Supplementary File

Table S1. Inclusion and exclusion criteria.

	Inclusion Criteria	Exclusion Criteria
Participants	Iranian population (women and men) more than 18 years of age	Iranian women and men under 18 years of age and/ individuals with intellectual disabilities or mental illness
Study Type	Controlled trials, Quantitative designs, quasi-experimental, studies, and pre-test/post-test studies	Transversal descriptive studies
Intervention	All interventions designed based on HL strategies to improve/ facilitate functional, critical and interactive HL skills for Iranian population. This includes patient and health providers coaching, patient prompts and skills workshops to improve individual's ability to promote healthy behaviors and health outcome.	HL was not specifically assessed Interventions; Specifically designed to improve HL; Interventions in mental health and oral health, school setting; Intervention protocols were not described
Setting	Any type of socio-health setting and clinical settings (e.g. primary care, secondary/tertiary care).	School setting; Mental health
Outcomes	- Health literacy skills -Social and cognitive skills (self-efficacy, medication adherence, communication skills, self-care..) - Knowledge of the disease/problem, - Self-control/management of health problems: - Prevention: preventive behaviors and knowledge participation in preventive measures - Overall state of health: morbidity, mortality, quality of life, physiological indexes, etc.	
Dissemination Type	Scientific full text articles published in indexed scientific journals and conferences	Scientific articles before 2000.
Language	English/Persian	Articles written in languages other than English/Persian
Others	Published from ---- - Use of validated measures of HL and health outcome - Assess relationship between HL and health outcome; - Identifiable effect size	

Table S2. Joanna Briggs Institute critical appraisal checklist for analytical cross sectional studies.

	Critical appraisal checklist	Yes	No	Unclear	Not applicable
1	Were the criteria for inclusion in the sample clearly defined?	45	0	0	0
2	Was the exposure measure in valid and reliable way	42	0	3	0
3	Were objective, standard criteria used for measurement of the condition	45	0	0	0
4	Were confounding factors identified?	40	5	0	0
5	Were the study subject and the setting described in detail?	45	0	0	0
6	Were strategies to deal with confounding factor stated?	40	5	0	0
7	Was the outcome measured in a valid and reliable way?	45	0	0	0
8	Was appropriate statistical analysis used?	45	0	0	0

Table S3: Characteristics of the HL instrument

Measure	Description	Scoring	Internal consistency
TOFHLA (6,16)	It included 17 numerical skills items, 50 reading comprehension items	For TOFHLA, inadequate (0-59), marginal (60-74) and adequate (75-100).	For TOFLHLA: Cronbach's alpha is 79% for numerical skills and 0.88% for reading comprehension section.
STOFHLA (2,6)	STOFHLA: 4 numerical skills items and 36 reading comprehension item.	For STOFHLA, Inadequate (0-53 points), marginal (54-66 points) and adequate (67-100 points).	For S-TOFLHLA, Cronbach's alpha was 0.88 for numerical skills and 0.69 for reading comprehension section
REALM (7,8)	Consists of 66 items in area of medical words and health.	Inadequate (0-44), limited (45-60) and adequate (61-66).	Cronbach's alpha coefficients was 0.73.
NVS (9,59)	Consists of 6 items that require interpreting a nutrition label for a container of ice cream. The first four questions require numeracy skills and the last two require reading comprehension.	0–1 suggests high likelihood of limited HL; possible limited HL (2-3); and adequate HL (4-6)	Cronbach's alph was %0.69 for numerical skills and %0.78 for reading comprehension section
HELIA (64)	Consist of 33 items with answers according to a 5-point Liker. It loaded indicating a 5-factor solution for the questionnaire namely: access (6 items), reading (4 items), understanding (7 items), appraisal (4 items), and decision (12 items)	Inadequate (0-50), limited (50-66) and adequate (66-84), excellent (84-100)	Cronbach's alpha coefficients ranging from 0.72 to 0.89.

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. metareg mean year ,wsse( sd )

Meta-regression                                     Number of obs  =      26
REML estimate of between-study variance             tau2           =   26.23
% residual variation due to heterogeneity           I-squared_res  =  10.24%
Proportion of between-study variance explained      Adj R-squared  =  70.88%
With Knapp-Hartung modification
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mean	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
year	5.087859	1.274795	3.99	0.001	2.456811	7.718907
_cons	-10197.44	2569.393	-3.97	0.001	-15500.41	-4894.474

Figure S1. Summary of meta-regression result for HL status in patient population.