Translation and Cross Cultural Adaptation of Health Literacy Instrument For Adults in Hindi.

Anjali Jain* , Megha Sheth**

*Postgraduate student, SBB college of Physiotherapy, **Lecturer, SBB college of Physiotherapy

Abstract: Background: Physiotherapists play a significant role in health promotion and wellness. Health literacy can help people prevent health problems, protect health and better manage diseases when they arise.There are lack of tool available to measure health literacy in Indian language and according to Indian culture. Aim of the study was to translate and cross culturally adapt Health literacy instrument for adults (HELIA) and determine the reliability and validity.Method: Methodological study was done on adults aged 18-65 years where permission to translate the scale was taken from the author. The health literacy instrument for adults was translated into Hindi using forward-backward translation method given by WHO. Forward translation of the scale was done by a Hindi professor such as to preserve meaning of the questions in original questionnaire. There was expert panel of five experts (2 physiotherapists, 2 doctors, 1 engineer). Following their suggestions, validated Hindi version 1 was made. Backward translation was done by an independent translator. Version 1 of Hindi version was pilot tested with 10 adults whose mean age was(42.3 ± 9.75) years. Suggestions given by them were done and final version 2 was given to 20 participants for reliability. One therapist performed scale twice on the same participants for intra-rater reliability and two therapists performed it on same participants for inter-rater reliability, both with two days of gap. Correlation and content validity was found. Data was analysed using SPSS 20.Results: There is strong positive correlation between English and Hindi version of HELIA with intraclass correlation (ICC=0.89) and interclass correlation (ICC=0.84). Scale content validity index (SCVI) is 0.91 .Conclusion: Hindi version of HELIA is reliable and valid for assessing health literacy in adults. That can be used for assessing health literacy in Hindi speaking community dwelling Indian adults. Clinical management and research may benefit from the availability of a self-administered scale in native language. [Jain A Natl J Integr Res Med, 2024; 15(1): 04-07, Published on Dated: 26/01/2025]

Key Words: Attitude, Interocclusal record material, KAP survey, Knowledge, Practice.

Author for correspondence: Anjali Jain, Postgraduate student, SBB College of Physiotherapy, Ahmedabad. Contact no: 8320339985, Email id: anjalijain1222000@gmail.com

Introduction: According to WHO, Health literacy is the ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. It occurs when a society provides precise health information and services that people can easily find, understand, and use to inform their decisions and actions.[1] It is believed that people with inadequate health literacy might suffer from ill health, have little information about disease prevention, participate less in clinical precautionary services against chronic illnesses, and have trouble understanding health instructions or interpreting them correctly.[2] Improving people's access to health information and their capacity to use it effectively also allows them to take a more assertive and more active role in their own, their family's, and their community's health care. High individual-level health literacy and high community-level health literacy is associated with a low prevalence of frailty in community dwelling older adults.[2]

Studies show that health literacy mediates the relationship between socio-economic status and health status, quality of life, specific health-related outcomes, health behaviour and use of preventive services[3] and social gradient in health literacy must be taken into account when developing public health strategies to improve health equity.[4] Furthermore, limited health literacy is associated with poor adherence to medical treatment and inappropriate communication with health professionals, more hospitalisation, increased medical and health expenditure, higher mortality and morbidity and poorer self-care.[5] So, the measurement of health literacy is an essential component of any effort to prevent consequences of limited health literacy and health care spaces.

Physiotherapists spend considerable time with patient and have opportunity to deliver quality health information, Although physiotherapists

need to adjust their communication to people with lower education and socio-economic status. There are three types of health literacy instruments: general health literacy instruments, condition (disease or content) specific measures, and instruments that are developed for specific populations.Diabetes Health Literacy Scale is condition specific scale[6] and Health Literacy Scale for Workers (HELSW) is for specific population.[7] A general instrument, Health Literacy Instrument for Adults (HELIA) was made in Iran in 2020.[8] It includes 33 questions and five major components: Reading, Access, Understanding, Appraisal and Decision making/Intention to behave. It is validated in adults between 18-65 years.[9] Every question is scored on five points likert's scale, i.e., Never, Rarely, Sometimes, Usually and Always. They are scored between 0-4 respectively, maximum score is 100 which is categorised in four ranks and two levels. Health literacy increases as score goes high.

There are many scales available to measure general health literacy, i.e., All Aspects of Health Literacy Scale (AAHLS)[10], Health Literacy Assessment Scale for adolescents (HAS-A)[11], 14 item Health Literacy Scale for Japanese adults (HLS-14)[12], Health Literacy Questionnaire (HLQ)[13] . But there are less validated tools available to measure it in Indian language and according to Indian culture. Aim of this study is to translate Health Literacy Instrument for Adults (HELIA) in Hindi and make necessary cultural adaptation to assess health literacy in Hindi speaking population.

Material & Methods: A Methodological study was conducted at SBB college of physiotherapy, Ahmedabad. Guidelines given by WHO were followed. Permission to translate the scale was taken from the author through email medium. The HELIA and its components were studied in detail. The study was conducted according to ethical guidelines of Declaration of Helsinki. Forward translation in Hindi from English was done by two bilingual independent translator who were native speakers of Hindi language and fluent with English language; one from medical field and one out of medical field. one translator was familiar with the concepts being translated whereas the other was not. The first translator possessed the background of healthcare, and the other translator had a background of literature and education. The primary focus was on achieving conceptual equivalence between the English and the Hindi versions. An expert panel was made including 2 doctors, 2 physiotherapists and 1 engineer and draft was given to them.

Modifications were done according to their suggestions and new draft was made which was more explanatory and suitable to Indian culture. Table 1 shows demographics of experts.Then the draft was translated back to English by an independent non-professional translator who was a bilingual expert. As the translator was not aware or informed of the concepts being considered in the translation, it not only prevented information bias but also better prompted, the unexpected meanings of the items in the translated tool.

Version 1 of Hindi version was pilot tested with 10 adults whose mean age was (42.3 ± 9.75) years to ensure that questions were clearly understood. They found the instructions and items to be simple to read and suggestions given by them were made. The final version was named as HELIA-H. Adults aged between 18-65 years who were able to understand Hindi well were included using convenience sampling. Study was explained and informed consent to participate was taken. They were asked to fill out the questionnaire. One qualified therapist assessed scale twice on the same participants for intra-rater reliability and two qualified therapists assessed it on same participants for inter-rater reliability, both with two days of gap. Table 2 shows demographics of the participants.

Result: Based on scores from experts, the CVI (S-CVI) was gotten by calculating the ratio of item number which scored 3 or 4 to item amount; divided the number of experts who scored 3 or 4 by total expert number, the item-level CVI (I-SVI) of each item was assessed.[14]

Table 1: Demographics of experts in the panel

Variables	Mean ±SD
Age	42.2 ±10.5 years
Years of experience	13 ±4.74 years
Gender (Male/Female)	2:3

Table 2: Demographics of participants

Variables	Mean ±SD
Age	39.45 ±12.18 years
Gender (Male/Female)	9:11

Table 3: Psychometric properties of HELIA-H

Variables	Values
S-CVI	0.91
I-CVI	0.854 –1.0
Intra-rater reliability	0.89
Inter-rater reliability	0.84

The scale was given to 10 people and taken by same investigator with two days of gap for calculating Intra-rater reliability. And it was given to 10 people and taken by two different investigators with two days of gap for calculating Inter-rater reliability. Table 3 shows all the calculated values.

Discussion The translated version of HELIA has satisfactory psychometric properties, suggesting that this instrument measures five domains of health literacy well. WHO proposed methodology for translation and back-translation procedure was implemented, similar as previous study translating Oral Health Literacy-Adult Questionnaire (OHL-AQ) in Hindi.[15]

The result indicates that there is a strong correlation between the original English version and translated Hindi version of HELIA. Rose M et al., in their study described that strong correlation between the original tool and the translated version of the tool not only indicates that the quality of the translation is good but also indicates that both the measures provide same information in both the languages.[16] HELIA-H has very high (ICC=0.91) intra-class reliability and high to very high(0.854 –1.0) inter-class reliability. Cronbach's alpha coefficient for each sub scale ranged from 0.72 to 0.89 in original questionnaire. Limited sample size for the study was a concern and psychometric properties of the scale may vary in larger population for that reason.

In present study, some changes are made, i.e 'recommendation of diet from friends' is changed into 'suggestion of diet from friends' and some words were kept in English because they are more used in English than in Hindi, i.e 'Blood pressure, Diabetes, Doctor and Hospital'. Question 4 (Reading leaflet and preparation text before testing, ultrasound or radiology is easy for me) and 17 (I understand meaning written on the leaflet before testing, ultrasound or radiology) are found to be less relevant because of lack of prevalence of such system in India.

This is a general instrument which can be used for measuring health literacy in different condition and population in future. Further condition specific scale can also be translated for use in India.

HELIA has not been translated in any language yet but In 2022, short form of HELIA was made called HELIA-SF which contains two sub-scales and nine questions.[17] Thus comparison with other translations is not possible.

Conclusion: Hindi version HELIA-H is reliable and valid for assessing health literacy in adults and it can be used for assessing health literacy in Hindi speaking community dwelling Indian adults. Clinical management and research may benefit from the availability of a self-administered scale in native language and future studies considering health literacy as a decision making strategy may be relevant to public health.

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