



REVIEW ARTICLE

Health Coaching and Motivational Interventions for Diabetes and Hypertension Care

Thomas TH Wan^{1*}, Waleed Kattan² and Amanda Terry³

¹College of Health and Public Affairs, University of Central Florida, USA

²Department of Health Services and Hospitals Administration, College of Economics and Management, King Abdulaziz University, Saudi Arabia

³Creation Health Research Center, Florida Hospital, USA

*Corresponding author: Thomas TH Wan, Ph.D., MHS, Professor and Associate Dean for Research, College of Health and Public Affairs, University of Central Florida, Orlando, FL 32816-3680, USA, Tel: 407-823-3678



Abstract

A systematic review on diabetes care was centered in their modifying effects of coaching and motivational interventions on diabetes and hypertension care. Critical issues pertaining to the dose-response relationship between the intervention program and outcomes, the cost-effectiveness evaluation, and the lengths of observation were noted. A positive impact of health coaching (HC) and motivational intervention (MI) was noted in this review of randomized controlled studies. However, successful results are dependent on many factors such as the type of the program, the ethnicity or racial composition coupled with cultural sensitivity, the training of the healthcare providers who will execute the program, and the characteristics of the patients who are involved in the program. Specific recommendations were made for future clinical trial studies, using health coaching (HC) and motivational interview (MI) approaches.

Keywords

Health coaching, Motivational interview, Cost-effectiveness evaluation issues, Diabetes care, Hypertension control

Health coaching (HC) and motivational interviewing (MI) are synergistic, yet distinctive, approaches in health education that can be employed to enhance self-efficacy and patient centered care with chronic illnesses such as diabetes and hypertension [1]. These diseases often leave a person with low energy, decreased cognitive strength, and weak motivation to live a healthy lifestyle. Additionally, lifestyle behaviors are learned and if individuals were never taught essential skills for adhering healthy diet and exercise, they may falter

when making decisions based on food and activities. With the assistance of HC and MI, persons may find both the encouragement and education needed to change the maladaptive behaviors that led them to or exacerbated their current conditions.

Randomized control studies pertaining to HC and MI for chronic conditions of the past 10 years show that many studies were concerned with the effect of MI or HC on diabetes care while only a few published articles were focused on hypertensive care. MI intervention studies were relatively heterogeneous in their approaches while health coaching usually consisted of goal setting, knowledge acquisition, individualized care and frequent follow up. The research designs and clinical implementations varied among those studies. A majority of these studies measured the results of MI and HC through enhancing patients' adherence to medications, achieving lower HBA1C, improving dietary control behaviors, and weight loss. Furthermore, most of the MI and HC studies showed statistically significant positive results in changing patients' behaviors and improving their health outcomes. The annotated research summary of selected randomized trials is detailed in [Appendix 1](#).

Findings show that multi-component interventions targeting emotional, social, or family processes had a greater impact than interventions that just target a direct behavioral process and more effective outcomes when more sessions are delivered using an individu-

alized approach [2]. In addition, targeting adherence rather than glycemic outcomes typically demonstrates greater result [3]. Another interesting issue noted is that the impact of health coaching was more impactful in high-risk patients [4].

The complexity involved in managing type 2 diabetes is also documented since motivating patients to change in attitude, knowledge, and behavioral practice is very challenging [5]. This might be one reason that only a few studies showed a significant effect of applying HC or MI on the overall health conditions of the patients [6]. In order to facilitate preventive practice it is imperative to understand the causal mechanisms leading to better patient care outcomes [5]. Another reason could be related to the implementation and delivery since different studies employed different types of clinicians with widely differing professional backgrounds, different types and intensity of MI training, disparate MI doses provided, and a variety of practice settings [7]. Therefore, to improve patient outcomes, not only must the behavior of patients be changed but also that of providers and practices [6].

There are few highly-related worthy issues were discussed in the literature and needed more thoroughly reviewed to draw any solid conclusions. The first is the length of intervention. A wide variety of lengths of HC or MI were considered in different studies. When interpreting the effectiveness of the intervention program, many studies showed that longer HC exposure resulted in better health outcomes [8]. Although many studies considered < 6 month intervention is short and > 6 month interval is long [9]. However, appropriate lengths of intervention effectiveness for varying patient population need to be defined. Thus, the dose-response relationship between the intervention and patient care outcomes can be ascertained.

The second issue is related to cost-effectiveness of the program. There is a wide discrepancy about the cost-effectiveness in implementing such a program because of the presence of a wide spectrum of factors that need to be considered related to direct costs, indirect costs, and social costs [10,11]. The third issue is the short-term versus long-term effects of the intervention programs. Many studies showed that the short-term effect is higher than the long-term one [9,12]. The effects of longer-term intervention interval has yet to be determined.

In summary, a positive impact of MI and HC was noted in this review of randomized controlled studies. However, successful results are dependent on many factors such as the type of the program, the ethnicity or racial composition coupled with cultural sensitivity, the training of the healthcare providers who will execute the program, and the characteristics of the patients who are involved in the program. Moreover, important issues needed to be considered before implementing such programs are the duration of intervention, cost-

effectiveness of the program, and the diversity of the patient population selected.

Future research on diabetes care and hypertension control studies, using MI and HC, should explore the following options in conducting an implementation science project:

1. Use both experimental and quasi-experimental study designs: Ideally, a randomized controlled study design is preferred. However, in a population-based study, it is feasible and reasonable to employ a propensity score matching and analytical approach so that the experimental or intervention group is comparable to the comparison group. Thus, the integrity of the experimental results can be ensured.
2. Define the components or stages of MI and HC interventions: The adoption of innovation or new preventive practice behavior in disease management is similar to the technology adoption model (TAM). Both patient reported outcomes and clinical outcomes should be carefully captured in the data collection in varying stages of the disease management process. Most importantly, the program should pay great attention to personalized or individualized care management as MI and HC activities are performed by trained coaches and motivators.
3. Consider the use of health information technology (HIT) to facilitate the adherence and compile relevant process and outcome indicators during the study period. Currently, numerous HIT based and commercially implemented health education modalities are available for patients. For instance, the HealthyTutor.Com has a useful product for introducing appropriate knowledge, attitude, and preventive health practice for diabetes and hypertension [13]. If this product can also include motivating and coaching strategies to assist the patients or providers, it will certainly optimize the power of health educational interventions for effective care management of diabetes and hypertension.

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