The effectiveness of health education using the teach-back method on adherence and self-management in chronic disease: a systematic review protocol

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Review question/objective
What is the effect of using the teach-back method for health education to improve adherence to treatment regimen and self-management in chronic disease?

Background

The prevalence of chronic diseases

Chronic diseases are diseases that last for a long duration and progress slowly. According to the Australian Institute of Health and Welfare, chronic diseases are related to multiple causalities and associated factors, rarely cured completely, and likely to lead to health complications and disabilities.\(^1\) A recent World Health Organization (WHO) report commented that nearly 63% of deaths globally were due to chronic diseases; primarily as a result of cardiovascular disease, stroke, cancer, diabetes and chronic respiratory diseases.\(^2\) This mortality is particularly exacerbated in low-income and middle-income countries,\(^2\) and a high prevalence (80%) of the population over the age of 65 years have three or more chronic diseases.\(^3\) People at greater risk of developing a chronic condition are those who are older, obese, of low social economic status, or live alone.\(^4\) Multiple chronic health conditions can have considerable negative effects on patients’ quality of life.\(^4\)
Self-management in chronic disease

Self-management approaches are designed to assist patients and their family to better manage their own chronic conditions; and these programs typically focus on symptom recognition and self-monitoring, medication adherence, diet control, exercise, weight control, and reduction in smoking and alcohol consumption.5 These programs have contributed to reductions in hospitalizations, readmission rates,6,7 days in hospital, outpatient visits7, decreased health care utilization and cost.8 Compared with standard care, self-management programs benefit patients in terms of knowledge acquisition, performance of self-management behaviors, self-efficacy and overall health status.8,9 Thus self-management becomes a central point for chronic disease care,8 and may improve treatment adherence,10 and quality of life,11 and reduce heart failure hospitalizations and readmission rates,6,7,10 days in hospital, outpatient visits and mortality.

A common aim of self-management interventions is to increase the active participation of patients in managing their own conditions through improving understanding of their disease.12 However, many patients have difficulty understanding the information delivered by health professionals for reasons such as low health literacy, and the time and method of delivery. Research suggests that 40-80% of the medical information patients receive is forgotten immediately; and nearly half of the information retained is incorrect.13 People with low literacy and low health literacy are more likely to have a poorer understanding of their chronic disease.14 Clinician-related barriers may include poor communication with patients, lack of time for consultation, and failure in providing information at a suitable level for patient understanding.15 Consequently, there is a need to find effective educational strategies suitable for people of all literacy levels to help patients better understand their conditions, as well as encourage their adherence and self-management.

Current adherence to self-management in chronic disease

Adherence to treatments refers to how patients follow the healthcare professionals’ advice of medication and lifestyle modifications in order to maximize healthcare outcomes. The WHO suggests that patients who have good treatment adherence have fewer complications and disabilities, better quality of life and increased life expectancy.8 In addition, better adherence can prevent other adverse risks such as medication side-effects, toxicity from over-use of medication, or resistance to therapies.8 However, non-adherence to treatment regimens is a common problem for people with chronic disease.16,17 Patient non-adherence can be due to a misunderstanding of treatment regimens.18 A number of studies have reported high rates of non-adherence ranging from 15-93% depending on the type and number of chronic diseases;19 with an estimated average of 50%.8,19 There are several consequences of low adherence to long-term therapies, including poorer health outcomes and increased healthcare cost.8

The teach-back method for teaching self-management

One method for teaching a patient about their chronic disease and how to manage it is called teach-back. Teach-back, also known as “show me” or “closing the loop”, is a method to ensure the understanding of the information being communicated, by asking patients to repeat back key points of the instructions.20 The method involves a process of questioning to determine what the patient has learned from a health education session. Examples of the questions include: “Can you please tell me what we have discussed today” or “What can you tell your wife/husband about the changes in your daily diet”, etc. If there is a gap or incorrect explanation, the care providers can identify what information should be repeated. The cycle continues until the patient answers correctly.14 The
patient's understanding is assessed and healthcare professionals can identify an education strategy that is commonly understood by almost all patients. Teach-back is not a test of the learners' knowledge as much as an exploration of how well the information was taught and what needs to be clarified or reviewed. Because teach-back does not require any particular level of literacy, it allows patients with low literacy levels to actively participate and for information to be reiterated. Teach-back is useful in assisting patients to understand treatment regimens and disease warning signs. An initial review of the literature indicates that teach-back has been used as an educational strategy for health care professionals, low-income women, people with low health literacy, and for patients with a chronic disease. A number of studies have targeted the use of teach-back in chronic disease education programs to improve patients' comprehension, informed consent and reduction of readmission; although the utility of teach-back in improving adherence and self-management has been subjected to less investigation. Moreover, the duration of health education, retention and follow-up period that have incorporated the teach-back method appears to be variable. Most studies have described the use of teach-back as a pilot intervention rather than routine practice. In these studies, the comparison group has often received standard care without teach-back. Therefore, a systematic review is required to identify the evidence of the teach-back method in improving self-management and adherence outcomes for patients with chronic disease, and to determine how the teach-back method is best delivered.

**Keywords**

adherence, chronic disease, health education, teach-back, self-management

**Inclusion criteria**

*Types of participants*

This review will consider all studies that include adult patients (aged 18 years and over) in any healthcare setting, either as inpatients (eg acute care, medical and surgical wards) or those who attend primary health care, family medical practice, general medical practice, clinics, outpatient departments, rehabilitation or community settings.

Participants need to have been diagnosed as having one or more chronic diseases including heart failure, diabetes, cardiovascular disease, cancer, respiratory disease, asthma, chronic obstructive pulmonary disease, chronic kidney disease, arthritis, epilepsy or a mental health condition.

Studies that include seriously ill patients, and/or those who have impairments in verbal communication and cognitive function will be excluded.

*Types of intervention*

This review will consider studies that investigate the use of the teach-back method alone or in combination with other supporting education, either in routine or research intervention education programs; regardless of how long the programs were and whether or not a follow-up was conducted. The intervention could be delivered by any healthcare professional. The comparator will be any health education for chronic disease that does not include the teach-back method.
**Types of outcomes**

Primary outcomes of interest are disease-specific knowledge, adherence, and self-management knowledge, behavior and skills measured using patient report, nursing observation or validated measurement scales.

Secondary outcomes include knowledge retention, self-efficacy, hospital readmission, hospitalization, and quality of life, also measured using patient report, nursing observation, hospital records or validated measurement scales.

**Types of studies**

This review will consider quantitative studies including randomized controlled trials, non-randomized controlled trials, quasi-experimental, case-controlled studies, cohort studies, and before and after studies that evaluate the effect of teach-back.

**Search strategy**

The search strategy aims to find published studies using CINAHL, MEDLINE, EMBASE, Cochrane CENTRAL, ProQuest, Nursing and Allied Health Source, Web of Science, Google Scholar; and visual scanning of the reference lists of included articles to find any other relevant studies. If there is any unclear information from the articles, authors will be contacted for further information.

A specific strategy will be developed for each database based on The Joanna Briggs Institute Reviewers’ Manual (2008 edition); the following three-step search will be undertaken:

1. An initial limited search of all included databases will be undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe the articles.
2. A second search using all identified keywords and index terms will then be undertaken across all included databases.
3. Thirdly, the reference list of all identified reports and articles will be searched for additional studies.

Initial keywords to be used will be:

Teach-back, teach back, closing the loop, closing the cycle, ask-tell-ask, show me, show-me, repeated instruction, repeating instruction

health education/program/programme, discharge program/programme, chronic condition, chronic health condition, chronic disease, chronic illness, heart failure, diabetes, cardiovascular disease, cancer, respiratory disease, asthma, chronic obstructive pulmonary disease, chronic kidney disease, arthritis, epilepsy, mental health

knowledge, compliance, compliant, adherence, adherent, self-management, knowledge retention, health literacy, self-efficacy, readmission, comprehension, quality of life.
Keywords will be combined using Boolean operators such as ‘OR’ and ‘AND’ for the search. In order to attain the widest range of studies, no limits will be set for the date of publication. All studies must be published in English.

**Assessment of methodological quality**

Papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review; using standardized critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) (Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer.

**Data collection**

Data will be extracted from papers included in the review using the standardized data extraction tool from JBI-MAStARI (Appendix II). The data extracted will include specific interventions, populations, study methods and outcomes of significance to the review question and specific objectives.

**Data synthesis**

Quantitative papers will, where possible be pooled in statistical meta-analysis using JBI-MAStARI. The odds ratios (for categorical data) and weighted mean differences (for continuous data), and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed using the standard Chi-square. Where statistical pooling is not possible, the findings will be presented in narrative form.

**Conflicts of interest**

No conflict of interest is known.
References:


doi: 10.11124/jbisrir-2013-900
Appendix I: MASTARI appraisal instruments

JBI Critical Appraisal Checklist for Randomised Control / Pseudo-randomised Trial

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<thead>
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<th>Question</th>
<th>Yes</th>
<th>No</th>
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<td>1. Was the assignment to treatment groups truly random?</td>
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<td>2. Were participants blinded to treatment allocation?</td>
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<td>3. Was allocation to treatment groups concealed from the allocator?</td>
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<td>4. Were the outcomes of people who withdrew described and included in the analysis?</td>
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<td>5. Were those assessing outcomes blind to the treatment allocation?</td>
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<td>6. Were the control and treatment groups comparable at entry?</td>
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<td>7. Were groups treated identically other than for the named interventions</td>
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<td>8. Were outcomes measured in the same way for all groups?</td>
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<td>9. Were outcomes measured in a reliable way?</td>
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<td>10. Was appropriate statistical analysis used?</td>
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Overall appraisal:  
Include □  Exclude □  Seek further info. □

Comments (Including reason for exclusion)  
________________________________________________________________________
________________________________________________________________________
JBI Critical Appraisal Checklist for Descriptive / Case Series

Reviewer ___________________________ Date ___________________________
Author ___________________________ Year _______ Record Number _______

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<tbody>
<tr>
<td>1. Was study based on a random or pseudo-random sample?</td>
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<td>2. Were the criteria for inclusion in the sample clearly defined?</td>
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<td>3. Were confounding factors identified and strategies to deal with them stated?</td>
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<td>4. Were outcomes assessed using objective criteria?</td>
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<td>5. If comparisons are being made, was there sufficient description of the groups?</td>
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<td>6. Was follow up carried out over a sufficient time period?</td>
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<td>7. Were the outcomes of people who withdrew described and included in the analysis?</td>
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<td>8. Were outcomes measured in a reliable way?</td>
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Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)
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**JBI Critical Appraisal Checklist for Comparable Cohort/Case Control**

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<td>1. Is sample representative of patients in the population as a whole?</td>
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<td>3. Has bias been minimised in relation to selection of cases and of controls?</td>
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<td>4. Are confounding factors identified and strategies to deal with them stated?</td>
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Overall appraisal: Include ☐ Exclude ☐ Seek further info. ☐

Comments (Including reason for exclusion)

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## Appendix II: MASTARI Data extraction instruments

### JBI Data Extraction Form for Experimental / Observational Studies

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<td>Journal</td>
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#### Study Method

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#### Participants

- Setting

- Population

#### Sample size

- Group A
- Group B

#### Interventions

- Intervention A

- Intervention B

#### Authors Conclusions:

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#### Reviewers Conclusions:

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### Study results

#### Dichotomous data

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<tr>
<th>Outcome</th>
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#### Continuous data

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