

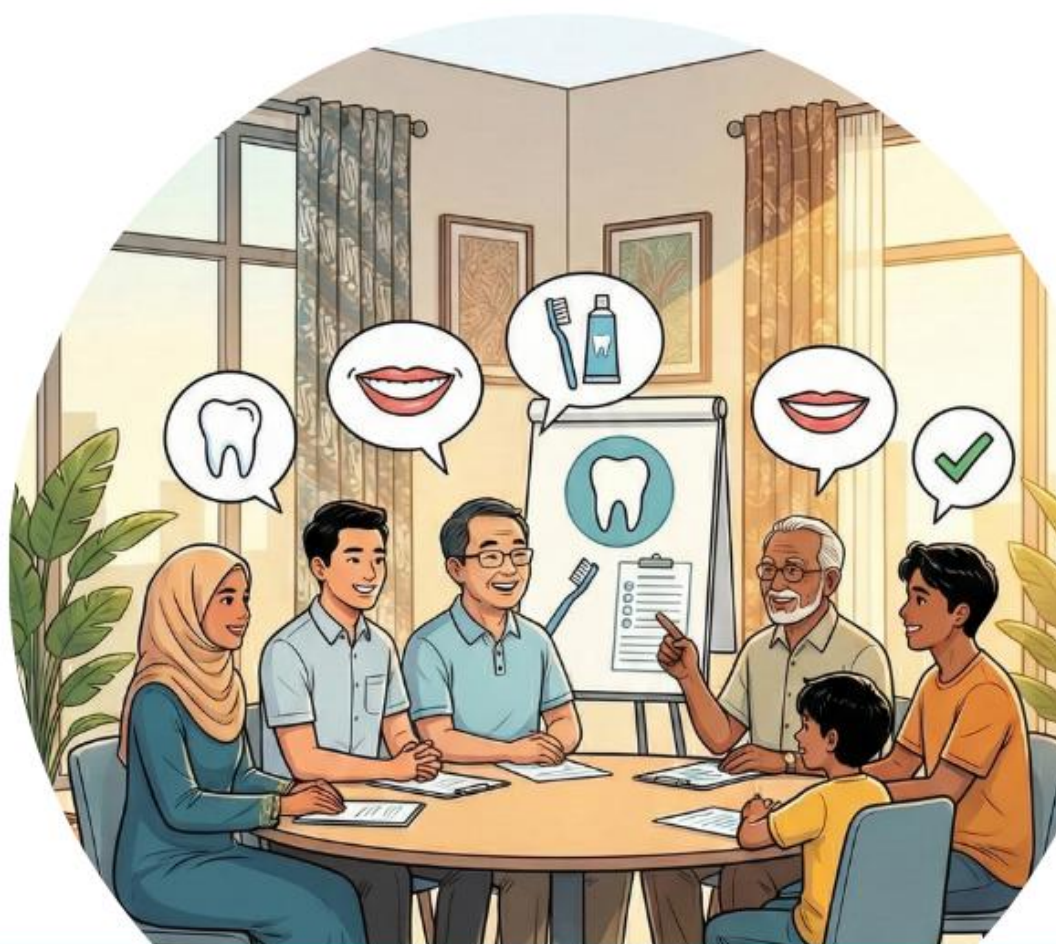


MINISTRY OF HEALTH MALAYSIA
ORAL HEALTH PROGRAMME

Malaysian Oral Health Literacy Training Package

Celik Literasi Kesihatan Mulut Malaysia (CeLiK-M)

Module 1: Fundamentals of Oral Health Literacy (OHL)



Malaysian Oral Health Literacy Training Package

Celik Literasi Kesihatan Mulut Malaysia (CeLiK-M)

Module 1: Fundamentals of Oral Health Literacy (OHL)

Malaysian Oral Health Literacy Training Package

Celik Literasi Kesihatan Mulut Malaysia (CeLiK-M)

Module 1: Fundamentals of Oral Health Literacy (OHL)

eISBN 978-629-94619-0-6



(MOH/K/GIG/3-2026(HB))

Published and distributed by:

Oral Health Programme, Ministry of Health
Level 5, Block E10, Complex E
Federal Government Administrative Centre
62590 Putrajaya, Federal Territory Putrajaya
Malaysia

Tel: 03-8883 4215

Email: ohd@moh.gov.my

Website: <https://hq.moh.gov.my/ohp>

© Oral Health Programme, Ministry of Health

All rights reserved

No part of this publication may be reproduced, distributed or transmitted in any form or by any means, including photocopying, recording or other electronic or mechanical methods, without the prior written permission of the Ministry of Health. Applications for permission should be addressed to the Deputy Director-General of Health (Oral Health), Oral Health Programme, Ministry of Health.

TABLE OF CONTENT

TABLE OF CONTENT.....	1
LIST OF FIGURES.....	2
LIST OF TABLES.....	2
ACKNOWLEDGEMENT.....	4
PREFACE BY DIRECTOR - GENERAL OF HEALTH.....	5
PREFACE BY DEPUTY DIRECTOR - GENERAL OF HEALTH (ORAL HEALTH).....	6
ABOUT CELIK-M.....	7
INTRODUCTION.....	7
TRAINING PACKAGE DEVELOPMENT METHODS.....	11
Analysis.....	12
Design.....	12
Competencies.....	13
Development.....	13
Module Validation.....	13
Feasibility Study.....	13
Implementation.....	14
Evaluation.....	14
ABOUT THE MALAYSIAN ORAL HEALTH LITERACY TRAINING PACKAGE (<i>CeLiK-M</i>).....	14
Modules in The <i>CeLiK-M</i> Training Package.....	14
Objectives of The <i>CeLiK-M</i> Training Package:.....	14
How to Use The <i>CeLiK-M</i> Training Package.....	14
Structure of Each Module.....	15
MODULE 1: FUNDAMENTALS OF ORAL HEALTH LITERACY (OHL).....	17
About the Module.....	17
PART A: NOTES FOR TRAINERS.....	17
Defining Health Literacy.....	17
Health Literacy Level of The Population.....	20
Who is Affected by Health Literacy.....	21
Legal Implications.....	23
Factors Associated with Health Literacy.....	24
Determining Health Literacy.....	26

Health Literacy Tools.....	27
Strategies to Improve Health Literacy.....	30
Evaluating Health Education Materials.....	32
Reasons to Evaluate Health Education Materials.....	32
Tools to Evaluate Health Education Materials.....	33
Conclusion.....	34
PART B: DETAILS OF THE MODULE.....	35
Sub-module 1: Introduction to Oral Health Literacy.....	37
Sub-module 2: Strategies to Improve Oral Health Literacy.....	38
Reference for Google Slide.....	39
ASSESSMENT.....	40
Self- assessment.....	40
Peer- assessment (Optional).....	41
REFERENCES.....	42

LIST OF FIGURES

Figure 1 : Types of Health Literacy.....	7
Figure 2 : Building Health Literacy System Capacity: A Framework for Health Literate Systems	8
Figure 3 : Conceptual Framework of Operational Organisational Health Literacy.....	8
Figure 4 : ADDIE model for developing training modules.....	11
Figure 5 : Modules in The <i>CeLiK-M</i> Training Package.....	14
Figure 6 : Modules in The <i>CeLiK-M</i> Training Package.....	15
Figure 7 : Oral Health Literacy Framework	18
Figure 8 : Area of Health Literacy Skills.....	18
Figure 9 : Organisational Health Literacy.....	19
Figure 10 : People Affected by Low Health Literacy	21
Figure 11 : Consequences of Low Health Literacy.....	22
Figure 12 : Factors Associated with Health Literacy.....	24
Figure 13 : Effectiveness of Communication.....	25
Figure 14 : Health Literacy Tools.....	28
Figure 15 : Strategies to Improve Ability to Communicate	30

LIST OF TABLES

Table 1 : Key Barriers to Organizational Health Literacy.....	9
Table 2 : Health Literacy Knowledge and Skills for Health Professionals.....	10
Table 3 : Conceptual Framework for A Health Literacy Curriculum	10

Table 4 : Content Validity Index of *Celik-M*.....13
Table 5 : Summary of The Modules in The *CeLiK-M*..... 15

ACKNOWLEDGEMENT

The Oral Health Programme of the Ministry of Health Malaysia expresses its sincere appreciation and gratitude to all individuals and organizations who have contributed, either directly or indirectly, to the development and publication of the Malaysian Oral Health Literacy Training Package (CeLiK-M).

Advisor

Dr. Fauziah binti Ahmad
Deputy Director-General of Health (Oral Health)

Technical Advisor

Dr. Habibah binti Yacob @ Ya'akub
Oral Health Policy and Strategic Planning Division

Author

Assoc. Prof. Dr. Haslina Rani
Dental Public Health Specialist
Faculty of Dentistry
Universiti Kebangsaan Malaysia

Lt. Col. Dr. Ruzawani binti Ruslan
Dental Public Health Specialist
Hospital Tuanku Mizan Zainal Abidin

Assoc. Prof. Dr. Muhd Firdaus Che Musa
Dental Public Health Specialist
Kulliyah of Dentistry
International Islamic University Malaysia

Dr. Sabrina Julia binti Mohd Jeffry
Dental Public Health Specialist
Oral Health Division, Johor State Health
Department

Dr. Azliza binti Dato' Zabha
Dental Public Health Specialist
Oral Health Programme, Ministry of Health

Dr. Enny Eedayantey binti Abdul Manab
Dental Public Health Specialist
Oral Health Programme, Ministry of Health

Dr. Dewi Mayang Sari binti Kamarozaman
Dental Public Health Specialist
Oral Health Programme, Ministry of Health

Module Reviewer

Prof. Dr. Tuti Ningseh binti Mohd Dom
Dental Public Health Specialist
Faculty of Dentistry
Universiti Kebangsaan Malaysia

Brig. Jen. (Dr.) Normah binti Hj. Samsuri
Dental Public Health Specialist
Hospital Tuanku Mizan Zainal Abidin

Assoc. Prof. Dr. Mas Suryalis Ahmad
Past-president
Malaysian Dental Association

Dr. Nurul Izzah binti Ali
Dental Public Health Specialist
Oral Health Division, Kedah State Health
Department

Pn. Too Bee Kiew
Dental Therapist Supervisor
Oral Health Division, FT Kuala Lumpur and Putrajaya Health Department

Secretariat

Dr. Nursyahirah binti Suhada
Chief Assistant Director
Oral Health Programme, Ministry of Health

PREFACE BY DIRECTOR - GENERAL OF HEALTH

The Malaysian Oral Health Literacy Awareness Training Package; Celik Literasi Kesihatan Mulut Malaysia (CeLiK-M) is a national training resource developed to support Malaysia's commitment to the National Oral Health Strategic Plan (NOHSP) 2022–2030 and the WHO Global Oral Health Action Plan 2023–2030. This comprehensive package marks a significant milestone in our national journey towards a more equitable and responsive oral healthcare system.

The transformation of oral healthcare systems envisioned in both national and global policy frameworks calls for a fundamental shift towards prevention, person-centred care, and stronger community engagement. Oral health literacy is a critical social determinant of health, influencing how individuals access services, interpret complex information, and participate in shared decision-making that shapes their oral health outcomes. Addressing gaps in oral health literacy is therefore essential to reducing inequalities and achieving sustainable improvements in population oral health and overall well-being.

The CeLiK-M training package represents a strategic investment in human capital, translating policy priorities into structured and practical capacity-building for the oral healthcare workforce. It equips dental professionals with the knowledge, skills, and competencies required to lead meaningful change at every level of service delivery, ensuring that all Malaysians regardless of background have the opportunity to attain optimal oral health.

The expert and collaborative efforts behind the development of CeLiK-M are highly commendable. This initiative reflects a steadfast commitment to strengthening oral health literacy as a cornerstone of health equity and system transformation. All dental professionals are called upon to embrace this training package as a benchmark of professional excellence and service quality. Through the integration of these competencies into daily practice, *Celik Literasi* shall become the standard of care, driving sustained progress towards the national and global oral health goals for 2030 and reinforcing Malaysia's leadership in advancing equitable and people-centred oral health.



Datuk Dr. Mahathar bin Abdul Wahab

Director-General of Health



PREFACE BY DEPUTY DIRECTOR - GENERAL OF HEALTH (ORAL HEALTH)

The Malaysian Oral Health Literacy Awareness Training Package; *Celik Literasi Kesehatan Mulut Malaysia* (CeLiK-M) is developed to support the implementation of the National Oral Health Strategic Plan (NOHSP) 2022–2030, particularly its emphasis on strengthening oral health literacy through capacity building of the oral healthcare workforce.

The NOHSP recognises oral health literacy as a key determinant of oral health outcomes and highlights the need to empower oral healthcare providers, including dental officers, dental auxiliaries, and dental undergraduate students, with the skills required to communicate effectively and support informed oral health decision-making. Strengthening these competencies is essential for improving patient engagement, promoting preventive behaviours, and reducing oral health inequalities.

The CeLiK-M training package translates this strategic direction into practical, structured training. The primary objective is to equip personnel with the competencies needed to address literacy challenges in both clinical and community settings through four core modules. By adopting these modules, healthcare providers will move beyond paternalistic care toward true patient engagement and informed decision-making.

I strongly encourage the widespread adoption of CeLiK-M within all dental facilities and training institutions as a cornerstone of ongoing professional development to support the delivery of people-centred and effective oral healthcare services in Malaysia. Together, let us ensure that "Celik Literasi" becomes the standard of care, driving us toward our shared national and global goals for 2030.



A handwritten signature in black ink, appearing to be 'Fah'.

Dr. Fauziah binti Ahmad

Deputy Director-General of Health (Oral Health)

ABOUT CELIK-M

This training package has been carefully designed as a trainer's resource to strengthen oral health literacy among oral healthcare personnel in Malaysia. The primary objective of the package is to raise awareness on the importance of oral health literacy and to enhance the essential skills required to address oral health literacy challenges in professional practice.

The package is structured into four comprehensive modules, each focusing on different aspects of oral health literacy and communication. The modules are highly practical and self-explanatory, containing complete sets of trainer notes, explanatory texts, ready-to-use slides, interactive activities and evaluation tools. With these resources, trainers can confidently conduct sessions without requiring additional training, as the content is designed to be straightforward and easy to deliver.

By combining theory with practice, the package serves not only as a training package but also as a capacity-building tool that empowers trainers to cascade oral health literacy skills across the oral healthcare workforce.

INTRODUCTION

Healthy People 2030 has adopted two (2) definitions that together constitute health literacy which are (Figure 1):

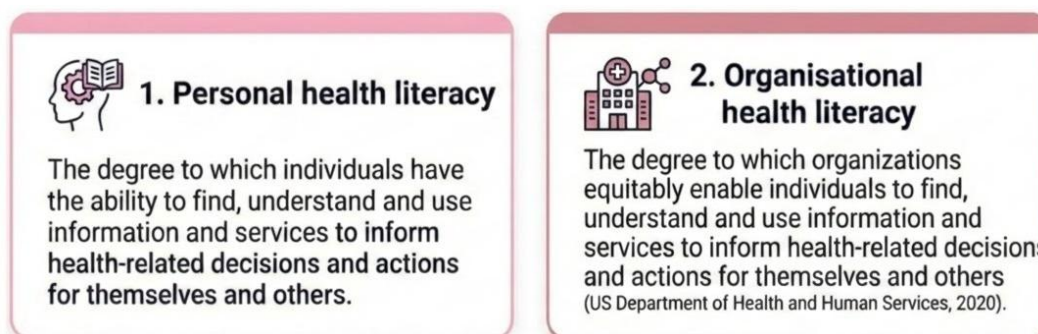


Figure 1: Types of Health Literacy

Personal health literacy focuses on an individual's ability to understand and use health information, while organizational health literacy focuses on an organization's ability to provide health information and services that are understandable and usable by individuals (Brach, C. and Harris, L.M., 2021).

The following framework (Figure 2) illustrates the multifaceted approach required to build health literacy capacity within health systems. It emphasizes the importance of collaboration, leadership, resource allocation and user engagement, alongside leveraging technology and data to create health literate organizations and services (Sorensen, 2021).

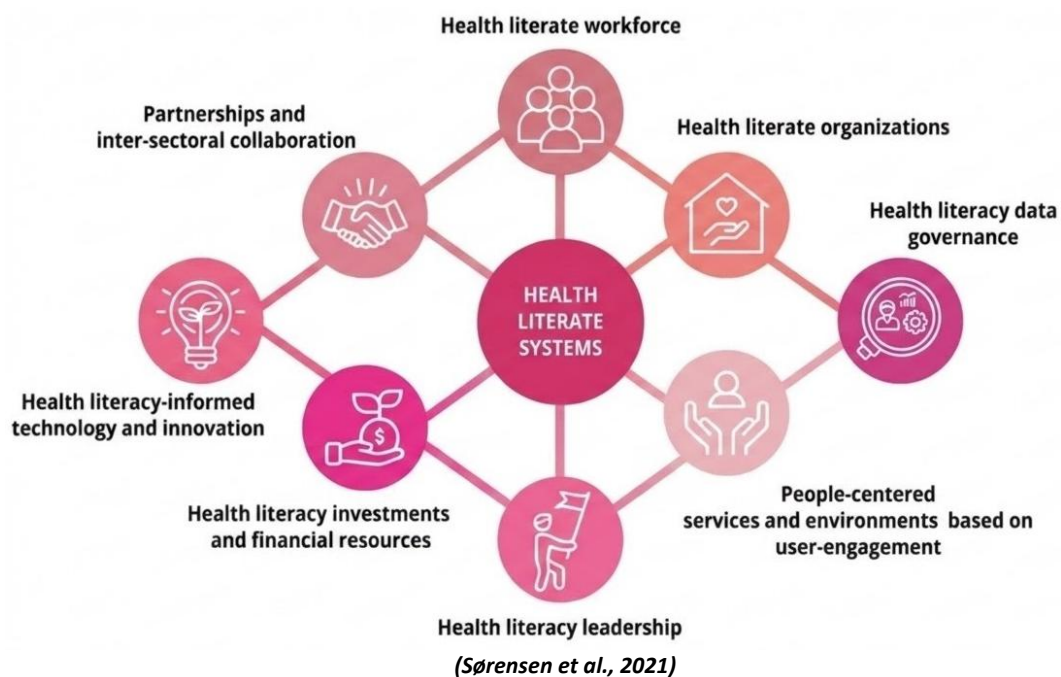


Figure 2: Building Health Literacy System Capacity: A Framework for Health Literate Systems

Strategic collaboration between management and operational levels is essential to successfully achieve organizational health literacy (**Figure 3**). Management's role is to create a supportive environment, provide training, and facilitate shared decision-making, while operational staff focus on practical implementation, addressing complexities, acknowledging influencing factors, and reducing barriers (**Table 1**) to enhance health literacy.

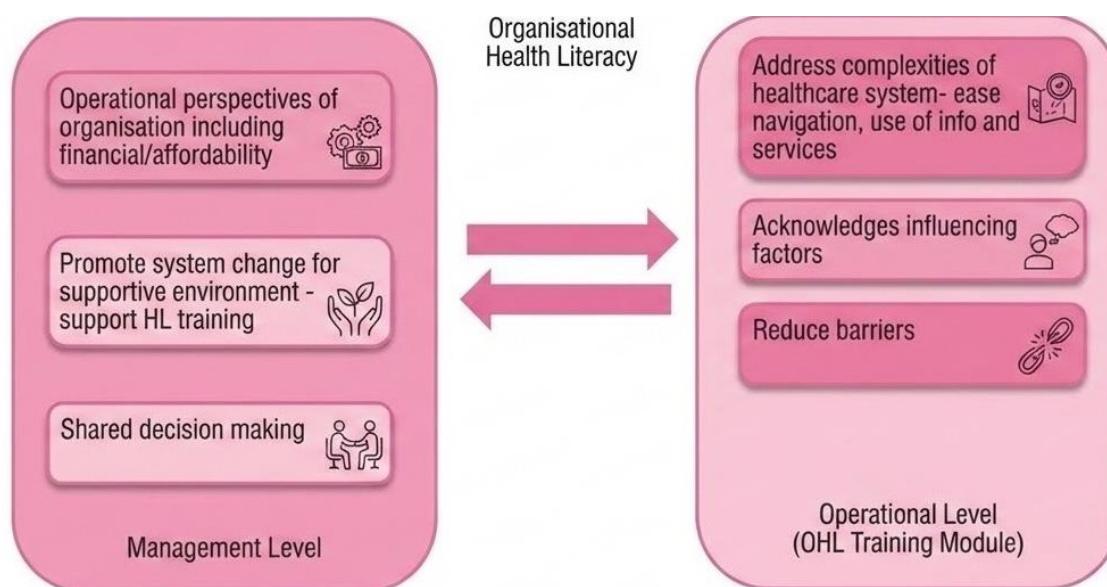


Figure 3: Conceptual Framework of Operational Organisational Health Literacy

Table 1: Key Barriers to Organizational Health Literacy

Barriers to Health Literacy	
1	Low priority of health literacy and related activities
2	Lack of commitment to health literacy
3	Limited or no buy-in from leadership
4	Becoming health-literate is not perceived advantageous
5	Lack of culture of change and innovation
6	No change champions in the organization
7	Not having procedures, policies, protocols supporting health-literate practice
8	Not having enough time
9	Lack of resources
10	Complexity of health literacy tools and guides
11	Ambiguity of roles among staff
12	Lack of training in health literacy
13	Lack of awareness about health literacy

(Farmanova et al., 2018)

There is a need to improve navigation within the healthcare facilities. This was attributed to problems with signage such as inconsistent terminology, or overuse of scientific language, or that the signage was missing or obscured. There is also low awareness of health literacy within the organisation’s protocols, inter-staff communication and patient communication (Farmanova 2018).

According to Lloyd 2018, healthcare practitioners struggled to define a course of action based on the assessment results because of their limited knowledge of how to implement health literacy strategies in practice and found that patient health literacy assessment tools did not offer adequate guidance on how to translate results into action.

“The next step in the research on organisational health literacy needs to focus on what works in improving organisational health literacy. We do not need more tools and measures, rather we need interventions. This may be supported by a program of research to design, implement and evaluate effective interventions for building organisational health literacy. This was recommended by Willis who argues that government-initiated intervention and policies are powerful strategies by which organisational capacity to improve health literacy may be affected” (Lloyd et al., 2018).

Taking into account the importance for both management and operational levels to work hand in hand in building health literate organisations, several essential knowledge and skills need to be included in health literacy related training (**Table 2**).

Table 2: Health Literacy Knowledge and Skills for Health Professionals

<p>To Improve Spoken Communication</p> <ul style="list-style-type: none"> • Communicate clearly • Use the teach-back method • Follow up with patients • Conduct Brown Bag Medicine Reviews • Address language differences • Consider culture, customs, and beliefs 	<p>To Improve Self-Management and Empowerment</p> <ul style="list-style-type: none"> • Encourage questions • Make action plans • Help patients remember how and when to take their medicine • Get patient feedback
<p>To Improve Written Communication</p> <ul style="list-style-type: none"> • Assess, select, and create easy-to-understand materials • Use health education material effectively • Welcome patients by reducing literacy barriers 	<p>To Improve Supportive Systems</p> <ul style="list-style-type: none"> • Link patients to non-medical support • Direct patients to medicine resources • Connect patients with literacy and math resources • Make referrals easy

(AHRQ Health Literacy Universal Precautions)

Saunders (2019) investigated health literacy education interventions for health professions students in higher education settings and put forth a conceptual framework for a health literacy curriculum (Table 3).

Table 3: Conceptual Framework for A Health Literacy Curriculum

<p>Guiding Principles</p> <ul style="list-style-type: none"> • Health professions agree and collectively develop a common curriculum framework for health professions students in the higher education organisation. • Opportunities for multi and interdisciplinary professional instruction, learning and collaboration. • Health literacy learning is fully integrated with other content areas across the full health professional degree course. • Connected health literacy learning from undergraduate through to the healthcare workplace. • Strong emphasis on real-world learning practice. • Design, delivery and assessment of health literacy education is supported by student input and appraisal. 			
<p>Learning Scope</p> <p>Conceptual knowledge</p> <p>Reasoning and problem solving</p> <p>Practical application</p> <p>Self-awareness and assessment</p> <p>Communication</p> <p>Measurement and comparison</p>	<p>Core Design Elements</p> <ul style="list-style-type: none"> - Group, and reflective learning - Relevant and progressive learning - Real world applicable - Challenging and active - Satisfying 	<p>Core Assessment Elements</p> <ul style="list-style-type: none"> - Formative/summative assessment informs instructional design/delivery - Pre-post competency and knowledge assessment via validated instruments - Authentic practice assessment 	<p>Core Outcome Elements</p> <ul style="list-style-type: none"> - Student attitude, knowledge and skill - Social health care quality - Patient capacity and satisfaction - Organisational effectiveness
	<p>Classroom</p> <ul style="list-style-type: none"> - Role play - Peer teaching - Presentations - Case studies - Resource development 	<p>Simulation Lab</p> <ul style="list-style-type: none"> - Audio/video recording - Standardised patients - Role play / communication training - Health literacy assessment - Resource development and practice 	<p>Practicum</p> <ul style="list-style-type: none"> - Assess patient health literacy level - Patient/family communication - Patient/family HL education - Assess and clarify patient self-management and medication instructions
<p>Operational Factors</p>	<ul style="list-style-type: none"> ✓ Organisational policy and support and encouragement for health literacy focus and education for all health profession students. ✓ Educators provided opportunities for professional development on effective health literacy training. ✓ Practicum supervisors offered training to support health professions students to apply health literacy principles in practice. ✓ Practical, effective, valid, acceptable and accessible assessment tools collectively developed and tested across health professions. ✓ Curriculum documents clearly describe levels of progression and development in health literacy competence. 		

(Saunders et al., 2019)

Based on the Health literacy training in higher education conceptual framework by Saunders (2019) and the existing health literacy training module (DeWalt et al., 2011) we designed the delivery of the training module for *CeLiK-M* to encompass the following:

1. Delivery design
 - Active and reflective learning that constitute several delivery method;
 - ✓ Role-play/ peer teaching/ presentation/ case studies/ resource development (Step by step on how to deliver the training with simplified theoretical notes).
2. Assessment
 - Pre and post assessment of knowledge and attitude (Likert scale/ reflection); and
3. Outcome
 - Patient satisfaction (VAS), peer reported skills improvement (Likert scale on practise).

TRAINING PACKAGE DEVELOPMENT METHODS

The development of this oral health literacy awareness training package followed the ADDIE model for developing training modules which is a structured five-step approach that stands for Analysis, Design, Development, Implementation and Evaluation (Figure 4). This model serves as a guiding framework for instructional designers to create comprehensive and successful training programs.

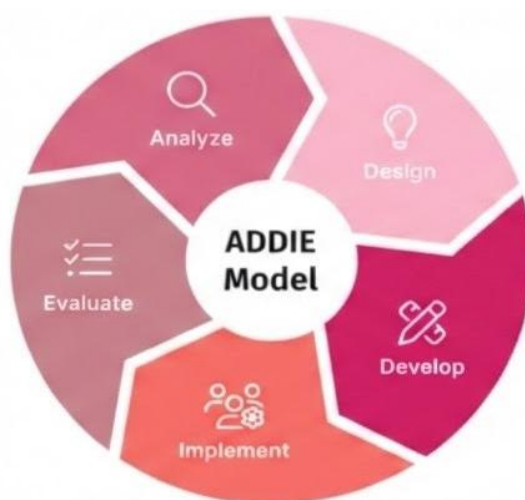


Figure 4: ADDIE model for developing training modules

1. Analysis
 - This initial phase involves understanding the training needs by examining the target audience, identifying learning objectives and gathering relevant data through a comprehensive needs assessment. It is crucial to analyse the characteristics of the audience, such as knowledge levels, skill sets, job roles and learning preferences, to tailor the training effectively;

2. Design
 - The design phase focuses on turning the analysis into action by deciding on the format of the training and planning the content. Designers need to determine the format, media, methodologies and goals of the training program during this stage. Clear objectives and a detailed plan are essential components of the design phase;
3. Development:
 - In this stage, the actual training materials are developed based on the analysis and design phases. Trainers create the content, activities and resources needed for the training program. This phase involves translating the design into tangible training materials that align with the learning objectives;
4. Implementation:
 - The implementation phase involves delivering the training to the target audience. Trainers conduct the training sessions, whether in-person, online, or through a blended approach. It is essential to ensure that the training is executed effectively and engages the learners as intended; and
5. Evaluation:
 - The final stage of the ADDIE model focuses on assessing the effectiveness of the training program. Evaluation involves gathering feedback, measuring outcomes and determining the impact of the training on the learners. This phase allows for continuous improvement by identifying areas for enhancement and refinement.

Four (4) dental public health experts from the Ministry of Health, higher learning institutions and the Ministry of Defence worked together to design the module.

Analysis

At the initial stage, existing health and oral health literacy training material available from various countries were referred for a clear overview of the module to be developed.

Design

Framework used for the module development is based on the health literacy training in higher education conceptual framework by Saunders et al (2019), and the existing health literacy training module (DeWalt et al., 2011). We designed the delivery of the training module for *CeLiK-M* to encompass the following:

1. Delivery design
 - Active and reflective learning that constitute several delivery method:
 - ✓ Role-play/ peer teaching/ presentation/ case studies/ resource development/ audio video recording (Step by step on how to deliver the training with theoretical notes);
2. Assessment
 - Pre and post assessment of knowledge and attitude (Likert scale/ reflection); and
3. Outcome
 - Patient satisfaction (VAS), peer reported skills improvement (Likert scale on practise).

Competencies

Several competencies for health literacy were identified from Coleman et al (2013) and adapted into the training module. The competencies are divided into two (2) domains; educational and practise. The educational domain is further divided into three (3) sub-domains which are Knowledge, Skills and Attitude. Each competency is then matched to a module for a more effective delivery of the training.

Development

The *CeLiK-M* consists of four (4) modules with several sub-modules in each module.

Module Validation

Four (4) experts involved in communication and patient care from the dental fraternity were invited to review the module for its content validation. The content validation index (CVI) was employed in submodules and activities were evaluated for the degree of relevancy of content in four (4) domains/ topics (**Table 4**). If the CVI is greater than 0.79, the item is appropriate; if it is between 0.70 and 0.799, the item requires revision; and if it is less than 0.70, the item is removed (Polit *et al.*, 2007; Polit & Beck, 2006). Amendments were made to the modules in the training package following feedback by the content experts.

Table 4: Content Validity Index of *Celik-M*

Modules	S-CVI/Ave	I-CVIs	S-CVI/UA
Module 1 : Fundamentals of OHL	0.988	98.8%	0.94
Module 2 : Communication in OHL	1	100%	1
Module 3 : Written and AVA for OHE	0.99	99%	0.95
Module 4 : Health System Navigation	1	100%	1

Content validation produced an overall validity index of over 0.80, with an average index (S-CVI/Ave) of 1.00 for both Module 2 and 4 and 0.99 for Module 1 and 3 were obtained. A universal agreement index (S-CVI/UA) of 1.00 for Module 2 and 4, and 0.94 and 0.95 in Module 1 & 3 respectively. Based on the above calculation, we can conclude that S-CVI/Ave and S-CVI/UA meet satisfactory levels of more than 0.8 across 5 raters, and thus the scale of the questionnaire has achieved satisfactory level of content validity.

Feasibility Study

A feasibility study was conducted to primarily understand practical issues in conducting the modules. The objective was to look at perceived acceptability and practicality of the module (Bowen 2009). Every module was subjected to 17 questions, answered by representatives from the Ministry of Health, Ministry of Higher Education and Ministry of Defence composed of general dentists and dental therapists. The training package received generally positive feedback from participants and demonstrated a high level of acceptance and practicality, with an average rating of over 90%.

Implementation

The training package is now ready to be used by oral healthcare personnel.

Evaluation

The modules in the training package shall be assessed by both trainers (those who use the module to train oral healthcare personnel) and participants (oral healthcare personnel who join the training session as participants).

Trainer: Practicality, ease of use and helpfulness of the module.

Participant: Effectiveness of the training module.

Evaluation feedback may be utilised by adopting organisations for module improvement. Adaptation of the module is at the discretion of each organisation to meet institutional requirements

ABOUT THE MALAYSIAN ORAL HEALTH LITERACY TRAINING PACKAGE (*CeLiK-M*)

Modules in The *CeLiK-M* Training Package

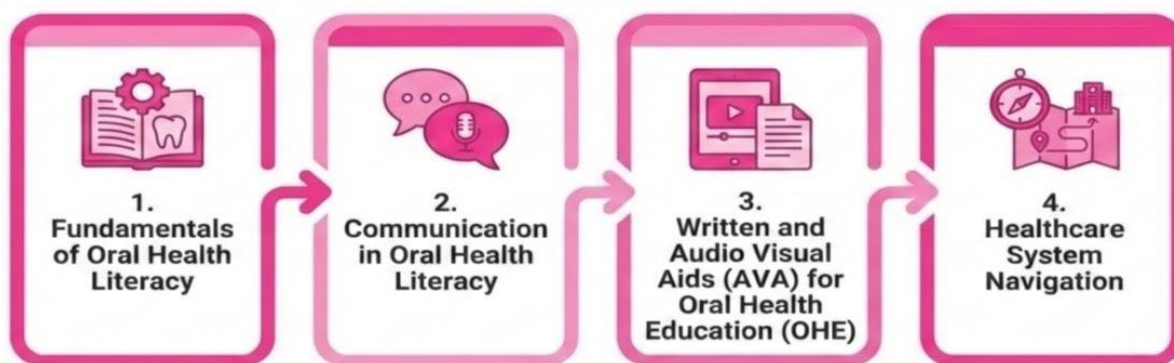


Figure 5: Modules in The *CeLiK-M* Training Package

Objectives of The *CeLiK-M* Training Package:

This training package is designed to:

1. Increase the awareness of Malaysian dental personnel on the importance of oral health literacy; and
2. Improve dental personnel's skills related to oral health literacy.

How to Use The *CeLiK-M* Training Package

The trainer needs to acknowledge that participants do not need to complete all modules in the *CeLiK-M*. They may choose to sit for module 1, 2, 3 or 4 or any combination of the modules. However, prior to sitting for modules 2, 3 or 4, it is strongly encouraged for all participants to complete Module 1 (Fundamentals of Oral Health Literacy) to ensure better understanding of the oral health literacy concept.

Structure of Each Module

Each module is divided into two (2) parts, Part A and Part B (**Figure 6**).

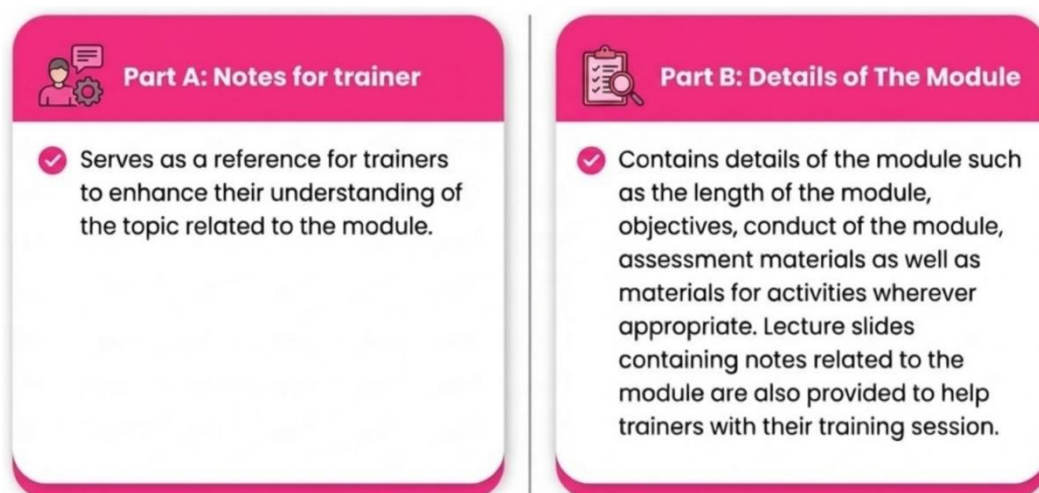


Figure 6: Modules in The *CeLiK-M* Training Package

Trainers are free to modify the content of the slides based on the information in Part A or the latest scientific evidence available provided the objectives of the modules are met. The summary of the modules are listed in **Table 5**.

Table 5: Summary of The Modules in The *CeLiK-M*

Module	Sub-module	Objective
1: Fundamentals of Oral Health Literacy	1: Introduction to Oral Health Literacy	To enable participants: <ul style="list-style-type: none"> ● To understand the definition of oral health literacy ● To discuss the impact of oral health literacy on patient outcomes
	2: Strategies to Improve Oral Health Literacy	To equip participants with the knowledge and skills: <ul style="list-style-type: none"> ● To understand common barriers to oral health literacy ● To identify signs of individuals with oral health literacy issues ● To discuss strategies to overcome barriers to oral health literacy
2.Communication in Oral Health Literacy	1: Introduction and Method/ Techniques for Communication	● To enable participants to understand the importance of communication in OHL and its effective method/techniques
	2: Understanding your Target Audience: Individual and Small/ Mass Group	● To identify and understand the target audience, analyse their needs and preferences and tailor your communication style to resonate with the audiences
	3: Understanding/ Overcoming Specific	● To understand specific barriers/challenges for communication in OHL

Module	Sub-module	Objective
	Barriers/ Challenges for Communication in OHL	
	4: Demonstrating/ Applying Effective Methods/ Techniques for Communication in OHL	<ul style="list-style-type: none"> ● To demonstrating effective method/ techniques for communication in OHL
3. Written and Audio Visual Aids (AVA) for Oral Health Education (OHE)	1: Introduction to Written and Audio Visual Aids (AVA) for Oral Health Education (OHE)	<ul style="list-style-type: none"> ● To enable participants to understand the importance and benefits of using clearly written and designed audiovisual aids in promoting oral health
	2: Understanding Your Target Audience	<ul style="list-style-type: none"> ● To equip participants with the knowledge and skills to identify and analyse the characteristics, needs and preferences of their target audience in oral health education
	3: Developing AVA for OHE	<ul style="list-style-type: none"> ● To familiarise participants with various types of written and audiovisual aids used in oral health education ● To enhance participants' ability to develop written and audiovisual aids that are appropriate, accessible and engaging for various audience segments with different oral health literacy levels
	4: Reviewing and testing an AVA for OHE	<ul style="list-style-type: none"> ● To empower participants to conduct user testing and gather feedback on written materials and audiovisual aids to ensure their usability, comprehension, and impact on the target audience
4. Healthcare System Navigation	1: Introduction to Healthcare System Navigation	<ul style="list-style-type: none"> ● To enable participants to understand the importance of providing a supportive environment
	2: Understanding Existing Strengths and Potential Barriers	<ul style="list-style-type: none"> ● To enable participants to identify the issues, strengths and potential barriers of the oral healthcare system
	3: Assessment of Literacy-Related Environment	<ul style="list-style-type: none"> ● To enable participants to assess the oral healthcare environment which enables participants to discuss priorities and planning in creating a supportive environment ● To equip participants with the recommendations for improving literacy environment of a facility

MODULE 1: FUNDAMENTALS OF ORAL HEALTH LITERACY (OHL)

About the Module

This module is part of a training package that has been carefully designed as a trainer's resource to strengthen oral health literacy among oral healthcare personnel in Malaysia. The primary objective of the package is to raise awareness on the importance of oral health literacy and to enhance the essential skills required to address oral health literacy challenges in professional practice.

The module addresses oral health literacy from a systems perspective, focusing on how healthcare environments and services can either support or hinder patients' ability to access and utilise oral healthcare. Participants will be introduced to the concept of healthcare system navigation and the importance of creating supportive oral healthcare environments that are responsive to patients' literacy needs.

Through this module, participants will learn to identify strengths, gaps, and barriers within the oral healthcare system, including organisational processes, communication practices, and physical environments. The module also equips participants with skills to assess literacy-related aspects of healthcare settings and to propose practical recommendations for improving system-level support, thereby enhancing patient access, understanding, and continuity of care.

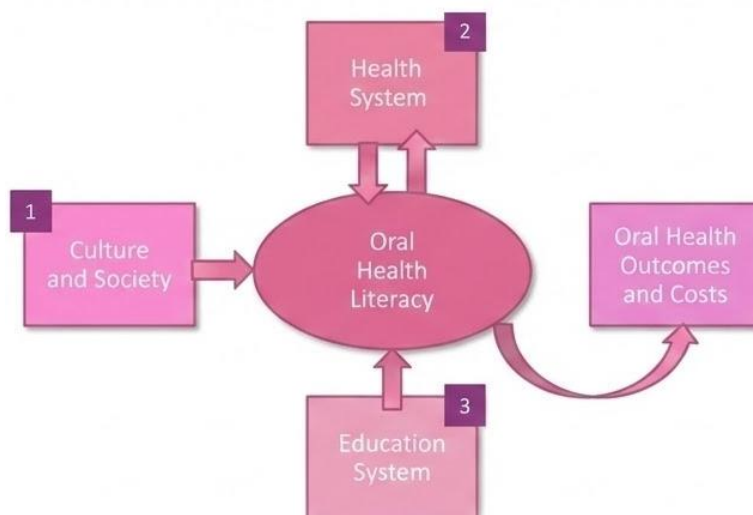
PART A: NOTES FOR TRAINERS

The healthcare industry is very complex. One can be very highly educated and read at a high grade level and still have difficulty understanding health information. Just like preparing for taxes, planning for retirement and buying a house, navigating healthcare systems may be difficult and we may need to rely on experts to interpret the details for us.

Defining Health Literacy

Health literacy, according to Razan and Parker, involves individuals' ability to understand and use health information to make informed decisions about their health. It encompasses the capacity to read, comprehend and act upon health-related information effectively. Health literacy is crucial for navigating healthcare systems, understanding medical instructions and engaging in preventive health practices (Razan & Parker 2000).

Kleinmann in 2013 adapted The IOM framework for health literacy found in the report *Health Literacy: A Prescription to End Confusion* (IOM, 2004) for use in the context of oral health literacy (**Figure 7**). According to this framework, oral health literacy exists within the context of culture and society, the education system and the interaction that individuals have with the health system, knowing that oral health literacy then leads to, and complements health, oral health, and health outcomes and costs.



(Kleinmann 2013)

Figure 7: Oral Health Literacy Framework

From this point onwards, the term “Health Literacy” shall be used to explain the concepts involved in health literacy and this term encompasses not just general health, but the oral aspects of the matter as described by Kleinmann in his framework above.

Health literacy plays a crucial role in various aspects of healthcare. Patients require health literacy skills in each of the mentioned areas (**Figure 8**):

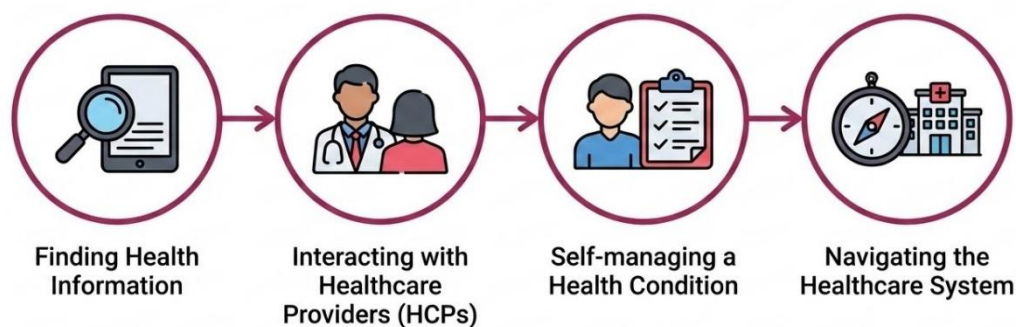


Figure 8: Area of Health Literacy Skills

1. Finding Health Information

- Patients need to be able to navigate through various sources of health information, including websites, pamphlets, and medical literature. They should have the ability to assess the credibility and reliability of health information to make informed decisions about their health.

2. Interacting with Healthcare Providers (HCPs):

- Effective communication with healthcare providers is essential for patients to express their concerns, understand medical advice and participate in shared decision-making regarding their care. Patients need to comprehend medical terminology, ask relevant questions and clarify doubts during consultations with healthcare professionals.

3. Self-managing a Health Condition:

- Patients with chronic illnesses or long-term health conditions must possess the knowledge and skills to manage their condition effectively on a day-to-day basis. This includes understanding treatment plans, adhering to medication schedules, recognizing symptoms, practising self-care measures and knowing when to seek medical assistance.

4. Navigating the Healthcare System:

- Healthcare systems can be complex, involving multiple providers, insurance companies and administrative processes. Patients need to understand their health insurance coverage, schedule appointments, follow referral procedures and access appropriate healthcare services. They should also be aware of their rights as patients and how to advocate for themselves within the healthcare system. Improving health literacy empowers patients to take an active role in managing their health, making informed decisions, and effectively engaging with healthcare providers and the healthcare system overall (Healthy People 2010).

Expanding The Definition of Health Literacy

Enhancing personal health literacy empowers individuals to become active participants in their healthcare journey, enabling them to engage more effectively with healthcare providers, navigate healthcare systems and make informed decisions that positively impact their health outcomes. It promotes autonomy, self-efficacy, and empowerment, fostering a sense of ownership and responsibility for one's health and well-being (Kindig 2004). When talking about improving health literacy, the majority of people, healthcare personnel included, think only of the strategies related to the provision of health education or increasing the knowledge related to health. However, personal health literacy is not just defined by an individual's abilities to seek, understand and use health information to improve their health and t his personal health literacy needs to be supported by good organisational health literacy.

Organisational Health Literacy

Organisational health literacy refers to the capacity of healthcare organisations, such as hospitals, clinics, public health agencies and community-based organisations, to facilitate access to health information and services and empower individuals to make informed health decisions (Pronk 2030). This concept encompasses two (2) main aspects (**Figure 4**):

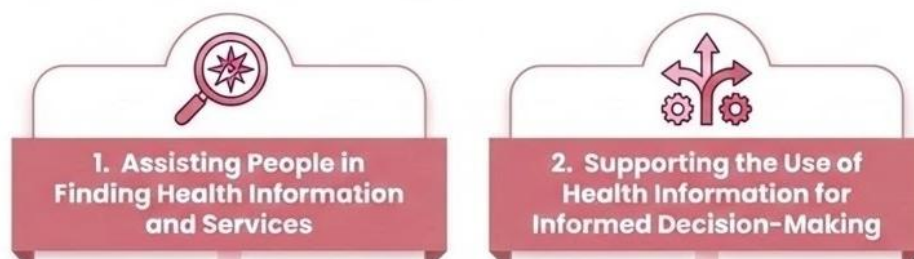


Figure 9: Organisational Health Literacy

1. Assisting People in Finding Health Information and Services:

- Healthcare organisations should ensure that individuals can easily access accurate, relevant and understandable health information through various channels, including websites, educational materials, helplines and in-person consultations;

- They should employ strategies to overcome barriers to access, such as language barriers, cultural differences, literacy levels and socioeconomic factors, to reach diverse populations effectively; and
- Providing navigation assistance and support services can help individuals navigate complex healthcare systems, locate appropriate healthcare providers, schedule appointments and access necessary resources and support networks.

2. Supporting the Use of Health Information for Informed Decision-Making:

- Healthcare providers play a crucial role in communicating health information clearly, effectively and empathetic to patients and their families;
- They should employ plain language, visual aids and other communication techniques to enhance understanding and promote health literacy among patients;
- Education and counselling sessions can empower patients to actively participate in their healthcare by providing them with the knowledge, skills and confidence to make informed decisions about their health, treatment options and self-care management; and
- Shared decision-making approaches involve collaborative discussions between healthcare providers and patients, considering the patient's preferences, values and goals to reach consensus on treatment plans and healthcare decisions.

Health Literacy Level of The Population

The Department of Education conducted surveys in 1993 and 2003 regarding literacy levels in the U.S. The 2003 survey is called the National Assessment of Adult Literacy and had 19,000 participants. The results were disappointing in that they showed that over the 10 years since the 1993 measurement, the literacy levels in the U.S. had basically remained the same.

The 2003 survey added questions that were specific to determining health literacy levels. The results show that only 12% of adults are proficient in understanding health information. Or in other words more than 1/3 of adult English-speaking Americans are at basic or below basic health literacy skills (Kutner 2006).

The results are similar to a population-based self-administered survey using the Health Literacy Survey Malaysian Questionnaire 18 (HLS-M-Q18) instrument that was conducted as part of the National Health Morbidity Survey 2019 in Malaysia (Jaafar 2021). The nationwide survey utilised a two-stage stratified random sampling method. A sample of 9478 individuals aged 18 and above, drawn from the living quarter list, participated in the study. From the survey, around 30% of the participants were found to have limited health literacy level in all the domains namely healthcare; disease prevention; and health promotion.

The level of health literacy across populations around the world could not really be directly compared as the results vary according to the tools used to measure the health literacy. In addition, in some countries like India, Japan and Hong Kong, there is no country level health literacy study done to date. In Australia, nearly 60% of adults have low health literacy, affecting their ability to make informed healthcare decisions and contributing to 3% to 5% of total health system costs. South Korea's 2020 survey revealed a similarly high proportion of adults with inadequate health literacy level (70.9%). New Zealand faces similar challenges, with 56% of adults having low health literacy, disproportionately affecting poor, elderly, rural, Pacific

peoples, and Māori populations. In the Philippines, a 2018-2019 survey found 51.5% of adults had limited health literacy. Conversely, Singapore boasts high health literacy, with a 2021 study indicating 80.5% of adults have high functional health literacy (Lymphoma Coalition, 2023).

It is important that health information and health communication is conducted with consideration of the limitation of the population's health literacy level.

Who is Affected by Health Literacy

Health literacy affects everyone, regardless of their literacy levels, due to the complexity and abundance of health information available today. Public health messages, which are intended to educate and inform the general population about health-related issues, can be challenging to process and understand for many individuals. This difficulty arises from various factors, including the complexity of medical terminology, the volume of information and the diverse ways in which information is presented across different sources. As a result, individuals with varying levels of literacy may struggle to comprehend and act upon public health messages effectively. Therefore, efforts to improve health literacy are crucial to ensuring that everyone can access, understand and apply health information to make informed decisions and promote their well-being (Kapingsht 2014).

Individuals with limited health literacy face significant challenges that impact their health outcomes and healthcare experiences. They are less likely to utilise preventive services such as mammograms, pap smears, regular dental check-ups and vaccinations, which can result in missed opportunities for early detection and disease prevention. Managing chronic conditions like high blood pressure, diabetes, asthma and most dental diseases becomes more difficult, leading to poorer health outcomes and increased healthcare costs. Consequently, they experience higher rates of hospitalisation and emergency room visits due to complications from untreated or poorly managed health conditions. Moreover, limited health literacy is associated with an increased risk of medication errors, poorer self-perceived health and feelings of shame or embarrassment about literacy skills. Addressing health literacy barriers is essential to ensure equitable access to healthcare and improve health outcomes for all individuals.

Certain demographic groups are particularly vulnerable to challenges related to health literacy. Efforts to address health disparities and improve health literacy should consider the specific needs and circumstances of these vulnerable populations (**Figure 10**).

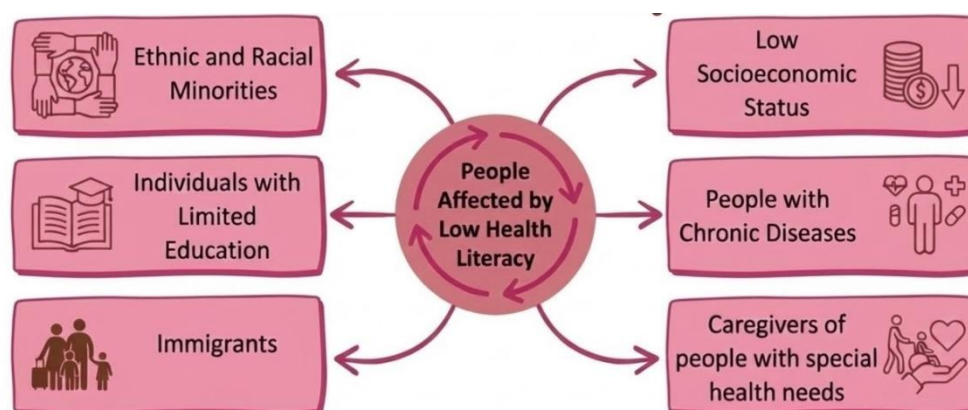


Figure 10: People Affected by Low Health Literacy

1. Ethnic and Racial Minorities:
 - Ethnic and racial minorities may face language barriers, cultural differences and disparities in access to healthcare resources, which can impact their ability to understand and utilise health information effectively;
2. Individuals with Limited Education:
 - Lower levels of education are often associated with lower health literacy levels. Individuals with limited educational attainment may struggle to understand complex health information, leading to difficulties in managing their health effectively;
3. Immigrants:
 - Immigrants, especially those who are recent arrivals or who have limited proficiency in the dominant language of their new country, may encounter challenges in accessing and understanding health information and navigating the healthcare system;
4. Low Socioeconomic Status:
 - Socioeconomic factors, such as poverty, limited access to healthcare services and unstable housing, can contribute to lower health literacy levels. Individuals with low socioeconomic status may face barriers to accessing healthcare and may have limited opportunities for health education;
5. People with Chronic Diseases:
 - Managing a chronic illness requires understanding complex medical information, adhering to treatment plans and making lifestyle changes. Individuals with chronic diseases may struggle with health literacy, which can affect their ability to effectively self-manage their condition and prevent complications; and
6. Caregivers of People with Special Health Needs.
 - Caregivers often need to understand and manage detailed medical instructions, medication regimens, and treatment plans. This complexity can be overwhelming, especially for those with limited health literacy. In addition, the demands of caregiving can lead to high levels of stress and burnout, which can further hinder the caregiver's ability to process and use health information effectively.

Meanwhile, limited health literacy at the community or organisational level can have significant consequences, including misunderstandings about public health warnings, missed opportunities for preventive services, lack of preparation for emergencies and increased burden on the healthcare system. Efforts to improve health literacy within communities and organisations are essential for promoting public health, enhancing healthcare access and utilisation, and building resilience to emergencies and disasters (**Figure 11**).



Figure 11: Consequences of Low Health Literacy

1. Misunderstandings about Public Health Warnings
 - Difficulty in understanding and following public health warnings, such as those related to COVID-19 preparedness, can result in confusion and non-compliance with preventive measures, leading to increased transmission of diseases within communities.
2. Missed Opportunities for Services
 - Individuals with limited health literacy may not fully comprehend the availability or importance of preventive services, such as free vaccines and screenings, leading to under utilisation of these services and missed opportunities for early detection and intervention of health conditions.
3. Lack of Preparation for Emergencies
 - Challenges in understanding emergency preparedness information, such as severe weather alerts or evacuation procedures, can leave communities vulnerable during emergencies, increasing the risk of injury, illness and loss of life.
4. Burden to Healthcare System
 - Limited health literacy can contribute to inefficiencies and increased burden on the healthcare system, as individuals may delay seeking care, misunderstand medical instructions, or experience adverse health outcomes due to inadequate understanding of health information. Low health literacy significantly impacts US health care costs, leading to an increase of \$50 billion to \$73 billion annually.

Legal Implications

Healthcare professionals have a legal obligation to effectively communicate health information to patients, particularly those with low literacy or health literacy. Failure to meet this obligation may lead to various legal consequences, including malpractice claims, challenges to informed consent, allegations of negligence, breach of professional conduct and civil liability claims.

The Dental Act in Malaysia serves as the legislative framework governing the dental profession within the country. Among its provisions, it emphasises the importance of adhering to guidelines and directives established by regulatory bodies such as the Malaysian Dental Council (MDC) (Malaysian Dental Act 2018). The MDC, as the statutory body responsible for regulating and overseeing the practice of dentistry in Malaysia, issues various directives to ensure the highest standards of professionalism, ethics and patient care are maintained within the dental profession.

One of the key directives issued by the MDC is the Code of Professional Conduct (MDC 2022). This code sets forth the ethical principles and standards of behaviour expected from dental professionals practising in Malaysia. It serves as a guiding framework to ensure that dentists uphold the highest levels of integrity, competence and accountability in their interactions with patients, colleagues and the public.

Factors Associated with Health Literacy

Factors associated with health literacy is as shown in **Figure 12**.

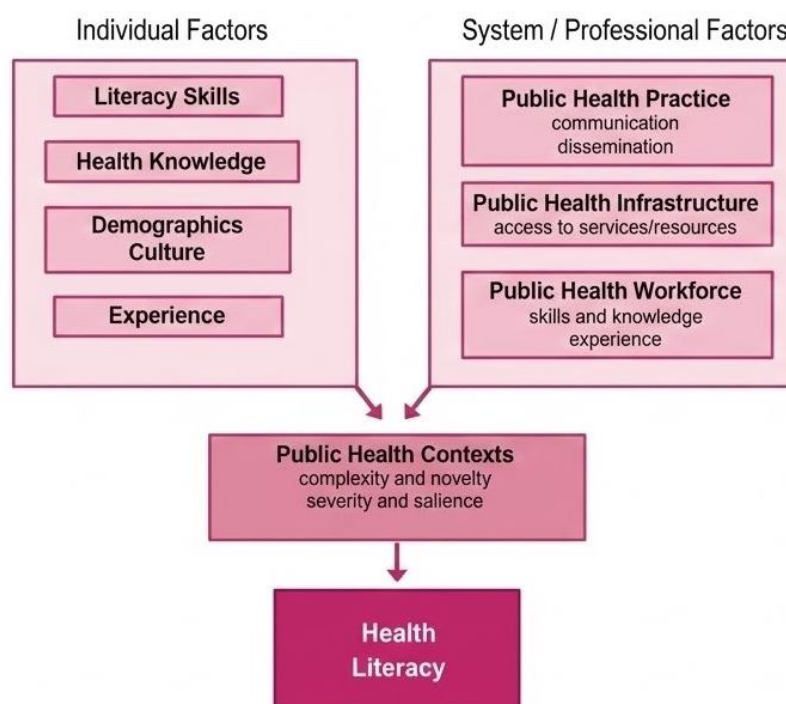


Figure 12: Factors Associated with Health Literacy

Individual Factors

Health literacy, the ability to obtain, understand and apply health information to make informed decisions about one's health, is influenced by a multitude of individual and professional/ system factors (Lima 2024). Individual factors encompass personal characteristics such as education level, language proficiency, cognitive abilities and socio-economic status, all of which shape an individual's capacity to comprehend and navigate health-related information. Moreover, cultural beliefs, health beliefs and prior experiences with the healthcare system significantly impact health literacy levels.

In order to accomplish certain tasks, a certain level of health literacy is required. These tasks involve different sets of skills and knowledge, but they all contribute to an individual's ability to understand and use health information effectively in various contexts. For example:

1. Understanding a newspaper article about COVID-19: This involves basic reading and comprehension skills. One needs to be able to read the words, understand their meanings and grasp the main idea of the article. For instance, if a newspaper talks about COVID-19 spreading in a certain area, one should understand that it means the virus is spreading there;
2. Calculating the amount of calories in 1.5 servings of macaroni and cheese, based on a nutrition label: This task requires basic maths skills. One need to be able to read the serving size on the nutrition label, then calculate how many calories are in 1.5 servings by multiplying the number of calories per serving by 1.5;

3. Knowing that sucrose is another word for sugar and choosing a product with less sugar: This involves knowledge of nutrition and understanding of some specialised terms (like "sucrose" being another word for "sugar"). When one sees "sucrose" on a nutrition label, one recognizes that it means there's sugar in the product. If that person wishes to consume less sugar, s/he can choose a product with a lower amount of sucrose listed on the label; and
4. Determining that "severe" is a more serious threat than "elevated," and deciding to take appropriate actions: This requires knowledge and understanding of risk. When one sees terms like "severe" and "elevated" in a warning or advisory, s/he needs to understand that "severe" means the threat is very serious and requires immediate attention or action, while "elevated" means the threat is significant but not as urgent. Based on this understanding, s/he would take more immediate and serious actions in response to a "severe" threat compared to an "elevated" threat.

Organisational Factors

On the other hand, organisational factors also known as professional or system factors pertain to the accessibility, clarity and appropriateness of health information and services provided by healthcare providers and institutions. Factors such as the use of jargon, complex medical terminology, inadequate communication skills of healthcare professionals and limited availability of health resources tailored to diverse populations contribute to disparities in health literacy. Additionally, systemic issues such as healthcare policies, organisational structures and the layout and design of health materials also play crucial roles in shaping individuals' health literacy levels. Addressing these multifaceted factors through targeted interventions, including improved communication strategies, health education programs and policy initiatives, is essential for promoting health equity. These would in turn enhance an individual's health literacy levels, improve health outcomes and promote health equity within communities.

The effectiveness of communication (**Figure 13**) between healthcare providers and patients significantly impacts health literacy. Health professionals need to communicate in a clear, understandable manner, avoiding jargon and using plain language to convey health information effectively. Strong communication skills facilitate better comprehension and retention of health information, empowering individuals to make informed decisions about their health.

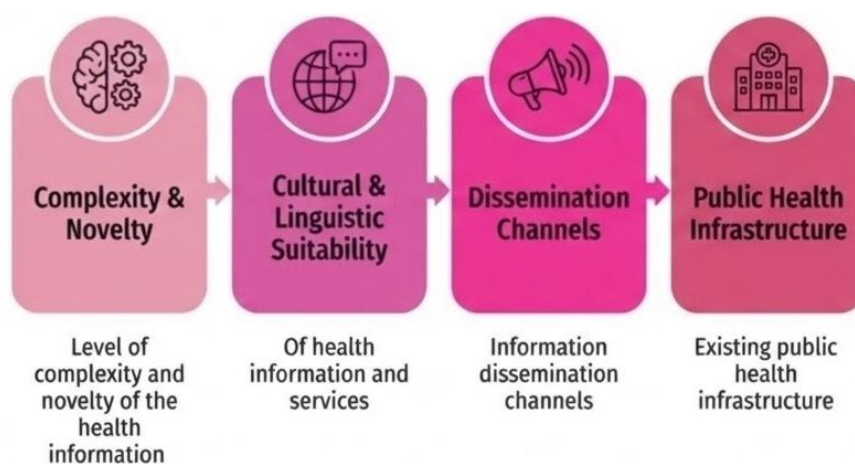


Figure 13: Effectiveness of Communication

1. Level of complexity and novelty of the health information

- Health literacy is influenced by the complexity and novelty of the information being communicated. Complex or unfamiliar concepts may pose challenges for individuals with lower health literacy levels. Therefore, health information should be presented in a manner that is easily understandable and relevant to the target audience, considering their knowledge, skills and cultural background.

2. Cultural and linguistic suitability of health information and services

- Cultural and linguistic factors play a crucial role in health literacy. Health information and services should be culturally sensitive and linguistically appropriate to meet the diverse needs of the population. This includes providing materials in multiple languages, considering cultural beliefs and practices, and involving community members in the development and dissemination of health resources.

3. Information dissemination channels

- The accessibility and effectiveness of information dissemination channels influence health literacy. Utilising a variety of channels such as websites, social media, community outreach programs and traditional media ensures that health information reaches individuals from diverse backgrounds and socioeconomic statuses. Tailoring information to suit different communication preferences and literacy levels enhances its impact and utility.

4. Existing public health infrastructure

- The quality and accessibility of public health infrastructure significantly impact health literacy within the community. Adequate funding, resources and staffing levels are essential for delivering comprehensive health education programs, promoting preventive care initiatives and ensuring equitable access to healthcare services. Strengthening public health infrastructure supports the development of a health-literate population by providing the necessary support and resources for individuals to engage with health information effectively.

Determining Health Literacy

Red Flags of Low Health Literacy

Identifying red flags for low health literacy is crucial for healthcare providers to tailor their communication and support strategies effectively. By recognizing these red flags for low health literacy, healthcare providers can implement targeted interventions to support patients in understanding their health conditions and treatment plans effectively. This may involve using plain language, providing visual aids, offering assistance with paperwork and scheduling, and addressing barriers to accessing care (Weiss 2007). Ultimately, improving health literacy can lead to better health outcomes and enhanced patient-provider communication and trust.

Among the red flags often associated with low health literacy are:

1. Incomplete or inaccurate registration forms and other paperwork:
 - Patients with low health literacy may struggle to understand and complete registration forms accurately. They may leave sections blank, provide inconsistent information, or misunderstand questions. Healthcare providers can address this by offering assistance with filling out forms, providing clear instructions and using plain language.
2. Frequently missed appointments:
 - Patients with low health literacy may have difficulty understanding appointment schedules or may forget appointments due to limited organisational skills. Healthcare providers can address this by sending reminders through text messages or phone calls, providing written appointment instructions and offering assistance with scheduling appointments.
3. Non adherence with medications or assigned treatment programs:
 - Limited health literacy can lead to misunderstandings about medication instructions or treatment plans, resulting in nonadherence. Patients may forget to take medications, take incorrect dosages or misunderstand how to follow treatment protocols. Healthcare providers can address this by using simple language to explain medication instructions, providing visual aids or pill organisers and conducting medication reconciliation regularly.
4. Inability to name medications or explain why they are taking them:
 - Patients with low health literacy may struggle to remember medication names or understand their purpose. They may not be able to articulate why they are taking certain medications or the importance of adherence to treatment plans. Healthcare providers can address this by conducting medication reviews during appointments, providing medication lists with clear instructions and offering education on the importance of medication adherence.
5. Lack of follow-through with laboratory tests or referrals:
 - Patients with low health literacy may have difficulty understanding the importance of laboratory tests or referrals and may fail to follow through with them. They may also encounter barriers such as transportation or financial issues. Healthcare providers can address this by explaining the purpose of laboratory tests or referrals in simple terms, providing assistance with arranging transportation or financial assistance and offering support in overcoming barriers to follow-up care.

Health Literacy Tools

Other than recognising the red flags of health literacy, various tools have been developed to measure the level of health literacy of an individual (Dickson 2014). Health literacy tools (**Figure 14**) can be categorised based on their focus, purpose and the aspects of health literacy they measure:

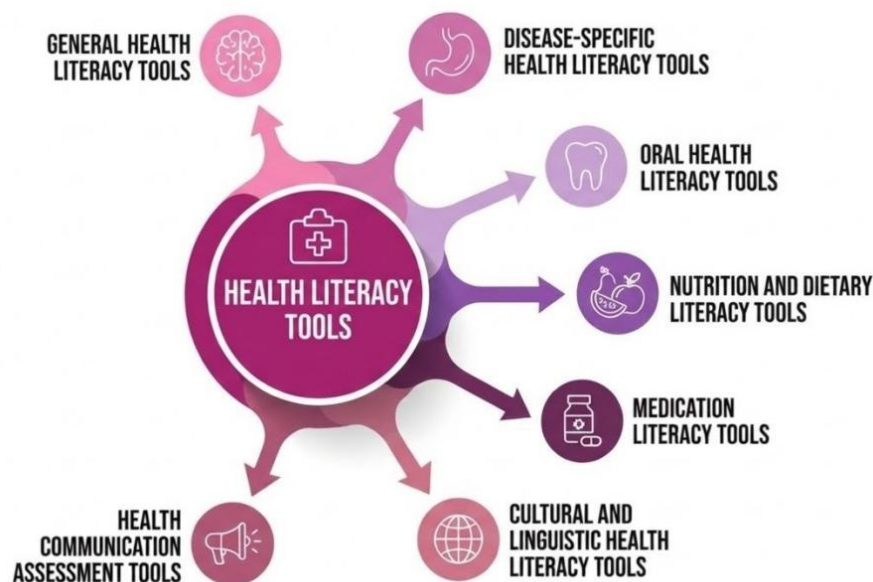


Figure 14: Health Literacy Tools

1. General Health Literacy Assessment Tools:
 - These tools assess overall health literacy across various domains, including reading comprehension, numeracy, critical thinking, and communication skills. They provide a broad overview of an individual's ability to understand and use health information in different contexts.
2. Disease-Specific Health Literacy Tools:
 - These tools focus on assessing health literacy related to specific diseases or health conditions. For example, there are tools designed to assess diabetes literacy, cancer literacy, HIV/AIDS literacy and specific oral diseases literacy. These tools evaluate an individual's understanding of disease-specific information, treatment options and self-management strategies.
3. Oral Health Literacy Tools:
 - Oral health literacy tools specifically measure an individual's ability to understand and apply oral health-related information. They assess factors such as knowledge of dental hygiene practices, understanding of dental terminology and ability to interpret oral health instructions and recommendations.
4. Nutrition and Dietary Literacy Tools:
 - These tools focus on assessing an individual's ability to understand and apply nutrition-related information, such as food labels, dietary guidelines and healthy eating recommendations. They may evaluate reading comprehension of nutritional content, numeracy skills for interpreting serving sizes and calorie counts and knowledge of dietary guidelines.
5. Medication Literacy Tools:
 - Medication literacy tools assess an individual's understanding of prescription drug labels, dosage instructions, potential side effects and medication management practices. They evaluate reading comprehension, numeracy skills for interpreting medication dosages and knowledge of safe medication use.
6. Health Communication Assessment Tools:
 - These tools focus on evaluating an individual's ability to communicate effectively with healthcare providers, understand health-related instructions and

recommendations and navigate the healthcare system. They may assess verbal communication skills, comprehension of medical terminology and confidence in interacting with healthcare professionals.

7. Cultural and Linguistic Health Literacy Tools:

- Cultural and linguistic health literacy tools evaluate an individual's ability to understand and use health information in culturally and linguistically appropriate ways. They assess factors such as language proficiency, cultural beliefs and practices and preferences for health communication.

These categories encompass a range of health literacy tools designed to assess different aspects of health literacy across various contexts and populations. Researchers and healthcare providers can select tools that align with their specific goals and target populations to effectively measure and address health literacy needs.

Health and Oral Health Literacy Tools Validated for Use in Malaysia

There are many tools that have been developed for the Malaysian population (Ramlay 2015; Noor 2019; Ismail 2018; Ying 2016; Fabillah 2015; Rath 2021, Jaafar 2021). They are mainly translated from English tools and adapted for Malaysian use. The following describes some of the tools available:

1. The Health Literacy Survey Malaysian Questionnaire (HLS-M-Q18) is a validated tool developed to measure health literacy in the Malaysian context. This questionnaire consists of 18 items that assess various aspects of health literacy among the Malaysian population. It is designed to evaluate individuals' capacity to access, understand, appraise and apply health information in the context of healthcare, disease prevention and health promotion (Jaafar 2021).
2. The Oral Health Literacy Instrument for Malaysian Adults (OHLI-M) is a tool specifically developed and validated to assess oral health literacy among adults in Malaysia. It consists of 57 items, with 38 items focusing on reading comprehension and 19 items assessing numeracy skills. OHLI-M plays a crucial role in evaluating individuals' capacity to understand and utilise oral health information effectively, contributing to improved oral health outcomes and awareness within the Malaysian population (Ramlay 2015).
3. The HeLD-14 M, the Health Literacy Dental Scale-14 Malay version, consists of 14 items that are categorised into three (3) domains: reading comprehension, numeracy and oral health-related knowledge. These domains collectively assess individuals' oral health literacy levels in Malaysia, focusing on their ability to understand and utilise oral health information effectively (Noor 2019).
4. The Oral Health Literacy Survey Questionnaire Malaysia (OHLS-M-Q18) is a newly developed and validated tool specifically designed to assess oral health literacy among Malaysian adults aged 18 years and above. Adapted from the HLS-M-Q18, this instrument underwent rigorous psychometric validation, including content and face validity, construct validity, internal consistency, and test-retest reliability. The OHLS-M-Q18 demonstrated excellent reliability (Cronbach's $\alpha = 0.96$; ICC > 0.90) and strong convergent validity with both HLS-M-Q18 and Malay HeLD-14. This tool provides a culturally appropriate and reliable measure for assessing oral health literacy in Malaysian population research and oral health promotion initiatives (Mohamed et al., 2024).

Strategies to Improve Health Literacy

Organisational health literacy significantly impacts individual health literacy by creating an environment that either facilitates or hinders individuals' ability to find, understand and use health information effectively. When organisations prioritise health literacy, they enable individuals to access information and services in a way that supports their understanding and decision-making regarding health-related matters. Health-literate organisations provide clear communication, easy access to information and support for individuals with varying levels of health literacy skills. By promoting organisational health literacy, individuals are more likely to navigate complex health systems successfully, leading to improved healthcare delivery, better health outcomes and enhanced health literacy skills among the population (Pronk 2020).

The 10 Essential Public Health Services (EPHS) serve as a framework to guide the field of public health, describing the activities that public health systems should undertake in all communities. These services are organised according to the three (3) core functions of public health: assessment, policy development and assurance. In relation to health literacy, training oral healthcare personnel in health literacy fulfils two (2) of the strategies outlined that are to:

- Build and maintain a strong organisational infrastructure for public health; and
- Communicate effectively to inform and educate.

Better communication in health education empowers individuals to make informed decisions about their health, improves patient self-management, enhances the use of healthcare services, boosts patient satisfaction, increases rewards for healthcare providers and reduces the likelihood of legal problems. The following strategies can be incorporated into health communication practices, where healthcare providers can effectively convey essential information, empower patients to take an active role in their healthcare, with the aim to ultimately improve health outcomes. These approaches prioritise clarity, engagement and patient-centred communication, fostering a collaborative relationship between patients and healthcare providers. The managements of healthcare organisations need to play a role to ensure their organisation possess strong organisational infrastructure that take into account different levels of health literacy of the population utilising their services. This includes ensuring a system to train all healthcare personnel in the organisation to be able to communicate and educate effectively.

Some of the strategies that organisations could priorities to train their employees and improve their ability to communicate and educate are as follows (**Figure 10**):

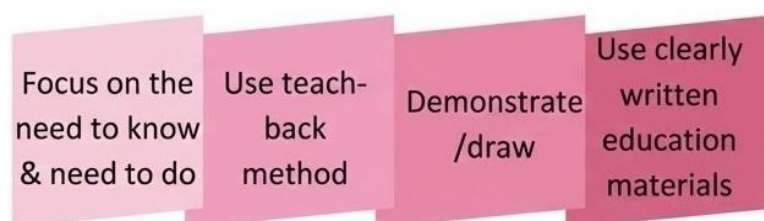


Figure 15: Strategies to Improve Ability to Communicate

1. Focus on the need to know & need to do:
 - When communicating health information to patients, it's important to prioritise the essential information they need to understand their condition, treatment plan and self-care practices. Focus on key points that are relevant to their health outcomes and empower them with actionable steps they need to take. By highlighting the need-to-know and need-to-do aspects, healthcare providers can ensure that patients grasp the most critical information and feel confident in managing their health;
2. Use teach-back method:
 - The teach-back method is a communication technique where healthcare providers ask patients to explain in their own words what they've learned from the conversation. This approach helps confirm understanding and identify any misunderstandings or gaps in knowledge. By actively engaging patients in the learning process and encouraging them to reiterate information, healthcare providers can reinforce key messages and address misconceptions effectively;
3. Demonstrate/ draw:
 - Visual aids such as demonstrations or drawings can enhance understanding, especially for patients with low health literacy or limited language proficiency. Healthcare providers can use visual representations to illustrate complex concepts, procedures or anatomical structures. By demonstrating techniques or drawing diagrams, healthcare providers can make abstract or technical information more concrete and easier to comprehend for patients; and
4. Use clearly written education materials:
 - Providing written materials in clear, easy-to-understand language is essential for supporting health communication. Healthcare providers can offer pamphlets, brochures or handouts that reinforce verbal instructions and provide additional information for patients to reference at home. It's important to use plain language, avoid medical jargon and include visual elements to enhance readability. Additionally, tailoring materials to the patient's cultural and linguistic preferences can further improve comprehension and engagement.

Importance of Plain Language in Health Communication

The importance of plain language in health communication lies in its ability to make health information more accessible, understandable and actionable for individuals with varying levels of health literacy. It helps in promoting health literacy, improving patient understanding and compliance, empowering individuals to take charge of their health, reducing disparities in healthcare access and outcomes, and fulfilling legal and ethical responsibilities within the healthcare system (Warde 2018).

1. Enhanced Understanding

- Plain language simplifies complex health information, making it easier for individuals to comprehend medical terms, treatment instructions and health advice. This clarity helps patients understand their conditions, treatment options and preventive measures more effectively;

2. Improved Health Literacy

- By using plain language, health communication professionals can bridge the gap between technical medical jargon and everyday language, empowering individuals to navigate the healthcare system, make informed decisions and engage in self-care practices confidently;

3. Increased Compliance

- Clear and concise health information encourages better adherence to treatment plans, medication regimens and lifestyle recommendations. When patients understand their healthcare providers' instructions clearly, they are more likely to follow through with prescribed treatments;

4. Empowerment

- Plain language empowers individuals to advocate for their health by understanding their rights, asking questions during medical appointments and actively participating in shared decision-making processes with healthcare providers;

5. Reduced Health Disparities

- Using plain language in health communication helps address disparities in health outcomes by ensuring that all individuals, regardless of their literacy levels or cultural backgrounds, have equal access to critical health information needed to make informed choices about their well-being; and

6. Legal and Ethical Obligations

- Health organisations have legal and ethical obligations to communicate health information clearly and accurately to patients. Plain language supports these obligations by promoting transparency, trust and patient-centred care.

Evaluating Health Education Materials

All health education materials need to be evaluated to ensure that they are effective, accurate and tailored to the needs of the target audience. Evaluating health education materials is essential for ensuring their effectiveness, relevance to the target audience, accuracy, quality assurance, patient-provider relationship enhancement and promotion of self-care practices and empowerment among individuals seeking health information (DeWalt 2011, Flanders 2018, Farrel-Miller & Gentry 1998).

Reasons to Evaluate Health Education Materials

1. Effectiveness:

- Evaluating health education materials ensures that they are achieving their intended goals, whether it is increasing knowledge, changing behaviours or promoting self-care practices. This assessment helps in refining and improving the materials for better outcomes;

2. Tailoring to Audience Needs:

- Evaluation helps in understanding if the materials are meeting the specific needs of the target population in terms of readability, content relevance, cultural appropriateness and educational level. This ensures that the information is accessible and understandable to the intended audience;

3. Quality Assurance:
 - Assessing health education materials ensures that they are accurate, evidence-based and up to date. It helps in identifying any inaccuracies, biases or outdated information that could mislead or confuse individuals seeking health information;
4. Enhancing Patient-Provider Relationship:
 - High-quality educational materials contribute to building trust between patients and healthcare professionals. When patients receive accurate and clear information, it enhances their knowledge, promotes shared decision-making and strengthens the patient-provider relationship; and
5. Promoting Self-Care and Empowerment:
 - Well-evaluated health education materials empower individuals to take charge of their health by providing them with reliable information to make informed decisions about their well-being. This empowerment leads to better health outcomes and increased patient engagement in managing their health.

Tools to Evaluate Health Education Materials

There are guidelines and tools developed to objectively evaluate health education materials. These tools provide structured methods for evaluating health education materials to ensure they are clear, understandable, actionable, culturally appropriate and tailored to the needs of diverse audiences. By using these guidelines and tools, healthcare professionals can assess the quality and effectiveness of health education materials in promoting better health outcomes and empowering individuals to make informed decisions about their well-being.

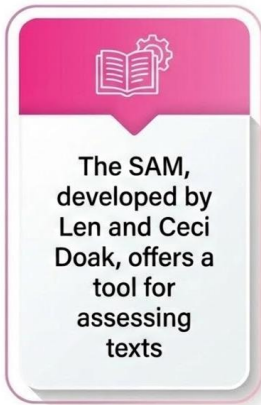
Some of the commonly used health education materials evaluation tools that have been used include but are not limited to the following:



The PEMAT was developed by the AHRQ to allow for the systematic assessment of the understandability and actionability of various patient education materials. Two (2) different versions of the PEMAT exist: one for the evaluation of printable materials and one for the evaluation of audiovisual materials. PEMAT has also been used frequently in Malaysia (AHRQ 2015). The PEMAT has also been successfully translated and adapted to Bahasa Malaysia known as PEMAT-M and can be specifically used for the local.



This 20-item research-based index is intended for use in the development and assessment of public health communication materials that are clear and can be easily understood by the public. The CDC has developed an Index Widget, which can be incorporated into other websites (Baur 2014);



The SAM enables reviewers to move beyond mere readability assessments and consider the many important aspects of materials such as organisation format, design and culture-that ease or hinder reading, comprehension and use. Information on SAM can be found on page 51-60 of the Doak, Doak and Root book Teaching Patients with Low Literacy Skills, Second Edition (Doak 1996, Hoffman 2012).

Guidelines titled Resources for Developing and Assessing Materials by Rima Rudd (2011) could also be used to help with the assessment of health education materials developed.

Conclusion

Organisational health literacy could be improved through creation of a supportive environment that involves the implementation of several key strategies. This includes ensuring clear signs and directions, providing plain language forms, maintaining an easily navigable website, establishing a clear appointment system and offering a friendly and reachable phone line. Additionally, trained personnel play a crucial role by engaging in clear communication practices and being aware of patients' low literacy or limitations. By creating an environment that prioritises accessibility, simplicity and understanding, healthcare organisations can empower individuals to navigate healthcare services more effectively, leading to improved individual's health literacy that leads to improved health outcomes and enhanced patient satisfaction (Palumbo & Annaruma 2018, Seidel 2023).

PART B: DETAILS OF THE MODULE

Who the module is intended for:

This module is designed for all personnel working in an oral healthcare facility.

What's in the module:

This module contains two (2) sub-modules to introduce participants on the fundamentals of oral health literacy. The sub-modules within this module are as follow:

Sub-module 1: Introduction to Oral Health Literacy

Sub-module 2: Strategies to Improve Oral health Literacy

Aim and objectives of the module:

This module aims to enhance participants with the fundamentals of oral health literacy and allow participants to recognize its significance in patient communication.

The objectives of the module follow the objective(s) of each sub-module:

Sub-module 1 : To enable participants:

1. To understand the definition of oral health literacy; and
2. To discuss the impact of oral health literacy on patient outcomes.

Sub-module 2 : To equip participants with the knowledge and skills:

1. To understand common barriers to oral health literacy;
2. To identify signs of individuals with oral health literacy issues; and
3. To discuss strategies to overcome barriers to oral health literacy.

How to conduct this module:

Each sub-module has its individual requirements and expected completion time. They may be delivered on the same day or they may also be delivered in stages on different dates. However, the order of the sub-module must be the same as the order listed in this module.

Competencies Addressed According to Sub-Module:

No.	Competency (K= Knowledge)	Sub- module 1	Sub- module 2
1.	knows one or more definitions of health literacy (K)	√	
2.	knows the basic literacy skill domains (reading, writing, speaking, listening, numeracy), and gives examples of health care related demands put on patients for each domain, including difficulties navigating health care systems. (K)	√	
3.	knows the difference between the ability to read, and reading comprehension, and why general reading levels do not ensure patient understanding. (K)	√	
4.	knows that years of educational attainment is an inadequate marker for health literacy skills. (K)		√
5.	Knows which kinds of words, phrases, or concepts may be jargon to patients. (K)	√	
6.	estimates the prevalence of low literacy (or low health literacy) among Malaysian adults and knows that certain subgroups are at increased risk. (K)		√
7.	knows that cultural and linguistic differences between patients and health care professionals can magnify health literacy issues. (K)		√
8.	knows that adults with low literacy tend to experience shame, and hide their lack of skills from health care professionals (K)		√
9.	knows that tools are available for estimating individuals' health literacy skills, but that routine screening for low health literacy has not been proven safe or acceptable. (K)		√
10.	knows that health literacy is context-specific; individuals with high general literacy may have low health literacy. (K)		√
11.	knows that health literacy may decrease during times of physical or emotional stress. (K)		√
12.	knows examples of the direct relationship between health literacy and <ul style="list-style-type: none"> • knowledge about one's chronic disease(s) and medications • adherence to medications and treatment plans • receipt of preventive health services • health outcomes or risk of harm. (K) 		√
13.	recognizes potential legal implications for inadequately conveying health information to patients with low literacy or health literacy. (K)	√	
14.	knows that low health literacy has been associated with excess healthcare costs. (K)		√

Sub-module 1: Introduction to Oral Health Literacy

The objectives of this sub-module are to enable participants:

1. To understand the definition of oral health literacy; and
2. To discuss the impact of oral health literacy on patient outcomes.

Details and Requirements:

Item	Small group activity	Interactive lecture
Details	In small groups; <ol style="list-style-type: none"> 1. Self-introduction of participants 2. Ask each participant to share with the group a personal anecdote related to overcoming communication challenges in dental practice 	<ol style="list-style-type: none"> 1. Using Google slide as guide, introduce Oral Health Literacy to the audience 2. Define oral health literacy and its broader implications 3. Discuss how it extends beyond reading and writing to include understanding and applying oral health information 4. Explore the impact of oral health literacy on patient outcomes 5. Utilise audience response system for active participation
Estimated time	20 minutes	25 minutes
Flow	Preferably before the lecture	Preferably after the small group activity
Materials/ Tools	<ol style="list-style-type: none"> 1. Participants' own mobile device or tablet/ laptop with internet connectivity to share the poster or video to the group. 2. Google drive will be allocated for each group and related materials can be uploaded in the drive based on activity. 	Interactive lecture materials. (Google Slide presentation, video, Quiz questions to be transferred to either slido, kahoot, mentimeter or any other audience response system to promote interactive communication between lecturer and participants).
Manpower (recommended for more effective delivery)	One (1) facilitator to three (3) groups of four (4) to five (5) participants for small group activities. (1:15)	Minimum one (1) lecturer for the interactive lecture session, regardless of the number of participants

Sub-module 2: Strategies to Improve Oral Health Literacy

The objective of this sub-module is to equip participants with the knowledge and skills:

1. To understand common barriers to oral health literacy;
2. To identify signs of individuals with oral health literacy issues; and
3. To discuss strategies to overcome barriers to oral health literacy.

Details and Requirements:

Item	Small group activity 1	Interactive lecture	Small group activity 2
Details	In small groups: <ol style="list-style-type: none"> 1. Ask each group to list two (2) medical terms/ jargons 2. Explain these terms in plain language 	<ol style="list-style-type: none"> 1. Using Google Slide as a guide, explain: <ul style="list-style-type: none"> ● The factors associated with low health literacy ● How to identify patients with low health literacy ● Strategies to overcome barriers to oral health literacy 2. Utilise audience response system for active participation 	In small groups, <ol style="list-style-type: none"> 1. Discuss strategies that may be useful to overcome health literacy barriers in the clinic 2. Present to the class the strategies discussed
Estimated time	15 minutes	25 minutes	45 minutes
Flow	Preferably before the lecture	Preferably in between small group activity 1 and 2	Preferably after the lecture
Materials/ Tools	<ol style="list-style-type: none"> 1. Participants' own mobile device or tablet/ laptop with internet connectivity 2. Google drive will be allocated for each group and related materials can be uploaded in the drive based on activity 	Interactive lecture materials. (Google Slide presentation, video, Quiz questions to be transferred to either slido, kahoot, mentimeter or any other audience response system to promote interactive communication between lecturer and participants	<ol style="list-style-type: none"> 1. Participants' own mobile device or tablet/ laptop with internet connectivity 2. Google drive will be allocated for each group and related materials can be uploaded in the drive based on activity
Manpower (recommended for more effective delivery)	One (1) facilitator to three (3) groups of four (4) to five (5) participants for small group activities-1:15.	Minimum one (1) lecturer for the interactive lecture session, regardless of the number of participants	One (1) facilitator to three (3) groups of four (4) to five (5) participants for small group activities. (1:15)

Reference for Google Slide

Link:

<https://drive.google.com/drive/folders/1fzRhoPxM3fz6SP-Py0FcB5Qu7u0aqHGt?usp=sharing>

QR Code:



ASSESSMENT

Self- assessment

The following assessment shall be conducted before the participant joins the first sub-module and after the completion of the final sub-module:

Please state your level of agreement with the following statements:

1= Strongly disagree; 2=Disagree;3=Agree; 4=Strongly Agree

No.	As an oral healthcare personnel, I:	1	2	3	4
1.	know one or more definitions of health literacy.				
2.	know the basic literacy skill domains (reading, writing, speaking, listening, numeracy), and give examples of healthcare related demands put on patients for each domain, including difficulties navigating health care systems.				
3.	know the difference between the ability to read, and reading comprehension, and why general reading levels do not ensure patient understanding.				
4.	know that years of educational attainment is an inadequate marker for health literacy skills.				
5.	know which kinds of words, phrases, or concepts may be jargon to patients.				
6.	can estimate the prevalence of low literacy (or low health literacy) among Malaysian adults and know that certain subgroups are at increased risk.				
7.	know that cultural and linguistic differences between patients and health care professionals can magnify health literacy issues.				
8.	know that adults with low literacy tend to experience shame and hide their lack of skills from health care professionals.				
9.	know that tools are available for estimating individuals' health literacy skills, but that routine screening for low health literacy has not been proven safe or acceptable.				
10.	know that health literacy is context-specific; individuals with high general literacy may have low health literacy.				
11.	know that health literacy may decrease during times of physical or emotional stress.				
12.	know examples of the direct relationship between health literacy and <ul style="list-style-type: none"> •knowledge about one's chronic disease(s) and medications • adherence to medications and treatment plans • receipt of preventive health services • health outcomes or risk of harm. 				
13.	recognize potential legal implications for inadequately conveying health information to patients with low literacy or health literacy.				
14.	know that low health literacy has been associated with excess healthcare costs.				

Peer- assessment (Optional)

The following assessment shall be conducted before the start of the first sub-module and after the completion of the final sub-module, by the participant’s peer or superior.

Name of Officer assessed:

Clinic:

Name of Assessor:

Please state your level of agreement with the following statements:

1= Strongly disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

No.	As an oral healthcare personnel, I:	1	2	3	4
1.	knows one or more definitions of health literacy.				
2.	knows the basic literacy skill domains (reading, writing, speaking, listening, numeracy), and gives examples of healthcare related demands put on patients for each domain, including difficulties navigating health care systems.				
3.	knows the difference between the ability to read, and reading comprehension, and why general reading levels do not ensure patient understanding.				
4.	knows that years of educational attainment is an inadequate marker for health literacy skills.				
5.	knows which kinds of words, phrases, or concepts may be jargon to patients.				
6.	can estimate the prevalence of low literacy (or low health literacy) among Malaysian adults and know that certain subgroups are at increased risk.				
7.	knows that cultural and linguistic differences between patients and health care professionals can magnify health literacy issues.				
8.	knows that adults with low literacy tend to experience shame and hide their lack of skills from health care professionals.				
9.	knows that tools are available for estimating individuals’ health literacy skills, but that routine screening for low health literacy has not been proven safe or acceptable.				
10.	knows that health literacy is context-specific; individuals with high general literacy may have low health literacy.				
11.	knows that health literacy may decrease during times of physical or emotional stress.				
12.	know examples of the direct relationship between health literacy and <ul style="list-style-type: none"> •knowledge about one’s chronic disease(s) and medications • adherence to medications and treatment plans • receipt of preventive health services • health outcomes or risk of harm. 				
13.	recognizes potential legal implications for inadequately conveying health information to patients with low literacy or health literacy.				
14.	knows that low health literacy has been associated with excess healthcare costs.				

REFERENCES

Agency for Healthcare Research and Quality (AHRQ) Patient Education Material Assessment Tool (PEMAT). 2015 (Rockville (MD). Available at: <https://www.ahrq.gov/professionals/prevention-chronic-care/improve/self-mgmt/pemat/pemat-p.html>

Baur C, Prue C. The CDC Clear Communication Index is a new evidence-based tool to prepare and review health information. *Health Promot Pract.* 2014 Sep;15(5):629-37. doi: 10.1177/1524839914538969. Epub 2014 Jun 20. PMID: 24951489.

Bowen DJ, Kreuter M, Spring B, Cofta-Woerpel L, Linnan L, Weiner D, Bakken S, Kaplan CP, Squiers L, Fabrizio C, Fernandez M. How we design feasibility studies. *Am J Prev Med.* 2009 May;36(5):452-7

Brach C, Harris LM. Healthy people 2030 health literacy definition tells organizations: make information and services easy to find, understand, and use. *Journal of general internal medicine.* 2021 Apr;36(4):1084-5.

Centers for Disease Control and Prevention, 10. Essential public health services. National Public Health Performance Standards Program.

Coleman, C.A., Hudson, S. and Maine, L.L., 2013. Health literacy practices and educational competencies for health professionals: a consensus study. *Journal of health communication*, 18(sup1), pp.82-102.

DeWalt DA, Broucksou KA, Hawk V, Brach C, Hink A, Rudd R, Callahan L. Developing and testing the health literacy universal precautions toolkit. *Nursing outlook.* 2011 Mar 1;59(2):85-94.

DeWalt, D.A., Broucksou, K.A., Hawk, V., Brach, C., Hink, A., Rudd, R. and Callahan, L., 2011. Developing and testing the health literacy universal precautions toolkit. *Nursing outlook*, 59(2), pp.85-94.

Dickson-Swift, V., Kenny, A., Farmer, J., Gussy, M. and Larkins, S., 2014. Measuring oral health literacy: a scoping review of existing tools. *BMC oral health*, 14, pp.1-13.

Doak C, Doak L, Root J, *Teaching Patients with Low Literacy Skills.* 2nd ed. Philadelphia: JB Lippincott; 1996

Elizabeth Seidel, Tara Cortes, and Cynthia Chong. Strategies to Improve Organizational Health Literacy. 2023 <https://psnet.ahrq.gov/primer/strategies-improve-organizational-health-literacy>

Fabillah NSA, Mustapa N, Rohani MM, Esa R. Oral health literacy among carers of special needs children in Kuala Terengganu, Malaysia. *Ann Dent Univ Malaya.* 2015;22(3):1–6.

Farmanova E, Bonneville L, Bouchard L. Organizational health literacy: review of theories, frameworks, guides, and implementation issues. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2018 Mar 23;55:0046958018757848.

Farrell-Miller P, Gentry P. How effective are your patient education materials? Guidelines for developing and evaluating written educational materials. *Diabetes Educ*. 1989 Sep-Oct;15(5):418-22. doi: 10.1177/014572178901500505. PMID: 2776637.

Flanders, S.A., 2018. Effective patient education: Evidence and common sense. *Medsurg Nursing*, 27(1), pp.55-58.

Healthy People 2010 (Group), 2000. *Healthy people 2010 (Vol. 2)*. US Department of Health and Human Services, Healthy People 2010.

Hoffmann, T., & Ladner, Y. (2012). Assessing the Suitability of Written Stroke Materials: An Evaluation of the Interrater Reliability of the Suitability Assessment of Materials (SAM) Checklist. *Topics in Stroke Rehabilitation*, 19(5), 417–422. doi:10.1310/tsr1905-417

Ismail AF, Ardini YD, Mohamad N, Bakar HA. Association between parental oral health literacy and children's oral health status. *Rev Latinoam Hipertens*. 2018;13(3):312–6.

Ismail A, Razak IA, Ab-murat N. The impact of anticipatory guidance on early childhood caries: a quasi-experimental study. *BMC Oral Health*. 2018;18(126):1–8.

Jaafar, N., Perialathan, K., Krishnan, M., Juatan, N., Ahmad, M., Mien, T.Y.S., Salleh, K.Z., Isa, A., Mohamed, S.S., Hanit, N.H.A. and Hasani, W.S.R., 2021. Malaysian health literacy: scorecard performance from a national survey. *International journal of environmental research and public health*, 18(11), p.5813.

Kaphingst, K. A., Weaver, N. L., Wray, R. J., Brown, M. L., Buskirk, T., & Kreuter, M. W. (2014). Effects of patient health literacy, patient engagement and a system-level health literacy attribute on patient-reported outcomes: A representative statewide survey. *BMC Health Services Research*, 14(1), 1–8.

Kindig, D.A., Panzer, A.M. and Nielsen-Bohlman, L. eds., 2004. *Health literacy: a prescription to end confusion*.

Kirsch IS, Jungebut A, Jenkins, L, Kolstad, A. *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey*. Washington, DC: Department of Education 1993

Kleinman, D., 2013. Background overview: exploring the invisible barrier to achieving oral health. In *Oral Health Literacy: Workshop Summary [Internet]*. The Institute of Medicine.

Kutner, M., Greenburg, E., Jin, Y. and Paulsen, C., 2006. *The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy*. NCEs 2006-483. National Center for education statistics.

Lima, A.C.P., Maximiano-Barreto, M.A., Martins, T.C.R. and Luchesi, B.M., 2024. Factors associated with poor health literacy in older adults: A systematic review. *Geriatric Nursing*, 55, pp.242-254.

Lloyd JE, Song HJ, Dennis SM, Dunbar N, Harris E, Harris MF. A paucity of strategies for developing health literate organisations: a systematic review. *PLoS One*. 2018 Apr 11;13(4):e0195018.

Lymphoma Coalition, 2023. Health Literacy in Asia Pacific. National Health Literacy Policies and Strategies in the Region.

Malikhao P. Health Communication: Approaches, Strategies, and Ways to Sustainability on Health or Health for All. *Handbook of Communication for Development and Social Change*. 2020 Feb 26:1015–37. doi: 10.1007/978-981-15-2014-3_137. PMID: PMC7278262.

Malaysian Dental Act 2018

Malaysian Dental Council. Code of Professional Conduct. 2022

Mohamed N, Jaafar A, Ramlay MZ, Wan-Sulaiman WS, Saddki N, Sujak SL, AB Murat N, Rani H, Perianathan K. Validation of the Oral Health Literacy Survey Questionnaire Malaysia (Ohls-M-Q18) for Use Among Malaysian Adults. *International Journal of Oral Health*. 2025; 17:113.

Noor NM, Rani H, Zakaria ASI, Yahya NS, Sockalingam NMP. Sociodemography, oral health status and behaviours related to oral health literacy. *Pesqui Bras Odontopediatria Clin Integr*. 2019;19:e5109.

Palumbo, R. and Annarumma, C., 2018. Empowering organizations to empower patients: An organizational health literacy approach. *International Journal of Healthcare Management*, 11(2), pp.133-142.

Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, 29(5), 489–497.

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, 30(4), 459–467.

Praveen, S., Parmar, J., Chandio, N. and Arora, A., 2021. A systematic review of cross-cultural adaptation and psychometric properties of oral health literacy tools. *International Journal of Environmental Research and Public Health*, 18(19), p.10422.

Pronk N, Kottke T, Milstein B, Rossom R, Stiefel M; Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2030. Health and well-being, in Issue briefs to inform development and implementation of Healthy People 2030.

Ramlay MZ. Cross cultural adaptation and validation of oral health literacy instrument for use in Malaysia [Doctor of Dental Public Health Thesis]. School of Dental Sciences, Universiti Sains Malaysia, Malaysia: 2015

Rath, A., Wong, M., Pannuti, C.M. et al. Cross-cultural adaptation and validation of Malay version of Rapid Estimate of Adult Literacy in Dentistry (MREALD-30) among Orang Asli population in Malaysia. *BMC Oral Health* 21, 519 (2021). <https://doi.org/10.1186/s12903-021-01866-9>

Ratzan, S.C. and Parker, R.M., 2000. Health literacy. National library of medicine current bibliographies in medicine. Bethesda: National Institutes of Health, US Department of Health and Human Services.

Rudd, R.E., 2011. Resources for developing and assessing materials. *Health Literacy Studies*. www.hsph.harvard.edu/healthliteracy (Accessed 25 March 2011).

Saunders C, Palesy D, Lewis J. Systematic review and conceptual framework for health literacy training in health professions education. *Health Professions Education*. 2019 Mar 1;5(1):13-29.

Sørensen K, Levin-Zamir D, Duong TV, Okan O, Brasil VV, Nutbeam D. Building health literacy system capacity: a framework for health literate systems. *Health Promotion International*. 2021 Dec 1;36(Supplement_1):i13-23.

US Department of Health and Human Services, 2020

Warde F, Papadakos J, Papadakos T, Rodin D, Salhia M, Giuliani M. Plain language communication as a priority competency for medical professionals in a globalized world. *Can Med Educ J*. 2018 May 31;9(2):e52-e59. PMID: 30018684; PMCID: PMC6044302.

Weiss, B. D. (2007). *Health Literacy: A Manual for Clinicians*. Chicago, IL: American Medical Association Foundation and American Medical Association.

Ying NY, Ming LS, Mohd-said S, Yusof N, Mohd-dom TN. Oral health literacy and behaviour of health sciences university students. *J Dent Indones*. 2016;22(2):56–62