

# Use and Effectiveness of the Teach-Back Method in Patient Education and Health Outcomes

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A review of the literature on the teach-back method of education suggests that the technique may be beneficial in reinforcing patient education.

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Studies have shown that a majority of patients remain confused about their health care plans after being discharged from the hospital.<sup>1,2</sup> Furthermore, most patients do not recognize their lack of comprehension.<sup>2</sup> A substantial proportion of medical information is forgotten immediately after discharge. Kessels found that when larger amounts of information were presented, less was recalled, and almost half of the recalled information was incorrect.<sup>3</sup> Researchers also have found that health information that was focused on individual needs not only increased patients' understanding of their health needs and improved their health literacy, but supported self-management and promoted health outcomes for adults with chronic illness.<sup>4,5</sup>

*Health literacy* is the "capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."<sup>6</sup> To read instructions on a prescription bottle, patients need an intermediate level of health literacy. Even for patients with such a level of health literacy, comprehending and managing a health care plan for a chronic disease can be challenging. About 35% of Americans had lower than an intermediate level of health literacy.<sup>7</sup> Insufficient health literacy is associated with increased health system use and costs, health disparities, and poor health outcomes.<sup>8</sup> As a result, it is crucial to gear oral instructions to patients' health literacy levels to ensure that patients understand health information and instructions and perform self-care at home. The *teach-back method*, a technique for verifying patients' understanding of their health information, has been recommended by the Agency for Healthcare Research and Quality

(AHRQ) and the Institute for Healthcare Improvement (IHI) as a strategy for taking universal precautions for health literacy. Patients are asked to repeat the instructions they receive from their health care professionals (HCPs). HCPs should use caring and plain language in a shame-free environment during patient education. By using the teach-back method, HCPs can assess patients' understanding, and reteach or modify teaching if comprehension is not demonstrated. Patients have an important role in their health and their ability to understand health information has a significant impact on their health behavior and outcomes.

In our systematic research, we examined the effectiveness of using the teach-back method to understand health education as well as the impact of this method on patients' disease self-management and health outcomes.

## METHODS

In the teach-back method, patients explain health information in their own words.<sup>9</sup> To gauge the use and effectiveness of this method, investigators have studied patient perceptions and acknowledgments of the method as well as the effects of the method on health interventions. According to Dorothea Orem's self-care deficit nursing theory, disease self-management is an "executive ability" to "control, handle, direct or govern" self-care activities.<sup>10</sup> We define disease self-management as disease knowledge and disease management changes that promote self-care activities. In addition, we define health outcomes as health changes that result from the teach-back method, such as changes in postdischarge readmission rates, patient satisfaction, and health behavior.

## Inclusion Criteria

We systematically reviewed evidence regarding the teach-back method as an educational intervention for patients aged  $\geq 18$  years. We included articles if they reported the process and outcomes of using the method alone or in combination with other educational strategies. The literature search focused on English-language articles published in peer-reviewed journals. Included in the review were qualitative, randomized controlled trials (RCTs); quasi-experimental studies; cohort studies; and pretest–posttest studies on the effects of the teach-back method. As the method can be applied in any health care setting, we used studies conducted in a variety of settings, including primary care, inpatient, outpatient, emergency department (ED), and community, in any time frame. Study participants had heart failure, diabetes mellitus (DM), hypertension, asthma, or other chronic diseases.

## Exclusion Criteria

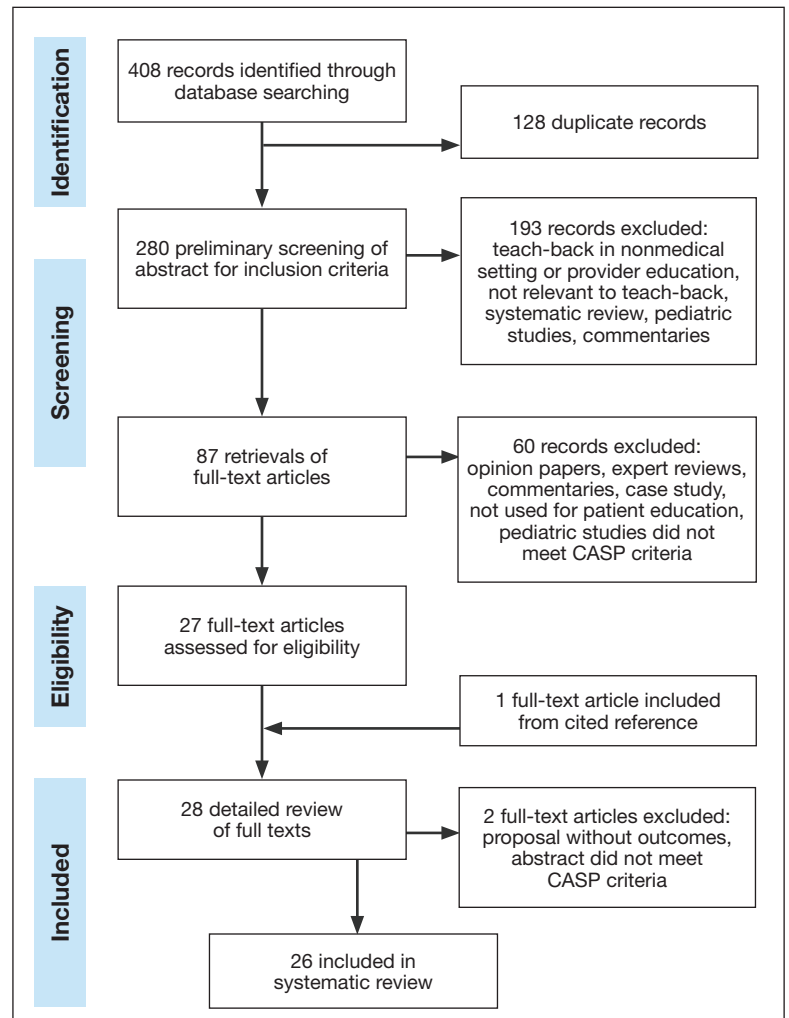
Studies that used the teach-back method as an outcome measurement but not an intervention were excluded. For example, those that used the method to measure patients' postintervention understanding were excluded. Also excluded were those that used the method to examine HCP training or to measure HCP outcomes (ie, studies that did not use the method for patient education or outcomes).

## Literature Search

In September 2017, we searched 4 databases: Ovid Medline, PubMed, EBSCO (Elton B. Stephens Co), CINAHL (Cumulative Index to Nursing and Allied Health Literature), and ProQuest. Also included were relevant studies from cited reference searching (Figure).

This systematic review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guideline for searches and formatting results. The literature search was performed with the term *teach-back* and terms from the structured PICO (population, intervention, comparison, outcomes) statement. The study population consisted of patients who received the teach-back intervention as part of the patient education process in a medical care setting, and

**FIGURE** Article Search Flowchart



Abbreviation: CASP, Critical Appraisals Skills Programme.

the comparator population consisted of patients who did not receive the intervention in their patient education. Target outcomes were disease self-management, self-care, patient satisfaction, patient perception and acknowledgment of the teach-back method, and other health outcomes.

## Data Collection

Data collected included authors, publication date, and journal; purpose; study design; setting, sample, and population; intervention; and outcomes.

The methodologic quality of papers retrieved for review was determined with Critical Appraisals Skills Programme (CASP) guidelines ([casp-uk.net/casp-tools-checklists](http://casp-uk.net/casp-tools-checklists)). CASP randomised controlled

trial, cohort study, case control study, and qualitative checklists were used. The authors assessed the full texts for eligibility. Disagreements were resolved through discussion.

The initial literature search found 112, 135, and 161 articles from EBSCO CINAHL, Ovid Medline, and PubMed, respectively. Five articles from ProQuest were identified through the EBSCO CINAHL search. After inclusion and exclusion criteria were applied, duplicate articles removed, a cited reference added, and CASP criteria assessed, 26 articles remained in the review. The 26 studies consisted of 15 cohort studies, 5 case-control studies, 5 RCTs, and 1 qualitative interview. Twenty-two of the articles were published in the US, the other 4 in Australia and Iran (2 each).<sup>11-14</sup> All 26 studies used the teach-back method with other educational interventions to reinforce learning (eg, the method was used after heart failure or DM education). Of the 26 studies, 10 used a pretest-posttest intervention design,<sup>15-24</sup> and 10 used a quasi-experimental or experimental design.<sup>11,13,14,25-31</sup>

## RESULTS

The common outcome measures used in the 26 studies fall into 5 categories: patient satisfaction; postdischarge readmission; patient perception of teach-back method effectiveness; disease knowledge and disease management improvements; and intervention effects on health-related quality of life (HR-QOL). A summary of included articles, study setting, design, outcomes, and details is available from the author.

### Patient Satisfaction

Ten studies examined the impact of the teach-back method on patient satisfaction.<sup>15,17,19,21,23,26,27,29,31,32</sup> Of these 10 studies, 6 explored the influence of the method on Hospital Consumer Assessment of Healthcare Providers and Systems survey scores.<sup>15,17,19,21,22,26</sup> All included studies indicated improved satisfaction with medication education, discharge information, and health management—except for the Silva study, who found an upward trend but not a statistically significant improvement in patient understanding of the purpose of a medication.<sup>23</sup>

Grice and colleagues also found that

community-dwelling seniors expressed satisfaction with using the teach-back method while being evaluated and assessed for health services at home.<sup>32</sup> Improvement or a positive trend in teach-back groups was reported in a majority of the studies except for those by Hyrkas and Wiggins, and Griffey and colleagues.<sup>27,29</sup> Hyrkas and Wiggins found the method slightly improved patients' medication confidence after hospital discharge, though patient satisfaction scores were associated with patient-nurse relationships, not with use of the teach-back method and a motivational interview.<sup>27</sup> Similarly, Griffey and colleagues found that patients who had limited health literacy and received a standard discharge with teach-back scored higher on medication comprehension, compared with patients who received only a standard discharge, but there was no difference in patient satisfaction after an ED visit.<sup>29</sup>

### Postdischarge Readmission

Results emphasized the importance of teach-back in reinforcing discharge instructions and improving postdischarge readmission rates. Of the 6 studies on the effect that teach-back with discharge summary had on readmission rates, 2 found statistically significant improvement for patients with heart failure at 12 months (teach-back, 59%; non-teach-back, 44%;  $P = .005$ ) and patients with coronary artery bypass grafting (CABG) at 30 days (preintervention, 25%; postintervention, 12%;  $P = .02$ ).<sup>11,16</sup> In addition, 3 of the 6 studies reported improvement but did not provide  $P$  values.<sup>18,20,22</sup> One study indicated improvement in other measured outcomes but found no significant difference for patients who received teach-back with their discharge summaries.<sup>27</sup> In all studies, teach-back was added to an intervention and used to confirm and promote knowledge and self-care management.

### Patient Perception of Teach-Back Effectiveness

In 2 qualitative studies, patients indicated teach-back was an effective educational method.<sup>16,33</sup> For patients with CABG, Bates and colleagues added a scheduled cardiology follow-up appointment and teach-back patient education to their State Action on

Avoidable Rehospitalizations interventions; 96% of participants rated teach-back effective or highly effective.<sup>16</sup> In the other study, Samuels-Kalow and colleagues interviewed 51 patients and parents who received teach-back as part of the discharge process in 2 EDs; participants indicated teach-back helped them remember what they learned from their HCPs, and gave them the opportunity to connect with their HCPs, though some with lower health literacy expressed concerns about perceived judgment by HCPs.<sup>33</sup>

### Disease Knowledge and Management

Thirteen studies examined knowledge improvement after interventions that included teach-back. Study participants answered most questions correctly after receiving teach-back.<sup>20,32,34,35</sup> Slater and colleagues found ED patients who received discharge instructions with teach-back had significantly higher scores measuring knowledge of diagnosis ( $P < .001$ ), signs and symptoms indicating a need to return to the ED ( $P < .001$ ), and follow-up instructions ( $P = .03$ ); scores measuring knowledge of medication were higher as well, but were not statistically different ( $P = .14$ ).<sup>24</sup> In multiple studies, improvement was not always statistically significant in terms of knowledge retention.<sup>12,25,29-31,36</sup> Studies that compared medication adherence found teach-back was more effective than motivational interviews ( $P = .56$ ).<sup>27</sup>

Teach-back has been widely used in primary care, inpatient, and ED settings. Two studies on the effect of teach-back in primary care sampled patients with DM.<sup>28,36</sup> Kandula and colleagues found that participants who answered questions incorrectly after watching a multimedia DM education program could significantly improve their DM knowledge by engaging in teach-back immediately after the intervention; however, knowledge retention was not improved at 2-week follow-up (phone call).<sup>28</sup> In contrast, Swavely and colleagues compared patients who completed a 13-hour DM education program with or without teach-back and found that teach-back patients demonstrated significantly improved DM knowledge and self-care activities at 3 months.<sup>36</sup>

### Effects of Interventions on HR-QOL

The teach-back method had been used with QOL improvement programs and other interventions. Ahmadidarreh-sima and colleagues incorporated teach-back into their medical self-management program (8 to 11 sessions, each lasting 1.5 to 2 hours) for women with breast cancer and found that the mean happiness score increased to 62.9 from 37.2 ( $P < .001$ ) in the intervention group, whereas the score for the usual-care group decreased from 41.4 to 29.8.<sup>13</sup> Ghiasvand and colleagues compared QOL of postpartum mothers who received routine care with QOL of those who received routine care plus 2 sessions of postpartum self-care with teach-back; mean QOL scores were significantly ( $P < .001$ ) higher for the teach-back group (124.73) than for the no teach-back group (115.03).<sup>14</sup>

### DISCUSSION

This review examined the use and effectiveness of the teach-back method in health education and its influence in patients' disease self-management and health outcomes. Results showed positive effects of teach-back on patient satisfaction, patient perceptions and acknowledgments, postdischarge readmissions, disease self-management and knowledge, and HR-QOL.

The teach-back method has been widely used in inpatient, outpatient, ED, and community settings as part of health education programs and interventions. It has been paired with educational interventions ranging from short instructions to 20-hour programs. These differences reflect the broad application of the method in patient education. Many studies have found that teach-back improves disease knowledge and self-management, though their results are not always statistically significant. In an RCT of patients with low health literacy, Griffey and colleagues studied the effect of ED discharge education with and without teach-back and found teach-back did not increase post-ED comprehension of diagnoses, medical examinations, and treatments or perceived comprehension of treatment and care; however, compared with the no teach-back group, the teach-back group had significantly higher scores on comprehension of post-ED

self-care ( $P < .02$ ), follow-up ( $P < .0001$ ), and medication ( $P = .054$ ).<sup>29</sup> This finding indicates teach-back is an effective method for helping patients understand self-care and disease self-management at home.

Comprehending medical diagnoses, examinations, and treatments involves acquiring, analyzing, and comparing multiple pieces of health information. Because comprehension requires a level of abstract thinking usually present in patients with intermediate and proficient health literacy, improvements might be more difficult to see in patients with low health literacy.<sup>8</sup> Press and colleagues found that asthma patients who repeated respiratory inhaler instructions with teach-back during discharge education had less misuse of ( $P = .01$ ) metered-dose and Diskus ( $P = .05$ ) inhalers and lower 30-day readmission rates ( $P = .02$ ) compared with the misuse of patients who received only 1 set of oral and written instructions.<sup>31</sup> Even though the Diskus result was not statistically significant, it demonstrated teach-back can be used to improve patient self-care and education.<sup>31</sup>

Most participants in the reviewed studies improved their disease knowledge with teach-back, though the evidence regarding improved health care knowledge retention was limited. For example, the 2 studies on use of teach-back in primary care clinics had contradictory knowledge retention results.<sup>28,36</sup> As both studies incorporated teach-back into existing interventions, these results could be associated with those interventions and not with the teach-back method.

Health literacy is achieved through a complicated process of obtaining, analyzing, choosing, and communicating health information. Even though its knowledge retention results are inconsistent, the teach-back method is recommended by the American Academy of Family Physicians at strength of recommendation taxonomy level C.<sup>8</sup> Such a designation indicates that the recommendation is based on expert opinion, bench research, consensus guideline, usual practice, clinical experience, or a case series and is appropriate for assessment of patient comprehension.<sup>37</sup> Teach-back is also suggested by AHRQ and IHI for university precautions regarding health literacy and as such should re-

main a standard of practice. More study is needed to understand the inconsistent results of knowledge retention and the long-term effects of the teach-back method.

### Limitations

Although this review did not limit the publication years of its articles, no pre-2011 articles were found. The teach-back method has been used to measure patients' postintervention understanding and to educate HCPs on ways to improve patient communication. As this review did not include studies of teach-back as an outcome measurement or studies of training and adaptation of teach-back in HCP or nurse education, other study results may have a bearing on the current findings. Teach-back has been used to close communication gaps between patients and HCPs.

All articles included in this review used the teach-back method with other educational or organizational interventions. The outcomes found in this review may be associated with those interventions and not with teach-back itself. Data reported here have not demonstrated a definite association between teach-back and the measured outcomes; therefore, caution should be exercised when drawing conclusions based on these data. In addition, most of the studies considered in this review were cohort or case-control studies; only 5 RCTs were included. Other confounding factors, including patient health literacy levels, HCP types, HCP competencies in use of teach-back, and type and duration of interventions used before teach-back, may have contributed to this review's findings.

### CONCLUSION

Findings of this systematic review support use of the teach-back method as effective in reinforcing or confirming patient education. As none of the included studies reported harmful outcomes, the teach-back method poses little risk with respect to increasing patients' understanding of their education. The findings emphasize the importance of conducting more studies to try to understand the inconsistent results of knowledge retention and determine ways to preserve the long-term effects of teach-back.

### Author disclosures

The authors report no actual or potential conflicts of interest with regard to this article.



## Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

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