

## Managing Diabetes: Use of the Transtheoretical Model

By: Laura Hill, Lori W. Turner, Sharon B. Hunt and [Mike Perko](#)

Managing Diabetes: Use of the Transtheoretical Model. Hill, L., Turner, L. W., Hunt, S. B., & Perko, M. A. Journal of the Arkansas Medical Society. (2008). 43 (1), 6-7.

Made available courtesy of Arkansas Medical Society: <http://www.arkmed.org/>

**\*\*\*Reprinted with permission. No further reproduction is authorized without written permission from the Arkansas Medical Society. This version of the document is not the version of record. Figures and/or pictures may be missing from this format of the document.\*\*\***

### **Abstract:**

Managing diabetes requires a motivated client and skilled health care provider." clients adhere to diabetes management recommendations is challenging. The transtheoretical model may be valuable in achieving success in diabetes management. Health care providers who are informed about the behavior change process and stage specific interventions may be well equipped to facilitate positive and lasting behavior changes. The purpose of this paper is to describe the transtheoretical model and to discuss strategies for applying it to diabetes management. Utilizing stage-matched strategies may be beneficial in motivating clients with diabetes to adhere to recommendations.

### **Article:**

#### ***Introduction***

Incidences of diabetes are growing in the United States. Cowie, Rust, Byrd-Holt, Eberhardt, Flegal and Englegau (2006) report that from 1980 to 2005, the number of Americans with diabetes increased from 5.6 million to 15.8 million and the number of children with type 2 diabetes rose at an alarming rate. Intensive control of blood glucose levels can significantly reduce the onset of diabetes and delay the onset of its complications. Health-care practitioners are interested in assisting patients to reach optimal levels of blood glucose control.

Enhancing patient adherence to the recommendations of their healthcare providers is crucial. Diabetes self-management involves patients' selection of behaviors to manage their disease. Rubin and Nopora (2003) report that patient empowerment for self-care skills is necessary in the diabetes education process.

Managing diabetes requires adopting a myriad of health care behaviors. Patients must learn and use many self-care behaviors. Common recommendations for optimization of blood glucose control are: regular self-monitoring of blood glucose, taking medications appropriately, eating nutritiously and on schedule, maintaining and achieving a healthy body weight, engaging in regular physical activity, recognizing and managing hypoglycemia and hyperglycemia, practicing appropriate foot care, quitting smoking and dealing with illnesses that arise (Rubin & Nopora, 2003).

Health care providers may not have the time or training to address the emotional or psychological issues of patients with diabetes. Often, limited time is available for consultation and education, as well as the added pressure of seeing many patients. Healthcare professionals often express frustration that patients do not follow their recommendations. Therefore, it is becoming more important to employ various constructs of health behavior research to encourage patient involvement and facilitate change in diabetes-related behaviors. The value of including behavioral strategies in education sessions with patients with diabetes is widely recognized. Health behavior models can aid the practitioner in understanding the self-management struggles that people with diabetes 'face. Education sessions can then be tailored to the particular patient's level of readiness to change behavior. The purpose of this paper is to describe the transtheoretical model and to discuss strategies for applying it to diabetes management.

## **The Transtheoretical Model**

The Transtheoretical Model was developed by Prochaska, DiClemente and Norcross (1992) and was first applied to diabetes management in 1993. The basic tenets of the theory state that people are in a continuum (over time) of readiness to change behavior and can move along the continuum in a spiral fashion throughout the cycle. Potential and probable movement forward and backward throughout this cycle occurs. The stages of change include Precontemplation, contemplation, preparation, action and maintenance.

Precontemplation is the stage where people have no intention to change a specific, unhealthy behavior. Some people in this stage are uninformed precontemplators (those that are unaware that behavior change is needed or those that are aware of the diagnosis, but have not been informed of the significance of the disease), resistant precontemplators (those that are conscious of the disease and know that they should change behavior but are actively resisting this change) and defeated precontemplators (those that have been discouraged by previous failures to change). The next stage is contemplation. Patients in the contemplation stage do not plan to change a behavior in the near future but will probably change the behavior in the next 6 months.

The next stage, preparation involves making plans to change in the immediate future. The most outwardly obvious stage is action. People in the action stage have changed a behavior within the past 6 months. Finally, the maintenance stage involves practicing the behavior for at least 6 months.

## **Use of Transtheoretical Model for Management of Diabetes**

To apply the model to diabetes management, researchers recommend categorizing patients into each of the stages of change for each diabetes management behavior. In addition to assessing the stage of change, readiness to change can also be assessed at the beginning and end of an intervention for improvement of a specific behavior. The ideal reason for determination of a person's stage of readiness to change a behavior is for the intervention to facilitate a move from the current stage to a healthier stage. Kirk, Mutrie, MacIntyre and Fisher (2004) maintain that the goal is to design the intervention or education to match the current stage for optimal benefit. Jones, Edwards, Vallis, Ruggiero, Rossi, and Rossi (2003) and Vallis, Ruggiero, Greene, Jones, Zinman and Rossi (2003) found that stage-based care improved diabetes-related behaviors and the associated outcomes such as favorable glucose and A1C blood levels.

Prochaska, DiClemente and Norcross (1992) teach that an important aspect of stage-based interventions is the use of decisional balance. Decisional balance involves assessing the pros and cons of changing a behavior. The provider can guide the patient to examine the many benefits associated with diabetes management. Once the decision is made to make a positive change, situational self-efficacy, may be assessed and developed. Situational self-efficacy is the confidence that a patient can encounter various tempting situations and continue the healthy behavior.

An important aspect of behavior change that should be addressed is recycling, the probable movement forward and backward in a spiral and not linear fashion. Recycling is to be expected and is a normal part of behavior change. It may be described as a temporary slip and an integral part of learning new behaviors. Providers may counsel clients to expect this and make plans for coping with lapses when it does occur.

Mau, Glanz, Severino, Grove, Johnson and Curb (2001) discovered that social support was an important aspect of diabetes management. Patients in the intervention group who received social support in addition to standard care improved fat and fiber intake behaviors. Those who received family support were more likely to move to the action and maintenance stages for diet and exercise behaviors. Providers may provide tips for enriching a positive support system to their clients.

To enhance physical activity compliance, providing individual consultation that includes coping with barriers, developing goals, and preventing relapse may be beneficial. One stage-based study of inactive people with type 2 diabetes were given individual exercise consultations (Kirk, Higgins, Hughes, Fisher, Mutrie & Hillis, 2001). Of those in the intervention group, 82% progressed to the next stage of change as compared to 33% in the

control group.

## **Conclusion**

Diabetes is a serious and prevalent disease. Managing diabetes requires a motivated client and skilled health care provider. Being informed about the behavior change cycle and stage specific interventions may be helpful. Utilizing stage-matched strategies may be beneficial in motivating clients with diabetes to adhere to recommendations.

## **REFERENCES**

- Cowie C.C., Rust K.F., Byrd-Holt D.D., Eberhardt M.S., Flegal K.M., Engelgau M.M., et al. (2006). Prevalence of diabetes and impaired fasting glucose in adults in the U.S. population: National Health and Nutrition Examination Survey 1999-2002. *Diabetes Care*, 29, 1263-1268.
- Jones H., Edwards L., Vallis T.M., Ruggiero L., Rossi S.R., Rossi J.S. (2003). Changes in diabetes self-care behaviors make a difference in glycemic control. The Diabetes Stages of Change (DiSC) Study. *Diabetes Care*, 26, 732-737.
- Kirk A.F., Higgins L.A., Hughes A.R., Fisher B.M., Mutrie N., Hillis S. (2001). A randomized, controlled trial to study the effect of exercise consultation on the promotion of physical activity in people with type 2 diabetes: a pilot study. *Diabetic Medicine*, 18, 877-882.
- Kirk A.F., Mutrie N., MacIntyre P.D., Fisher M.B. (2004). Promoting and maintaining physical activity in people with type 2 diabetes. *American Journal of Preventive Medicine*, 27(4), 289-296.
- Mau M.K., Glanz K., Severino R., Grove J.S., Johnson B., Curb J.D. (2001). Mediators of lifestyle behavior change in Native Hawaiians. Initial findings from the Native Hawaiian Diabetes Intervention Program. *Diabetes Care*, 24, 1770-1775.
- Prochaska J.O., DiClemente C.C., Norcross J.C. (1992). In search of how people change. Applications for addictive behaviors. *American Psychologist*, 47, 1102-1114.
- Rubin R.R., Nopora J.P. Behavior change. (2003). In M. J. Franz (Ed.), *A Core Curriculum for Diabetes Education. Diabetes Education and Program Management* (pp.65-96). Chicago, IL: American Association of Diabetes Educators.
- Vallis M., Ruggiero L., Greene G., Jones H., Zinman B., Rossi S. (2003). Stages of change for healthy eating in diabetes. Relation to demographic, eating-related, health care utilization and psychosocial factors. *Diabetes Care*, 26, 1468-1474.
- Laura Hill is a Clinical Dietitian for Mercy Medical Center of Northwest Arkansas, Lori Turner and Mike Perko are professors both in the department of Health Science, University of Alabama; and Sharon Hunt is a professor in the department of HKRD, University of Arkansas