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## Current Status of Psychosocial Research in Diabetes

**D**iabetes treatment has become increasingly sophisticated with the use of technologic advances in self-monitoring of blood glucose and insulin delivery. The care of diabetes, however, remains firmly dependent on patient action. A complex set of skills must be mastered and then applied against long-standing habits, personal inclinations, and social pressures. Not surprisingly, there has been greater interest in and funding for research on psychosocial aspects of diabetes. However, critical areas remain to be adequately addressed by ongoing research. I examine some of these research topics to assess the knowledge gained from psychosocial studies, some problems in methodology, and possible directions for research.

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### IMPACT STUDIES

Psychosocial impact studies present no firm evidence that diabetes mellitus causes major alterations in personality or increased risk of psychiatric illness before the onset of major complications.<sup>1,2</sup> However, there have been indications of subtle effects of diabetes on dependency<sup>3</sup> and psychological development<sup>4,5</sup> during childhood and adolescence. There are also preliminary suggestions that specific eating disorders, e.g., anorexia nervosa, may be associated with IDDM.<sup>6</sup> The possible effects of diabetes on family functioning have rarely been addressed by empirical research.

There is increasing evidence that both type I and type II diabetes can lead to altered cognitive functioning as a result of central nervous system impairment.<sup>9,10</sup> Because of the probable effects of intellectual impairments on aspects of psychosocial functioning, e.g., school performance, research evaluating relationships between cognitive effects of diabetes and psychosocial functioning may help delineate the influences of central nervous system changes on the quality of life of diabetic patients.

Certain methodologic problems limit conclusions from many of these impact studies. In particular, these studies have often

used diabetic samples that are potentially biased and have frequently failed to incorporate appropriate control groups.<sup>6,7</sup> Recent advances in reliable assessment of psychiatric illness have been used rarely.<sup>7</sup>

Several benefits may derive from continuing this line of research. The identification of specific, even subtle, effects of diabetes could lead to more targeted psychosocial interventions and may help health care providers orient their educational efforts. Studies of the impact of diabetes also offer an important research model for studying coping strategies of individuals and families undergoing chronic stresses.<sup>8</sup> Finally, this type of research provides an opportunity to extend our understanding of the effects of environmental risk factors (in this case, diabetes mellitus) on the development of particular psychiatric disorders such as depression and anorexia nervosa.

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### LINKAGE STUDIES

Many studies have demonstrated connections between generic measures of psychosocial status, e.g., life events<sup>11</sup> and family environment,<sup>12</sup> and metabolic control. Because the statistical relationships have been modest, there has been a recent effort to develop illness-specific measures that assess the person's behaviors and/or attitudes specific to diabetes. The use of illness-specific measures has led to better predictive power of metabolic outcomes.<sup>13-17</sup> However, continued assessment of both diabetes-specific and generic psychosocial dimensions offers the possibility of understanding the connection between underlying personal and family characteristics and illness outcomes. As a consequence, these linkage studies could provide an empirical basis for developing treatments that not only focus on adherence management but also on underlying psychosocial dimensions. In addition, use of generic measures in these linkage studies will enable research on diabetes to be coupled with studies of adaptation to other medical conditions.

Studies of the relationships between psychosocial and metabolic dimensions have been largely cross-sectional. To better understand directionality in these relationships, longitudinal studies are required. Such studies could provide indications

of psychosocial factors identifiable early in the course of diabetes that predict subsequent diabetes-related problems.<sup>7,18</sup>

#### STRESS RESEARCH

Patients often think stress, independent of personal actions, is an important factor in poor metabolic control. A few early studies implicated such a direct psychosomatic link,<sup>19-21</sup> although one recent study fails to support this popular notion.<sup>22</sup> This area of research is fraught with methodologic problems. For example, there appears to be a trade-off between laboratory stressors that are reliable but not applicable to daily life, e.g., mental arithmetic,<sup>22</sup> and those that may seem applicable but are not yet demonstrably reliable, e.g., stress interviews.<sup>19</sup> Strategies for these studies have also been problematic in that, with few exceptions,<sup>21</sup> researchers have attempted to detect stress sensitivity in randomly selected patients<sup>22</sup> rather than search for individual patients who, on clinical grounds, might be particularly responsive to stressful situations. Because clinically significant and readily detectable stress sensitivity may be an unusual condition, the second strategy could help identify patients for whom behavioral stress reduction treatments may be applicable.

#### INTERVENTION STUDIES

Psychosocial interventions can incorporate a wide variety of techniques and approaches, e.g., cognitive or behavioral therapies guided by social learning or operant conditioning theories and group, family, and individual therapies derived from psychodynamic models. There have been few such psychosocial intervention studies in the field of diabetes.<sup>23</sup> These studies, often pilot projects, suggest that interventions derived from these different theories may provide at least short-term benefits in terms of metabolic control, better adherence, weight loss, and fewer episodes of diabetic ketoacidosis.<sup>24-28</sup>

Unfortunately, larger well-designed trials of diabetes education have not yet incorporated these psychosocial strategies.<sup>29-31</sup> These studies generally emphasize the failure of information-oriented programs to alter behavior or improve metabolic control. However, as some researchers have suggested, psychological or motivational issues may be important factors in determining outcomes of educational interventions.<sup>29,30</sup> Clearly, the careful evaluation of psychosocial interventions for improving diabetes self-care is a critical next step in research. Well-designed clinical trials are needed to assess different psychosocial techniques alone and in combination with educational approaches.

In conclusion, I have pointed out several issues and directions relevant to future research; I am particularly impressed with the need for developing strategies and protocols for psychosocial treatments. Each of the research areas discussed can provide useful data to specify and focus these treatment approaches.

A. M. JACOBSON, MD

From the Joslin Diabetes Center and Harvard Medical School, 1 Joslin Place, Boston, Massachusetts 02215.

Send reprint requests to Dr. Alan M. Jacobson at the above address.

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