The Relationship Between Health Literacy and Self-Efficacy in Adults with Chronic Kidney Disease: A Descriptive Cross-Sectional Study.

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Chronic Kidney Disease: Introduction

- Globally, number of adults with chronic kidney disease (CKD) has increased steadily, population estimated to be +850 million
- The main goal of CKD treatment is to prevent progression of the disease to complete kidney failure, involves self-management.
- The burden of self-management increases as the disease process progresses, in many instances the capacity to perform these vital self-care activities decreases (Du et al., 2022).



Du, Y., Dennis, B., Ramirez, V. *et al.* (2022) Experiences and disease self-management in individuals living with chronic kidney disease: qualitative analysis of the National Kidney Foundation's online community. *BMC Nephrol;*23, 88.

Chronic Kidney Disease: The Hong Kong context

- It is estimated that approximately 800,000, (10%), currently live with CKD in Hong Kong, with those in low-income communities particularly affected (Tang et al., 2024).
- A significant proportion of the local high-risk population are not believed to be aware of their potential kidney problem and take no preventive measures.
- Despite having one of the highest life expectancy rates in the world important risk factors for developing CKD are not uncommon in Hong Kong.

Tang SCW , Ho KKL, Ko WWK, Lee A et al., (2024) Management of chronic kidney disease: a Hong Kong consensus recommendation. *Hong Kong Med J*;30(6):478-487.

Chronic Kidney Disease: Background

- In CKD, adults have to deal with multiple medications, complex treatment regimens, lifestyle modifications, as well as dealing with numerous health-related clinical appointments.
- This requires health literacy (HL) skills to access and utilize health information (Dinh et al., 2022).



Dinh HTT, Nguyen NT, Bonner A (2022) Healthcare systems and professionals are key to improving health literacy in chronic kidney disease. *J Ren Care*;48(1):4-13.

Chronic Kidney Disease: WHO Definition

Health literacy is the ability to find, understand, and use reliable health information and services to make well-informed decisions about your health and the health of others.

World Health Organization

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More than 1 in 2 adults can't:

Use a BMI graph to find their healthy weight

22 23 24 25 26 27 28 29 30
119 124 129 134 138 143 148

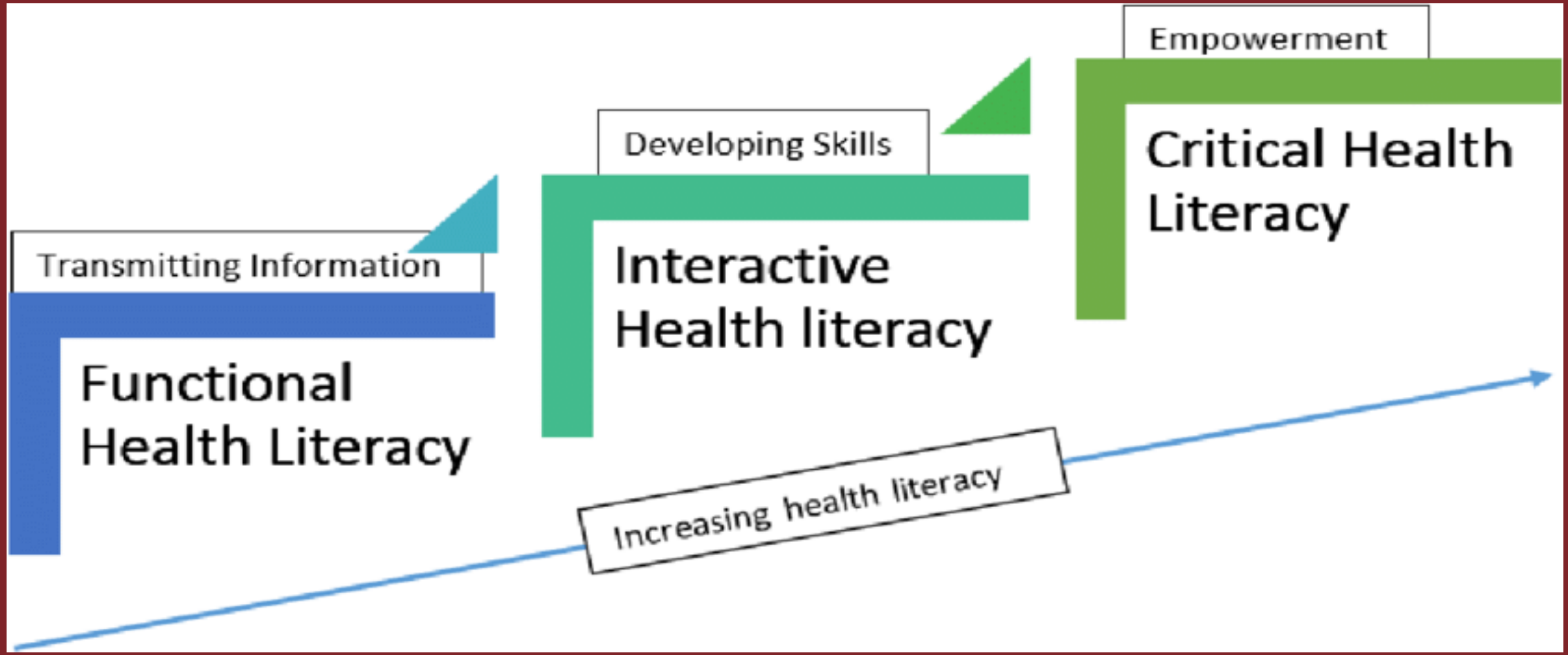
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Understand a vaccination chart

HepB
PCV
IPV
DTaP
MMR
Varicella
HepA

Read a drug label




Transmitting Information
Functional Health Literacy
Developing Skills
Interactive Health literacy
Empowerment
Critical Health Literacy
Increasing health literacy

What is self efficacy?

A concept developed by Bandura:

‘an individual's belief in their capacity to execute behaviours necessary to produce specific performance attainments’



Bandura, A., & National Inst of Mental Health. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice-Hall, Inc.

What is aim of this study?

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This study aims to:

'Examine the relationship between health literacy (HL) and self-efficacy (SE) among adults with chronic kidney disease (CKD) in Hong Kong.'



Study Design

- Cross-sectional survey design
- First phase of a sequential mixed method study (Quantitative)
- Convenience sampling was used to recruit adults attending a CKD self-help group in Hong Kong.

Primary Outcome measures

Participants completed two self-reported Chinese questionnaires:

Scales with good psychometric properties (validity and reliability)

- Short-Form Health Literacy Questionnaire (HLS-SF12)
- Chinese General Self-Efficacy Scale (CGSE)

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Short-Form Health Literacy Questionnaire (HLS-SF12)

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Conceptual based short-form health literacy questionnaire (HLS-SF12)

	On a scale from very easy to very difficult, how easy would you say it is to:	*Very difficult*	*Fairly difficult*	*Fairly easy*	*Very easy*
		1	**2**	**3**	**4**
Q2.1	…find information on treatments of illnesses that concern you?				
Q2.2	…understand the leaflets that come with your medicine?				
Q2.3	…judge the advantages and disadvantages of different treatment options?				
Q2.4	…call an ambulance in an emergency?				
Q2.5	…find information on how to manage mental health problems like stress or depression?				
Q2.6	…understand why you need health screenings (such as breast exam, blood sugar test, blood pressure)?				
Q2.7	…judge which vaccinations you may need?				
Q2.8	…decide how you can protect yourself from illness based on advice from family and friends?				
Q2.9	…find out about activities (such as meditation, exercise, walking, Pilates etc.) that are good for your mental well-being?				
Q2.10	…understand information in the media (such as Internet, newspaper, magazines) on how to get healthier?				
Q2.11	…judge which everyday behavior (such as drinking and eating habits, exercise etc.) is related to your health?				
Q2.12	… join a sports club or exercise class if you want to?				

Results: I

Table 1. Sociodemographic Characteristics of Participants (n = 242)

Characteristic	n	%
Sex		
Female	126	52.1
Male	116	47.9
Age		
≤50 years	85	35.1
51–60 years	86	35.4
≥61 years	71	29.5
Education Level		
Primary School	13	5.4
Secondary School	139	57.4
University	77	31.9
Diploma		
Technical School	13	5.4

Note: Percentages refer to valid cases

Results: 2

Table 2. Health Literacy Levels (HLS-SF12*)

Health Literacy Level	N = 242	%
Limited Health Literacy	60	24.8
Problematic Health Literacy	131	54.1
Sufficient Health Literacy	39	16.1
Excellent Health Literacy	12	5.0

Note: HLS-SF12 = Health Literacy; *Score ranges as per Selvakumar et al., 2023

Results: 3

Table 3. Mean CGSE Scores by Level of HLS-SF12

Health Literacy Level	N = 242	Mean	SD	SEM
Limited/Problematic HL	191	21.19	5.08	0.37
Sufficient/Excellent HL	51	27.03	6.71	0.93

HLS-SF12 = Health Literacy; SD = standard deviation; SEM = standard error of the mean; CGSE = Chinese General Self-Efficacy.

Results: 4

Table 4. Pearson Correlation (r) for HLS-SF12 and CGSE scores

	CGSE	p-value	N
HLS-SF12	0.537**	<0.001	242

Note: Correlation is significant at the ** p< 0.001 level. HLS-SF12 = Health Literacy; CGSE = Chinese General Self-Efficacy.

Summary of Study Findings

Using Selvakumar's cut points, 78.9% of participants exhibited limited or problematic levels of health literacy.

The mean CGSE score was 22.6 (SD 5.96), indicating generally low perceived self-efficacy in the sample.

Individuals with sufficient or excellent HL had notably higher SE scores (Mean 27.04, SD 6.7) compared to those limited/problematic HL.

A significant positive correlation was identified between HL and SE ($r = 0.537$; $p < 0.001$).

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Conclusion/ Discussion

This study underscores importance of both HL and SE in self-management of CKD.

Targeted, culturally-sensitive interventions are warranted to empower individuals and enhance self-management behaviours in this population.

The importance of nurses and other healthcare professionals becoming more aware of the importance of HL and SE education in adults with CKD.

To improve communication with adults with CKD, we advocate the universal use of teach-back techniques.

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Thank you.

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