value was .837. According to Kaiser (1974), items which have less than .3 communalities value should remove from list of items[14].

Factor 1, 2, 3 and 4 consisted Eigenvalues 6.5, 3.1, 1.8, and 1.5 respectively. However, four factors model with 50.3% of total variance was observed in detail and acknowledged. Items for the tool were chosen on the principle of having at least communality value of .3 and more[14]. In this study, 4 items which have less than 0.3 values were eliminated from the tool and final list of 26 items was prepared. Factor loadings in below-labeled factors are presented in Table No 2.

	Factor Loadings				
	1	**2**	**3**	**4**	***h***
No. of Items	Social Engagement	Psychological Health	Physical Health	Ego integrity	Commonalities
1		.370	.571		.476
2		.301	.733		.633
3		.376	.598		.501
4		.336	.613		.501
5		.358	.658		.468
6		.596			.438
7		.531			.401
8		.623			.436
9		.570			.408
10	.471	.536			.397
11	682				.519
13	.701				.532
15	.634				.450
16	.592		.392		.512
20	.671		.471		.534
21	.565				.499
22	.513				.425
23	.532		.376		.434
24	.600				.511
25	.828				.449
26	.824				.728
27	.821				.713
28					.677
30	.455			.528	.509
31	.462			.510	.476
32	.345			.566	.473
Eigenvalues	6.5	3.1	1.8	1.5	
Variance	25.3%	12.00%	7.2%	5.8%	
Cumulative Percentage	25.3%	37.3%	44.5%	50.3%	

Healthy Experience of Aging Tool (HEAT) with 26-items was

established. The scale HEAT measures factors related to the healthy experience of aging in older adults (M=65.1, SD=5.4). A 5 point Likert scale was established for older adult participants, 5 represents strongly agree and 1 represents strongly disagree about their healthy aging experience. Cronbach alpha was calculated for 26 items to estimate internal consistency. Items of the tool have total estimate 0.84 (p < .01). This estimate indicates that items of this tool are homogeneous and uniformed.

To check the convergent validity Healthy Experience of Aging Tool was positively correlated with Perceived Well-Being Scale-Revised by Reker G Tand Wong (1995).[16] It consisted of 16 items and 7 points Likert type scale. A sample of 100 older adults with age range between 60 and above years (M = 64.7, SD =4.8.3) participated in the present study. Satisfactory positive correlation coefficient was found between Healthy Experience of Ageing scale and Perceived Well-Being scale, r=.744**, n=100, p<0.001.

To find out the discriminant validity Healthy Experience of Aging Tool and Perceived Stress Scale by Cohen et al. (1988) were correlated[17]. A sample of 100 older adults' was taken as part of the study. It consisted of 10-items. A sample of 100 older adults with age range between 60 and above years (M = 64.7., SD =4.83) participated in the present study. Weak negative correlation was found between the Healthy experience of Aging scale and perceived stress scale. r= -.354*, n=100, p<0.05.

DISCUSSION

This study attempted to highlight the importance of developing a culturally relevant measure of healthy experience of aging within Pakistani context as an alternative to importing standardized western instruments that may not be relevant to eastern cultures. The healthy experience of aging scale for Pakistani older adults is a culturally sensitive however beneficial instrument. The items of this indigenous tool are significantly correlated with a general aged population of Pakistan.

This study aimed to identify as well as explore out the meaning of healthy aging from the perspective of Pakistani older people who had experienced healthy aging in their aging journey and how their experience can contribute to general population's perception of aging.

According to a beautiful saying **"Getting old is mandatory, feeling old is optional "**. Aging is such a personal/ individual experience that only those people can share or express their personal experiences regarding their old age journey who can reach this specific stage of life. Many factors, aspects can be same, common, but each individual has his or her own unique experience. According to a research finding aging development is not a different stage but the continuous process of older adult's life. The older people remain the same individuals (s) as they always has been[18].

On the other hand in our country Pakistan there is a need to formulate new and improved social and remedial programs for older people that can help them to feel ease and comfort in their daily lives and can make them able to live a healthy life. Such kind of programs should also offer caregivers learning and education, guidance and facilities to their family members in the matter of caring their older parents, grandparents and other extended relatives who need social and moral support. Such kind of need was also suggested and highlighted in a study done through a survey in local communities[19].

A significant correlation between Healthy Experience of the Aging tool and Perceived Well-being establish the convergent validity. A positive correlation with Perceived well-being does not minimize the importance of validating or developing new and advance indigenous tools with cultural variation and according to the need of society. The negative relationship between HEAT scores and PSSS scores established the discriminant validity. This tool would be helpful to study different aspects of healthy experiences of aging in Pakistan.

LIMITATIONS AND SUGGESTIONS

This tool development would help to minimized language-based cultural biases in Pakistan. This research would be helpful as well as enhance the importance of future studies associated with aging problems and health issues of older people. Further scales /tools can be developed on the basis of findings and validation of this newly developed scale. It would be helpful to seek the attention of government and non-governmental organizations to promote programs and conduct seminars regarding awareness of aging-related issues and healthy aging management strategies and to prevent the tendency of loneliness and promote respect and participation of older adults within the existing society and community. This tool development would be helpful to explore and identify healthy aging-related factors and aging-related problems and issues faced by older adults in Pakistan. Sample bias can be considered as only four cities were included. The sample was only taken from urban areas of Punjab. The sample can be selected from urban and rural population respectively.

CONCLUSION

This study endeavored to intensify the healthy experience of aging factors by reviewing empirical researches and resulting in this scale. This scale development would be helpful in future researchers for the promotion of older adults' healthy living styles and introducing interventions, policies specifically related to medical health and social adjustment of the older adults in Pakistan.

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