Educating type 2 diabetes adults about naturopathy, alternative medicine benefits

Lisa Marie Portugal*

ABSTRACT

This paper is the development of a type 2 diabetes health's and wellness change initiative based on theories and principles of learning reflective of behaviorism, cognition, social constructivism, differentiated instructional best practices, and adult learning theory or Andragogy Theory. Principles of learning are developed and applied to create appropriate learning environments to meet the type 2 diabetes health and wellness needs of diverse adults in a variety of settings from a holistic, naturopathy, alternative medicine perspective.

Introduction

This plan documents a health and wellness change initiative targeting adults diagnosed with type 2 diabetes and incorporates theories and principles of learning. Three issues or problems identified with a type 2 diabetes diagnosis include: (a) A lack of awareness of homeopathic, naturopathy, alternative medicine treatments; (b) A need for education regarding how to be proactive in one's maintenance of health and wellness when diagnosed with type 2 diabetes; and (c) A lack of understanding regarding high blood pressure, high cholesterol, and cardiovascular disease and how these factors relate to type 2 diabetes [1-16].

Existing data regarding these issues has been collected and assessed via peer-reviewed studies, medical journals and books, government health and reporting agencies, the Centers for Disease Control and Prevention (CDC), the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), and the American Diabetes Association (ADA). A large percentage of the U.S. adult and youth population are affected by type 2 diabetes. The target population for this change initiative includes adults of any age with a type 2 diabetes diagnosis. According to the Centers for Disease Control and Prevention [17]:

Type 2 diabetes accounts for about 90% to 95% of all diagnosed cases of diabetes, and type 1 diabetes accounts for about 5%. The health and economic costs for both are enormous:

- Diabetes was the seventh leading cause of death in the United States in 2013 (and may be underreported).
- Diabetes is the leading cause of kidney failure, lower-limb amputations, and adult-onset blindness.
- More than 20% of health care spending is for people with diagnosed diabetes [17].

Related conditions and complications include blindness and other eye problems, stoke and heart disease, amputations, and kidney disease [17]. High glucose in the blood rather than in cells can create problems such as damage to heart, eyes, nerves, and kidneys. In addition, cells will be starved for energy [18].

According to the American Diabetes Association [19], prediabetes and diabetes statistics include:

- Prevalence: In 2012, 29.1 million Amer-

American College of Education, IN, USA

**Author for correspondance: lisamarieportugal@msn.com*

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icans, or 9.3% of the population, had diabetes.

- Approximately 1.25 million American children and adults have type 1 diabetes.
- Undiagnosed: Of the 29.1 million, 21.0 million were diagnosed, and 8.1 million were undiagnosed.
- Prevalence in seniors: The percentage of Americans age 65 and older remains high, at 25.9%, or 11.2 million seniors (diagnosed and undiagnosed).
- New Cases: 1.4 million Americans are diagnosed with diabetes every year. Pre-diabetes: In 2012, 86 million Americans age 20 and older had prediabetes; this is up from 79 million in 2010.
- Deaths: Diabetes remains the 7th leading cause of death in the United States in 2010, with 69,071 death certificates listing it as the underlying cause of death, and a total of 234,051 death certificates listing diabetes as an underlying or contributing cause of death [19].

Based upon these statistics, programs, services, education, and change initiatives might prove affective and resourceful to the affected population.

Methods

This plan documents a change initiative reflective of social constructivism, cognition, behaviorism, and multiple theories of learning components. Incorporating various aspects of the theories and principles of teaching and learning into a health and wellness change initiative is key for implementation and success. Components and principles such as: (a) Intrinsic and extrinsic motivational factors, (b) Learning styles, (c) Cultural factors, (d) Diversity factors, (e) Differentiated instructional strategies, (f) Engagement techniques, (g) Technology integration, (h) Adult learning theory-Andragogy Theory best practices, (i) Cognitive Dissonance Theory, and (j) Behaviorist, cognitive, and socio-cultural theories will be applied to create appropriate learning and healing environments meeting the needs of diverse adults with type 2 diabetes in a variety of settings [11,13,20].

Various theories and principles of learning have been effective when applied to health and wellness change initiatives such as: (a) Relapse Prevention Model, (b) Stages of Change Model (Transtheoretical Model), (c) Ecological Models, (d) Theory of Reasoned Action or Planned Behavior, (e) The Health Belief Model, and (f) Social Cognitive Theory [14]. These theories will be addressed and applied when appropriate to create and develop individualized action plans addressing the overall health and wellness of adults diagnosed with type 2 diabetes. These models and theories support the practice of disease prevention via health education and health promotion. These models and theories are used in program development to understand and explain health behaviors. In addition, these models and theories can guide best practices and useful strategies in the development of health and wellness programs for disease prevention education and health promotion.

The impact of individual learning styles, environment, and culture on the target population and this change initiative will be addressed via various differentiated instructional strategies, adult learning theories, scaffolding new information, technology integration, and meeting the needs of diverse adults where they are at while raising their awareness regarding health and wellness education in an individualized manner [11,13,20]. A holistic, individualized approach will be used for each adult in the program to address his or her specific ailments, needs, ability level, cultural background, and cognitive dissonance perspective. The key is to address the patient in an individualized, holistic manner rather than a Big Pharma, one-size-fits-all, prescription-based manner typical of traditional Western medical practitioners. The goal is to educate, self-empower, change negative habits, develop lifelong healthy habits, and address whole body healing via naturopathy, alternative medicinal practices known throughout the world for centuries.

Furthermore, technology (i.e., website, cultural avatars, audio, visual, instructional modules, email alerts, and newsletter subscription) will be developed and integrated into the education program to deliver content in a creative manner while addressing cultural factors, engagement strategies, diversity factors, learning styles, cognitive dissonance, motivational techniques, adult learning best practices, and behaviorist, cognitive, and socio-cultural theories. With these components in place and the integration of technology, an informative, interactive individualized health and wellness educational system can impact the lives of type 2 diabetes

adults in meaningful ways while reaching them where they are at cognitively. Individuals can be educated in both an individualized, face-to-face manner and a substantive, creative, intuitive, online educational format.

Social Cognitive Theory has three variables that interrelate with each other which can then cause learning to happen. The individual's personal experiences can come together with behavioral determinants and environmental factors to create positive learning, change negative patters, and develop new ways of thinking and behaving **(FIGURE 1)** [21].

Use of Online Technology Cognitive Learning Theory Example #1:

http://tinyurl.com/lojv9zl

Transcript: Hello I'm Rosa and today you will learn about how food and drink directly relates to problems with diabetes and poor health. You will also learn about specific herbs, plants, roots, and how diet changes can heal your body and the common aliments associated with a type 2 diabetes diagnosis.

Use of Online Technology Social Constructivism Theory Example #2:

http://tinyurl.com/k7z2s4x

Transcript: Hello I'm Kim. I joined an alternative medicine group for diabetes and learned about how others were very sick, but improved their health with holistic, natural remedies that have been used for centuries to heal the body. The experiences of others helped me to see I needed to make a change.

Use of Online Technology Behavioral Learning Theory Example #3:

http://tinyurl.com/mz9bg2y

Transcript: Hello I'm Paul. I was very sick last year and went to the hospital. That's when I knew I had to make a change. I discovered alternative medicine treatments for diabetes and my health is 100 times better today. I made changes that saved my life.

This plan will (a) identify, define, and describe the characteristics of a health and wellness change initiative related to type 2 diabetes (b) relate the theories and principles of learning to health and wellness (c) examine real-world application and relevance of major categories, concepts, theories, and principles of learning and (d) implement principles of learning to create applicable learning environments meeting the needs of diverse adults with type 2 diabetes in a variety of settings.

■ Applying behavioral learning theory planning document

This health and wellness change initiative addresses three issues or problems identified with a type 2 diabetes diagnosis which include: (a) A lack of awareness of homeopathic, naturopathy, alternative medicine treatments; (b) A need for education regarding how to be proactive in one's maintenance of health and wellness when diagnosed with type 2 diabetes; and (c) A lack of understanding regarding high blood pressure, high cholesterol, and cardiovascular disease and how these factors relate to type 2 diabetes. The potential impact of behaviorism on this initiative will be to educate participants about the hazards of low information regarding health and wellness and how it can negatively affect adults with type 2 diabetes.

Behaviorism theory will be used to show participants how their food and drink choices negatively impact their health and to educate them about how to change those habits and why it is important to do so. Facts, statistics, research, and the affects on the body of ingredients of unhealthy foods and drinks versus healthy choices will be shared with participants via various differentiated instructional strategies [11,13,20]. Since behaviorism theory is based on individuals rewarded for their actions in some form or another, facts and ingredients in poor food choices will be revealed to educate and empower participants to help them want to make better choices. The goal is to give individuals the facts so the changes they make will be based on their

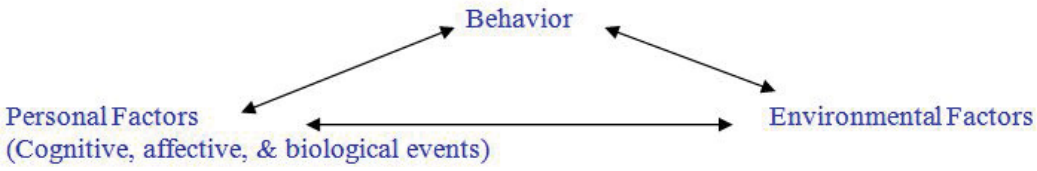

Figure 1. Social cognitive theory of personality.

own volition. When participants are educated about ingredients and health hazards, thinking patterns that are wrong can be changed. Facts can change an individual's reality and help them make new and better choices when the mindset has been changed. The only way to change an individual's mindset is via education and facts.

This health and wellness change initiative seeks to address the education of adults with type 2 diabetes and help them willingly change their behaviors based on the personalized, new information and knowledge they receive. Behavioral theory and educational best practices are incorporated into the program at every level and with every strategy, technique, and tool developed. Cognitive Learning Theory has two specific branches called Social Cognitive Theory (SCT) and Cognitive Behavioral Theory (CBT) [7,21-24].

Social Cognitive Theory basic concepts include emotional coping, self-efficacy, self-regulatory capability, reproduction, and observational learning. Emotional coping is the notion that good coping mechanisms can be developed to address negative behaviors and stressful environments [7,21-24]. Developing and fostering this skill can lead to powerful and compelling learning in youth and adults. The process of self-efficacy is the ability to improve upon newly learned knowledge, information, and behavior with practice. Self-regulatory capability is the ability to control one's behavior in challenging, difficult, stressful environments. Reproduction is a process educators can use to place individuals in a safe, learning environment where materials and information can be viewed, heard, touched, experienced, and processed to help retain knowledge, learned behaviors, and practice changes. Observational learning is the notion that individuals learn by observing as a means of attaining knowledge, information, and changing behavior.

Cognitive Behavioral Theory (CBT) explains the role of knowing or cognition when identifying and predicting how an individual behaves and patterns associated with his or her behaviors [7,21-24]. The theory posited the behaviors individuals display directly relate to the self-concepts they form. Self-formed concepts can be negative or positive and often times an individual's environment plays a key role. Environment can greatly impact and affect how individuals learn, process, and adopt negative or positive behaviors and actions. Cognitive Behavioral Theory can be further explained by the Cognitive Triad which identifies learning and human behavior. For example this triad could include negative thoughts such as: (a) The self (I feel worthless), (b) The world/environment (the world is too difficult, I have no control over the direction of my life), and (c) The future (I have nothing to look forward too or be positive about). This change initiative seeks to correct negative behaviors, thoughts, and actions in participants via an individually designed educational, holistic, and fact-based, naturopathy, alternative medicine program.

The baseline measurement of the target behavior regarding poor eating/drinking habits will be each participant's: (a) Full medical records, (b) The prescribed, non-prescribed, and over-the-counter drugs participants are taking, (c) Qualitative, narrative interviews specifically designed to learn about food, drink choices, dietary habits, physical activity habits, and ailments, pain, and health challenges participants have endured, and (d) New blood work and any medical testing as deemed necessary by the naturopathy doctor. This background, baseline information will be collected on each participant to gain a holistic, qualitative measure on past and current health and well-being. Charts and records for each participant will be created as a baseline measurement to refer back to after the health education change initiative and behavior modification techniques have been incorporated into each participant's new patterns and ways of thinking. In addition, progress monitors, narrative, qualitative interviews, and regular medical assessments will also be used throughout each participant's involvement in the program as continuous, measurement data.

Since the target population is adults with type 2 diabetes, Andragogy theory and self-directed, intuitive, student-centered learning strategies will be incorporated throughout the change initiative education program. At the center of the program will be truthfulness about dangerous food and drink choices, dangerous prescribed and over-the-counter medication and the affects on the body specific to each participant's case, and technology integration linking facts, statistics, behavior modification, and education strategies. The following tools and strategies will be used for education, information dissemination, contact, and behaviors modification: (a) Intuitive, interactive self-directed online learning modules, (b) Videos, (c) Visual storytelling software presentations, (d) Traditional slide presentations,

(e) Avatar integration, (f) Audio presentations, (g) Website, (h) Newsletter, (i) Social media, and (j) Personal contact via in-person meetings, instant messaging, video conferencing, text, phone, email, and postal mail. Examples of technology integration include the following:

1. Prezi presentation: Complimentary and Alternative Medicine Practices.

As Classified by the National Center for Complementary and Alternative Medicine.

http://prezi.com/65lrlfkd83cp/?utm_campaign=share&utm_medium=copy&rc=ex0share

2. Animoto video: Let Your Food be Your Medicine & Your Medicine Be Your Food.

https://animoto.com/play/FQVCophhxEl0g6fDaHr1zA

3. Youtube channel video: Let Your Food be Your Medicine & Your Medicine Be Your Food.

https://www.youtube.com/watch?v=CQj8FDcU7aw&t=7s

Audacity audio file: Ten horrifying ingredients that prove McDonald's is not fit for consumption. Friday, January 13, 2017 by: Amy Goodrich Tags: fast food, food safety, McDonald's, toxic food, toxic ingredients.

http://www.naturalnews.com/2017-01-13-10-horrifying-ingredients-that-prove-mcdonalds-is-not-fit-for-consumption.html

4. Documentary videos: The Beautiful Truth: The World's Simplest Cure for Cancer

5. Websites: Forks Over Knives.

https://www.forksoverknives.com/

6. Cultural, Diversity, Online, Audio-Visual Avatars: Use of Online Technology Cognitive Learning Theory Example #1:

http://tinyurl.com/lojv9zl

Use of Online Technology Social Constructivism Theory Example #2:

http://tinyurl.com/k7z2s4x

Use of Online Technology Behavioral Learning Theory Example #3:

http://tinyurl.com/mz9bg2y

7. Outreach and Partnerships with Local and National Stakeholders, Groups, and Educational Centers,

8. Food Revolution Summits & Instructional Workshops In-Person and Online [4].

Results

A variety of health and wellness measures may be taught, prescribed, scheduled, and charted for each participant in an individualized manner based on his or her health related challenges such as: (a) Diet and exercise schedules, (b) Diabetes related health issues (c) Blood pressure, (d) Cholesterol, (e) Intravenous Therapy, (f) Holistic, naturopathy plants, herbs, roots, pills, essential minerals, and vitamins, (g) Acupuncture, (h) Herbalist remedies, (i) Weight management, (j) Immune function, (k) Gastrointestinal conditions, and (l) Colonic hydrotherapy [1-16] **(FIGURE 2)**.

Components and principles such as: (a) Intrinsic and extrinsic motivational factors, (b) Learning styles, (c) Cultural factors, (d) Diversity factors, (e) Differentiated instructional strategies, (f) Engagement techniques, (g) Technology integration, (h) Adult learning theory-Andragogy Theory best practices, (i) Cognitive Dissonance Theory, and (j) Behaviorist, cognitive, and socio-cultural theories will be applied to create appropriate learning and healing environments meeting the needs of diverse adults with type 2 diabetes in a variety of settings [11,13,20]. The key is to reach participants in a personalized manner, regularly and often, in a variety of ways, using a variety of methods, to engage, educate, inspire, communicate, reinforce new ideas, change negative thinking, rectify misinformation/misunderstanding, and help modify behaviors.

The goal of the program is to offer a library of resources and a menu of holistic, naturopathy services in an individualized, differentiated instructional manner. For example, participant A may need audio on the toxicity of fast food, video on how to juice vegetables and fruits, and slides explaining detox intravenous therapy specific to his or her health related issues. Participant B may need documentaries on specific health related challenges he or she is experiencing, audio-visual avatar instruction about herbalist remedies, and online tutorials about cooking with specific herbs, plants, spices, and roots for his or her health related issues.

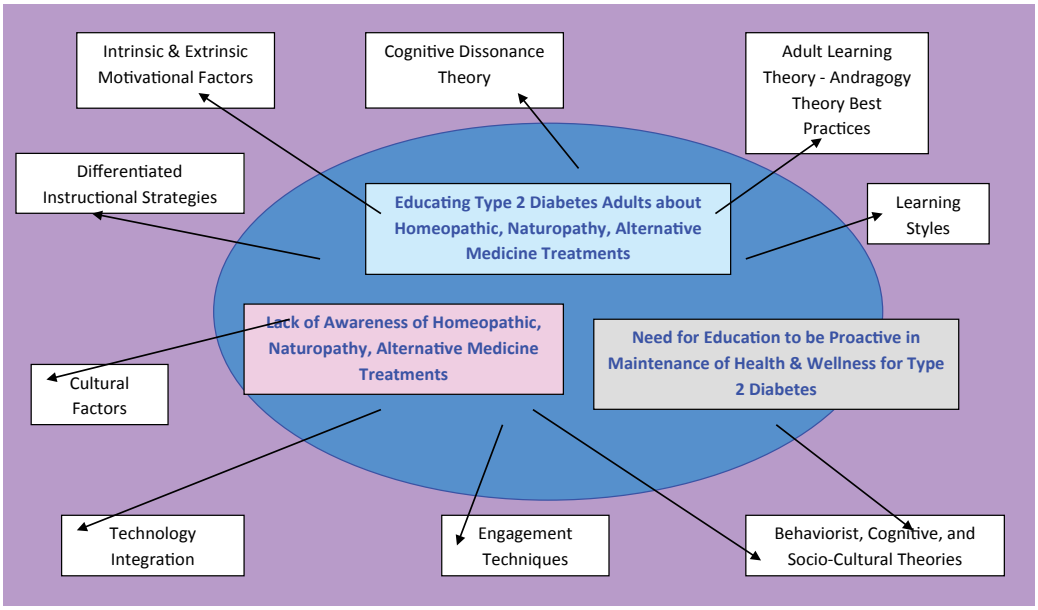

Figure 2. Type 2 diabetes wellness concept map.

The idea is to create and develop on-demand instructional materials that partner with the naturopathy physician's recommendations in an individualized, differentiated manner in the same way educators instruct in today's modern classroom with individualized instruction and feedback based on the student's needs.

Discussion and conclusion

The basic assumptions/principles of the theories presented in this planning document are relevant to diverse, adults with type 2 diabetes as all strategies, techniques, and methods are rooted in specific learning theories and behavior modification concepts that are used in current education best practices and published in scholarly, peer-reviewed journals. Applying proven best practices educators have used in the classroom to educate adults can be incorporated into a change initiative program to educate adults about health, wellness, disease, and self-directed action that can improve the lives of participants beyond the program. Moreover, with the use of technology integration, online instructional modules, and social media, a global audience can be reached and informed as well.

Global and local comminutes of interest can be informed and connected with shared interests regarding health, wellness, and diabetes information. These strategies motivate and engage participants via various integrative, intuitive, creative, methods and reach individuals where they are at throughout his or her learning process and current information level. Participants can engage with the technology, social media, online communities, personal or indirect contact at his or her own pace, in his or her own time, and in his or her own preferred manner. A menu of integrative, technology services can be accessed in a variety of ways that meet diverse, adults in the manner he or she is most comfortable using. Entry-level, moderate, and high level information can be accessed and shared using a variety of technology tools that can be fully accessed and open online. The potential strategies in the planning document are specifically planned, developed, and created to address individual participants based on his or her needs, cognitive level, ability level, learning style, and diversity, cultural, and multigenerational groups. The purpose is to reach diverse adults in various creative, intuitive ways and to inform, education, self-direct, raise cognitive ability, develop greater awareness, support, praise, inspire, and internally and externally motivate. Via various, multi-level education platforms, methods, tools, strategies, and techniques, the goal is to keep participants actively learning, interested, motivated, challenged, and inspired to change his or her negative behaviors and adopt positive, healthy behaviors. In addition, technology tools can be accessed online globally and reach many individuals throughout the world. A community

of sharing best practices, information dissemination, peer to peer interaction and communication, and global outreach is possible with technology integration and social media. Principles of learning will be applied within this health and wellness change initiative to create appropriate learning environments to meet the needs of global, diverse adults in a variety of settings.

The impact this health and wellness initiative might have on adults with type 2 diabetes will not only change negative lifelong patterns, but actually heal the body in a multitude of ways. Alternative, naturopathy medicine has been proven to relieve, reduce, and prevent many ailments associated with type 2 diabetes as well as healing the damage caused by diabetes and years of abuse on the body from unhealthy habits [1-16].

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