IMPACT OF TEACH-BACK METHOD ON ILLNESS PERCEPTION AND SELF-EFFICACY IN PATIENTS WITH CORONARY ARTERY DISEASE

Muneera Eidha Althubiti[1], Zafar Ahmad[2*], Manal Talal Aljoed[3], Mona Eidah Hai Alsofyni[4], Amani Awd Alzaidi[5], Noura Shehiman Albaqmi[6], Sadyah Jameel Hilali[7], Reyof Abdullah Almalki[8], Sara Hassan Juman Alzahrni[9], Amira Hamid Almutairi[10], Alaa Ali Alharthi[11]

[1]Irada and Mental Health Complex, Taif
[2*]Assistant Professor, ORCID: https://orcid.org/0000-0003-2216-8317
[3]King Faisal Hospital, Taif
[4]Irada and Mental Health Complex, Taif
[5]King Faisal Medical Complex, Taif
[6]King Faisal Hospital, Taif
[7]King Faisal Hospital, Taif
[8]King Faisal Hospital, Taif
[9]King Faisal Hospital, Taif
[10]Irada and Mental Health Complex, Taif
[11]Irada and Mental Health Complex, Taif

***Corresponding Author:** Zafar Ahmad
*Assistant Professor, ORCID: https://orcid.org/0000-0003-2216-8317

Abstract

Background: We conducted a study to investigate how the teach-back technique affects patients' perception of their illness and their confidence in managing it. The study focused specifically on individuals diagnosed with coronary artery disease.

Aim: The purpose of the systematic review is to carefully analyze the existing literature on the teach-back method that is linked with illness perception and self-efficacy of patients facing coronary artery disease.

Method: To uncover valuable studies published from 2013 to 2023, an extensive search was systematically undertaken across various databases such as PubMed and Google Scholar. Only English articles were selected for this study, focusing on the teach-back method and its impact on how patients perceive their illness and their confidence in managing coronary artery disease. Moreover, the selected articles needed to utilize widely recognized scales for measuring purposes while offering valuable insights into the impact of the teach-back method on patients' well-being within a hospital environment. After initial screening and quality assessment, $n = 10$ studies were included in the synthesis.

Results: The study unveiled a strong correlation between the teach-back method and the perception of illness and self-efficacy in patients diagnosed with coronary artery disease. The effectiveness of the teach-back technique used by healthcare providers is closely tied to the way patients perceive

illness and their level of self-confidence. The teach-back method has been proven highly advantageous in diminishing patients' perception of illness and fostering a positive impact on their ability to manage it.

Conclusion: The review highlights the importance of the teach-back method in enhancing patients' comprehension of their illness and boosting their confidence in effectively managing it during their medical journey. The research findings have confirmed the Teach-Back Method's potential as a highly valuable educational strategy for improving self-care behaviors, illness perception, and self-efficacy among patients suffering from coronary artery disease.

Keywords: Teach-Back Method, Illness Perception, Self-Efficacy, Coronary Artery Disease.

Introduction

Coronary artery disease, often referred to as CAD, is a medical condition characterized by the gradual accumulation of plaque along the walls of arteries. This build-up can lead to the narrowing of the vessels that carry vital blood, nutrients, and oxygen from the heart to the whole body. The consequences of this disease are extremely serious for patients. It can lead to hypertension, which in turn increases the risk of developing other medical conditions. Furthermore, it can also trigger heart attacks, which often prove fatal for patients (Robinson, 2021). The implications of coronary artery disease are grave and multifaceted. One of the major concerns is the development of hypertension, commonly known as high blood pressure (Fuchs & Whelton, 2020).

This elevated pressure within the circulatory system not only strains the heart but also lays the groundwork for the emergence of various other health complications. What is even more unsettling is that CAD greatly increases the chances of experiencing a heart attack. The occurrence of these abrupt and life-threatening incidents is due to a blood clot that forms within a narrowed artery, causing a sudden blockage in blood flow to a specific area of the heart (Zannad et al., 2018).

Addressing coronary artery disease demands a comprehensive approach encompassing numerous strategies. One of the primary steps in managing CAD involves understanding the disease. This information can greatly benefit patients by providing them with a clear understanding of the preventive measures that should be taken to maintain cardiovascular health. These measures include self-care, reducing risk factors, engaging in regular physical activity, and incorporating exercise into one's routine. Taking charge of our own health by cultivating self-efficacy while simultaneously breaking free from detrimental habits such as smoking and excessive junk food consumption is essential in halting the advancement of this disease (Al-Shamsi et al., 2019; Winzer et al., 2018)

In the contemporary landscape of healthcare, the prevalence of heart attacks and coronary incidents has reached concerning levels (Hassen et al., 2022). These events now constitute a significant proportion of emergency admissions, exerting significant strain on healthcare systems. Indeed, in many first-world countries, coronary artery disease stands out as a leading cause of death (Provan et al., 2020). This epidemic underscores the urgency of comprehending the disease beyond the mere memorization of medication regimens. Patients must understand its underlying causes, the trajectory it can follow, and the preventive measures that can be taken to avert future cardiovascular events. (Yakout et al., 2023)

Central to managing coronary artery disease is the concept of self-efficacy—the belief in one's capacity to control and manage their own health. Research has consistently shown that patients who possess a strong sense of self-efficacy tend to experience better health outcomes (Cameron et al., 2020). Therefore, fostering awareness and understanding among individuals regarding the intricacies of CAD can prove instrumental in enhancing their confidence to confront this health challenge. This highlights the urgent need for an approach that makes information on this complex issue more easily

accessible to the public. By using simple, nonmedical terms to simplify the concept, patients can gain a better understanding of their prognosis and make decisions that are more informed. This can be achieved through the teach-back method, which has been shown to have a positive impact on outcomes for patients with CAD (Saadatian et al., 2022).

As we navigate the complexities of modern life, the fight against coronary artery disease necessitates a unified effort. By delving into the nuances of this condition, acknowledging its far-reaching consequences, and embracing proactive strategies, we can manage its prevalence and mitigate its negative impact on individuals' lives.
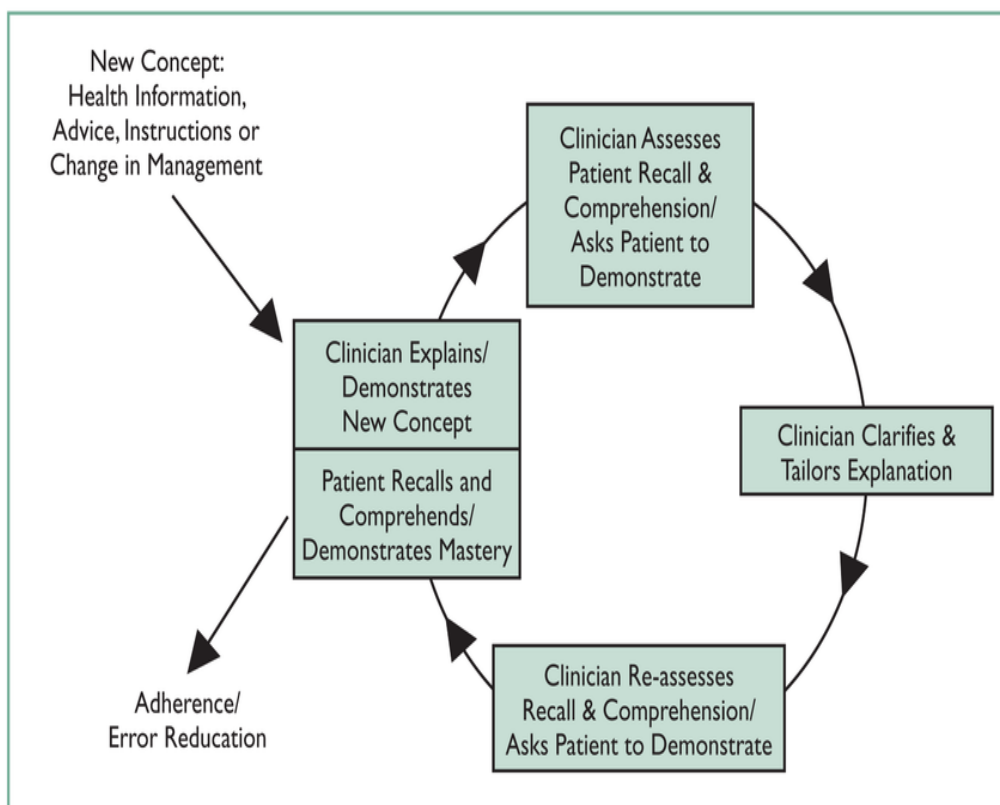

Figure 1 Conceptual Diagram of Teach-Back Method Used by Physicians/Clinicians

Methodology
Literature Search
A comprehensive literature search was conducted to identify relevant studies investigating the impact of the Teach-Back Method on illness perception and self-efficacy in patients with coronary artery disease (CAD). The search was performed using articles published and included in databases like Google Scholar and PubMed. An initial search of databases for research on, the 'Impact of Teach-Back Method on Self-efficacy in Patients with "Coronary Artery Disease"' resulted in 277 results while a search on 'Impact of Teach-Back Method on Illness Perception in Patients with "Coronary Artery Disease"' resulted in 555 while results for 'Impact of Teach-Back Method on Illness Perception and Self-efficacy in Patients with "Coronary Artery Disease"' resulted in 248 results.

The search strategy employed the use of keywords to optimize the retrieval of relevant articles. The following search terms and their variations were used: "Teach-Back Method OR Teach-Back Technique," "Illness Perception" "Self-efficacy," and "Coronary Artery Disease." The search was not limited by publication date however only the publications in the English language were accessed. The PRISMA diagram provides complete details for research identified, screened, and included in the systematic review.
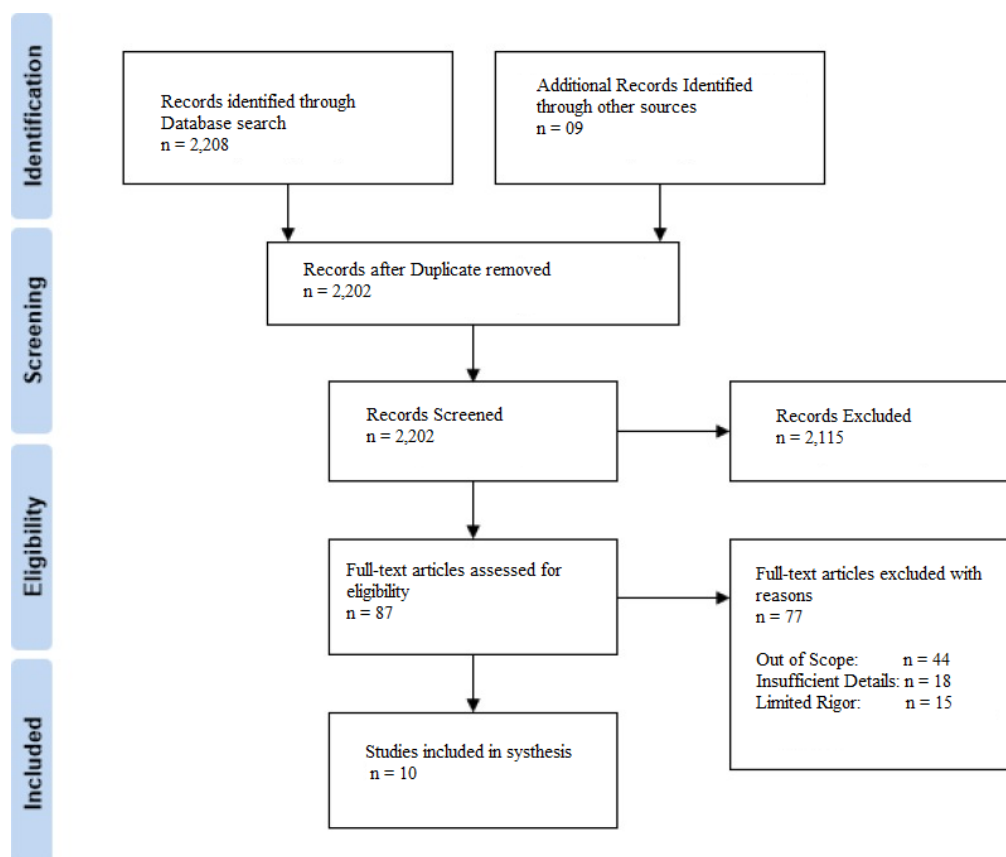
Figure 2: PRISMA Flow Diagram for Systematic Review

Inclusion/ exclusion Criteria

Studies were included in the review if they investigated the use of the Teach-Back Method in patients with coronary artery disease or diseases that are similar to coronary artery disease and assessed the impact of the Teach-Back Method on illness perception and/or self-efficacy outcomes.

Included participants diagnosed with coronary artery disease or diseases that are similar to coronary artery disease through clinical or diagnostic criteria.

Reported quantitative data related to illness perception and/or self-efficacy outcomes. Studies were excluded if they were not relevant to the topic of the teach-back method among CAD and similar patients; another reason for exclusion was duplicate publications and non-experimental research.

Data Extraction

To gain a better understanding of the similarities and general direction of the research, data related to study design, reported illness, sample size, intervention type, details pertaining to the intervention/s, time after which the assessment was performed and findings and scales are measures used in the study was noted and extracted from original articles. Where outcome measures related to illness perception and self-efficacy and illnesses were similar types as coronary artery disease.

Systematic Analysis of Researches

	Author	Study Design	Reported illnesses	Sample size	Intervention type	Intervention Details	Assessment time	Outcome	Tools
1	(Mesbahi et al., 2020)	Quasi-experimental	heart failure	80 patients	Teach-back method	Four training sessions, 30-60 minutes each, Held during the hospitalization days	After three months	Self-care behaviors & reduced readmissions	Demographic information form and the European heart failure self-care behavior (ehfscb) scale
2	Saadatian et al, 2022	Quasi-experiment	Coronary Artery	100 patients	Self-care training	Intervention group in three sessions (30 - 45	One month after	Improved illness	The Brief Illness Perception

		al	Disease (CAD)		program, Teach-Back Method	minutes) on three consecutive days 24 hours after the patient's admission to the hospital		perception and self-efficacy in patients with CAD	Questionnaire (Brief IPQ) and Cardiovascular Management Self-efficacy Scale (CMSES)
3	(Azizi et al., 2020)	Semi-experimental	Acute Coronary Syndrome	70 patients	Teach-back training	Individual trainings based on teach-back method during three sessions of 30-45 min, every other day	One and three months after the intervention	Improved Treatment Adherence	Demographic information questionnaire and treatment adherence questionnaire developed by Ziaee
4	(Zabolypour et al., 2020)	Quasi-experimental	Hypertension	81 patients	Teach-Back Method and Motivational Interviewing	Three teach-back sessions were held for the teach-back group, five sessions of motivational interviewing for the motivational interviewing group, and the routine care was provided for the control group	Two months	Improved Adherence to Medical Regimen	Demographic form and scale of Adherence to Systemic Hypertension Treatment
5	(Rahmani et al., 2020)	Quasi-experimental	Heart Failure	70 patients	Teach-Back Method	Mean time of self-care was 30 minutes (range: 20–40 minutes).	After three months	Improved Knowledge, Performance, Reduced Readmission & Quality of Life	Demographic data sheet, SF-36 questionnaire, and cardiac self-care questionnaire
6	(Mohammadi et al., 2021)	Randomized clinical trial	Heart failure	120 patients	Education using multimedia together with the teach-back method	Intervention group a was screened in four sessions, each one lasting for 45 min. For intervention group b film screening and teach-back learning performed in four 75-min sessions	1 month, and 3 months after the intervention	Improved quality of life & reduced cardiac anxiety	Short form health survey (sf-36), cardiac anxiety questionnaire
7	(Boyde et al., 2018)	Randomized control trial	Heart Failure	200 Patients	Multimedia Intervention, Educational Plan, DVD	The primary outcome was all-cause unplanned hospital readmission at 28 days, three months and 12 months post-recruitment. The secondary outcomes were changes in knowledge and self-care behaviors at three months and 12 months post-recruitment.	12 months	At 12 months, data on 171 participants were analyzed. There were 24 participants who had an unplanned hospital readmission in the intervention group compared to 44 participants in the control group (p=0.005). The self-care educational intervention reduced the risk of readmission at 12 months by 30% (relative risk: 0.703; 95% confidence interval: 0.548–0.903)	Knowledge of HF was assessed using the DHFKS.27 This 15-item multi-choice questionnaire assesses HF knowledge in general, knowledge on treatment, symptoms and symptom recognition. The scale has a minimum of zero (no correct answers) and a maximum of 15 (all answers correct). Self-care behaviors were assessed using the SCHFI v 6.2.6 This instrument uses three subscales of self-care: maintenance, management and confidence. The raw scores for each subscale are standardized to a 0–100 point range with a score of 70

									or more required to determine self-adequacy.
8	(Welsh et al., 2013)	Randomized clinical trial	Comprehensive heart failure	Usual care n=25 Intervention n=27 patients	Educational intervention plan	Randomized clinical trial of an educational intervention based on the theory of planned behavior. Patients were randomized to either a usual care (n=25) or intervention group (n=27) with data collection at baseline, 6 weeks, and 6 months. The intervention group received low-sodium diet instructions and the usual care group received no dietary instructions.	6 weeks and 6 months	Analysis of covariance (between-subjects effects) revealed that dietary sodium intake did not differ between usual care and intervention groups at 6 weeks; however, dietary sodium intake was lower in the intervention group (f=7.3, df=1,29, p=0.01) at 6 months. Attitudes subscale scores were higher in the intervention group at 6 weeks (f=7.6, df=1, 38, p<0.01)	Nutrition data systems-research software was used to identify the sodium content of foods on food diaries. Attitudes, subjective norm, and perceived behavioral control were measured using the dietary sodium restriction questionnaire.
9	(Astin et al., 2020)	Cross-sectional survey	Coronary syndrome/angioplasty, pci for chd	326 patients	Teach back method informed consent,	Almost all patients expected to have symptomatic relief (99% a, 98% e) with widened coronary arteries (99% a, 97% e). Over half (60% a, 60% e) believed that pci would 'cure' their chd. Most believed that pci would reduce their risk of a future heart attack (89% a, 95% e) and increase their life span (87% a, 91% e)		Redesign of the patient pathway is recommended to allow protected time for health professionals to engage in discussions with patients and those close to them, using evidence based approaches such as 'teach back' and decision support to improve patient comprehension	Demographic sheet, survey questionnaire, 5 point Likert scale developed by authors
10	(Saffi et al., 2014)	Randomized clinical trial	Coronary artery disease, cad	78 patient (36=control group 38=intervention)	Lifestyle intervention through teach back method	This was a randomized clinical trial of cad patients treated at a tertiary referral hospital. The intervention group received nurse-led guidance by means of five face-to-face sessions and telephone contact over the course of one year, starting three months after hospital discharge. Exercise and dietary	12 months	The primary outcome was the reduction of estimated 10-year cardiovascular risk, as calculated by the Framingham risk score, at the end of the lifestyle intervention. Secondary	Patients were stratified by Framingham risk score, demographic sheet

						goals were set for each patient and monitored at each session. The control group received standard medical advice.		outcomes were improvement in laboratory (lipid profile, blood glucose, glycated hemoglobin) and anthropometr ic parameters (weight, bmi, wc, whr), bp, capillary blood glucose measurements, and adherence to pharmacologi cal treatment	

DISCUSSION

The present systematic review aimed to investigate the impact of the Teach-Back Method on illness perception and self-efficacy in patients with coronary artery disease (CAD). The review presents a comprehensive synthesis of findings from various studies, including those conducted by Mesbahi et al. (2020), Saadatian et al. (2022), Azizi et al. (2020), Zabolypour et al. (2020), Rahmani et al. (2020), and Mohammadi et al. (2021). Through the analysis of these studies, valuable insights into the potential benefits of the Teach-Back Method in the context of CAD management have emerged.

Several studies focused on the Teach-Back Method's impact on self-care behaviors among patients with cardiovascular conditions. Mesbahi et al. (2020) and Azizi et al. (2020) conducted individual studies that explored the profound influence of Teach-Back training on the implementation of self-care and adherence to treatment protocols in patients who have been diagnosed. Heart failure and Acute coronary syndrome is a condition where the blood supplies to the heart is suddenly blocked, leading to a heart attack. The combined results of these studies strongly indicate that this method has the potential to significantly improve patients' grasp of self-care and medication schedules, ultimately resulting in better adherence to prescribed treatments.

Furthermore, the Teach-Back Method's potential to enhance illness perception and self-efficacy was investigated in various studies. The approach used by Saadatian et al. (2022) and Rahmani et al. (2020) yielded promising outcomes in improving illness perception and self-efficacy in individuals diagnosed with coronary artery disease. The results are in line with the theoretical basis of the Teach-Back Method, which emphasizes the importance of interactive communication in strengthening patient education and fostering patients' self-assurance in controlling their health condition.

The studies conducted by Zabolypour et al. (2020) and Mohammadi et al. (2021) provide valuable insights in the realm of chronic conditions like CAD, where patient engagement and active participation are of utmost importance. The study conducted by Zabolypour et al. (2020) aimed to compare the effects of Teach-Back and motivational interviewing techniques on adherence to medical regimens among patients with hypertension. The findings shed light on the great potential of the Teach-Back Method in fostering positive health behavior changes. Mohammadi et al. (2021) conducted a captivating study to investigate the profound effects of multimedia education and the Teach-Back Method on enhancing the quality of life and alleviating cardiac anxiety among heart failure patients. The findings indicated that using a combination of multimedia and the Teach-Back Method could potentially amplify the effectiveness of this approach, leading to improved outcomes.

Implementation

This systematic review of the Teach-Back method and its impact on patient's illness perception and self-efficacy will be highly valuable for healthcare professionals in the specific context of Saudi Arabia. By implementing this method as an effective educational strategy, professionals can greatly enhance the attitudes and behaviors of cardiovascular patients contending with coronary artery disease. Achieving health literacy is a complex endeavor that involves acquiring, analyzing, selecting, and effectively disseminating health information. This can be accomplished through the implementation of the teach-back method, as well as addressing the challenges related to the readmission of CAD patients. By taking this approach, we will not only address concerns like hypertension, but also uplift patients, caregivers, and the entire community. Improving the perception of illness and self-efficacy among patients with CAD will have an undeniable positive impact on their overall well-being.

Limitations

Despite the promising findings, it is important to acknowledge the limitations across the studies. The lack of extensive research with comparable variables, combined with the differences in design, patient population, and outcome measures, greatly hinders the ability to directly compare and apply the findings of this study. Additionally, variations in the implementation of the Teach-Back Method, along with potential confounding factors, might influence the observed outcomes.

Conclusion

In conclusion, the studies included in this systematic review collectively suggest that the Teach-Back Method holds potential as an effective educational strategy in enhancing self-care behaviors, illness perception, and self-efficacy among patients with coronary artery disease. However, further research is needed to establish a thorough understanding of the impact of the methodology and to determine the best strategies for implementing it in clinical practice, given the variability in study methodologies and outcome measures. The Teach-Back Method offers healthcare providers the chance to empower patients, enhance treatment adherence, and contribute to superior outcomes in managing coronary artery disease.

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