

The Future of Health Psychology Interventions

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Progress in health psychology interventions was reviewed to manage chronic illness, treat psychophysiological disorders, and provide complementary treatment for difficult medical symptoms. A closer synergy between research, clinical applications and public policy, and education and training was advocated to guide future work in these areas. Further, the importance of clinical input informing research directions, the need for interventions to focus on a broader range of individual difference and contextual factors, and for effectiveness studies to influence the adoption of treatments in clinical settings was emphasized. In accordance, greater effort should be devoted to disseminating information on treatment effectiveness to professional and lay groups to maximize the public health benefit of established intervention approaches.

Key words: health, psychology, treatments, effectiveness, future

Health psychology interventions have assumed an increasingly important role in the delivery of health care services across a range of patient groups since the late 1970s (Christensen & Antoni, 2002; Nicassio & Smith, 1995; Resnick & Rozensky, 1996). The use of such interventions has mirrored the development of the field of health psychology as a discipline and is a reflection of the need to expand the paradigm of health care beyond more traditional biomedical approaches (Engel, 1980). Moreover, the increased adoption of health psychology interventions is a testament to their importance in enhancing the health status of patients in a number of problem areas (Christensen & Antoni, 2002).

Our analysis in this article encompasses interventions that are designed to (a) manage chronic and/or life-threatening illness such

as rheumatoid arthritis, diabetes, and cancer; (b) treat psychophysiological disorders such as hypertension, irritable bowel disorder, tension headache, and insomnia; and (c) provide adjunctive or complementary care for patients with refractory medical symptoms (e.g., pain) and psychological comorbidities such as anxiety and depression (Wells, Golding, & Burnham, 1989), and for patients who must cope with surgery and other stressful medical procedures. For an analysis of intervention approaches for the primary prevention of health problems, see Smith, Orleans, and Jenkins (2004).

These interventions have addressed a range of objectives, including reducing stress, enhancing quality of life, providing support, bolstering immune system functioning, fostering adherence to provider recommendations, reducing disability, and increasing education and awareness. Of importance, in addition to broadening the range of treatment options available to patients, these interventions have enhanced patients' personal mastery and coping skills and their ability to manage their medical conditions and symptoms (see Lorig & Holman, 1993).

Interventions in health psychology are continuing to emerge against a backdrop of significant changes in health care and a growing awareness of the interdependence between mental and physical health. High rates of psychiatric comorbidity are found in persons with chronic medical conditions (Wells et al., 1989), and it is recognized in traditional psychiatric nosology that psychological and behavioral factors may influence clinical outcomes in persons with medical disease via the establishment of the diagnostic code "Psychological Factors Affecting Medical Condition" (American Psychiatric Association, 1994). Clinical psychologists have increased their role in delivering mental health services in primary care settings (Coyne, Thompson, Klinkman, & Nease, 2002), while clinical health psychologists commonly render inter-

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ventions such as relaxation training and biofeedback to patients seen in more traditional mental health outpatient clinics (Belar & Geisser, 1995). In recognition of the increased importance of integrating mental and physical health, the American Psychological Association recently broadened its mission statement accordingly to promote health in addition to its previous, exclusive emphasis on human welfare (American Psychological Association, 2001).

In analyzing the advances in this area and in making recommendations for the future in research, clinical applications and public policy, and education and training, we suggest some important underlying principles and themes that will provide a foundation for further work in these areas. First, given the evolving nature of the field and related health disciplines, interdisciplinary approaches to the development and implementation of health psychology interventions are warranted. Second, interventions that are theoretically derived and empirically supported are those with the greatest clinical impact and public health benefit and, therefore, should be disseminated and adopted (Chambless & Ollendick, 2001). Third, health psychology interventions should be sensitive to differences in gender, culture, and socioeconomic status and applicable across a range of settings and contextual factors. Fourth, professionals in the field must take into account the ethical principles underlying the development and implementation of treatment interventions by ensuring that patients' rights are protected and that the enhancement of human welfare is the ultimate goal of all intervention efforts. Fifth, research and application have recursive effects, each enhancing the quality and relevance of the other.

With these core values and principles, we review major advances and accomplishments, discuss their significance, and make recommendations for the future.

Research

Over the previous 25 years, health psychologists have made important strides in identifying the primary concerns and needs associated with chronic illnesses, psychophysiological disorders, and refractory medical symptoms and in developing reliable and valid standardized assessment tools for measuring clinical outcomes in individuals from the majority culture. Health psychologists also have been successful in adapting psychological treatments for application in the health domain (see Christensen & Antoni, 2002; Lorig & Holman, 1993; Nicassio & Smith, 1995), including interventions designed to enhance education, social support, behavior change, stress reduction, emotional disclosure, and self-regulation. The efficacy of some of these treatments has been documented experimentally by multiple investigators, leading to the designation of "well-established" treatments by the Task Force on Psychological Interventions (Chambless et al., 1998). Examples of interventions that have received this designation include cognitive-behavior therapy for pain associated with rheumatic disease (Keefe et al., 1990) and behavior therapy for headache (Blanchard, Andrasik, Ahles, Teders, & O'Keefe, 1980). Other interventions such as cognitive-behavior therapy for pain of sickle cell disease (Gil et al., 1996) have been listed as "probably efficacious" treatments because they have received promising empirical support (see Kendall, 1998). As the foregoing examples illustrate, many of the listed treatments involve behavioral, cognitive-behavioral, or biofeedback approaches for treating symptoms and

disability associated with conditions such as headaches, rheumatic disease, low back pain, and other painful conditions.

In some of these problem areas, research has examined the roles of gender, age, and racial and ethnic diversity in response to treatment. Examples of interventions that have been explicitly designed for women (e.g., Antoni et al., 2001), the elderly (e.g., Lichstein, Riedel, Wilson, Lester, & Aguillard, 2001), and minorities (e.g., Schneider et al., 1995) are beginning to emerge. Specific attention to issues of cultural and sociodemographic diversity is increasing as well (Landrine & Klonoff, 2001; Whitfield, Weidner, Clark, & Anderson, 2002). Greater attention has been devoted to the expectations of managed care organizations, and the public, more generally, for the development of effective brief and inexpensive treatments that use innovative and practical technologies (e.g., Mohr et al., 2001; Winzelberg et al., 2001).

These research accomplishments provide an excellent framework for developing a theory-based, systemic approach to designing and assessing interventions that are tailored both to specific problems or concerns and to relevant individual differences. We encourage the field to move beyond generic approaches to interventions with individuals to more targeted and focused interventions based on outcome data as well as data regarding moderators of outcome. Individual differences such as illness duration, cultural background, age, gender, and dispositional variables (e.g., depression, optimism) are likely to be particularly important to consider as possible moderators in the development of interventions, their implementation, and the refinement of assessment tools. With these data, it will be possible to fit the type and intensity of the intervention to the needs of participants, for example, through structured stepped care models (Haaga, 2000). The research agenda also should incorporate a greater appreciation of contextual factors as playing a prominent role in health outcomes (see Yali & Revenson, 2004; Whitfield et al., 2002). For example, more intervention research is needed that examines the role of families, groups, and medical settings that may affect treatment effectiveness (see Radojevic, Nicassio, & Weisman, 1992).

In every case, attention should be paid to identifying the mechanisms and pathways that mediate the intervention's impact. This information can be used to enhance existing theory and develop new interventions that more directly target active components. Greater attention also should be given to building elements into interventions (e.g., spousal or family support, relapse prevention training, and self-efficacy enhancement) that are designed to maintain treatment gains over time, which will necessitate conducting studies with longer follow-up. Continuing advancements also will require attending to real-world needs and constraints. Thus, research on the development of new interventions and the refinement of existing interventions should be informed by clinical input, with consideration of linkages and collaborations with medical and public health scholars and practitioners. Effectiveness studies will be needed to determine the extent to which efficacious interventions can be successfully adopted in practice settings. This approach will require careful attention to treatment costs (see Kaplan & Groessl, 2002) and to the feasibility of incorporating the intervention into medical settings with minimal disruption to ongoing practice. Statistical methods and designs that acknowledge the complexity of real-world settings (e.g., dealing with nonrandom missing data, appropriate control conditions) will need to be considered as well. In addition, statistical approaches that evaluate the

effects of interventions on the daily patterning of symptoms and health functioning within persons (see Eckenrode, 1984) and address the mechanisms underlying treatment efficacy (see MacKinnon et al., 1991) will provide valuable new information on the impact of intervention strategies.

Achieving the research goals discussed here will require an active and expanded research agenda. As the U.S. population ages and becomes more heterogeneous, there will be increased need for interventions designed to manage chronic illness and treat refractory medical conditions in diverse populations in various treatment settings. Despite these trends, in the 2000 volume of the journal *Health Psychology* (excluding the supplement), only 10% of articles reported research on interventions other than those for prevention or screening. Although federal support from the National Institutes of Health for health psychology intervention research has increased dramatically over the last two decades as the field of health psychology has blossomed, additional funding will need to be available to support intervention research that can be extended in the directions described above, both by individual investigators and through larger multisite collaborative projects.

Clinical Applications and Public Policy

Health psychology interventions must reach the affected clinical populations for which they have been designed for their maximal public health benefit to be realized (see Sallis et al., 1997). However, obstacles may interfere with the implementation of effective health psychology interventions in clinical situations. These obstacles can take many forms, but in many instances, reflect the following kinds of factors: (a) a lack of understanding on the part of researchers regarding the clinical applicability and relevance of the interventions they have designed, (b) an unwillingness or reluctance by clinicians to accept the value of effective interventions based on theoretical grounds or lack of professional training, and (c) various institutional barriers such as time constraints, lack of appropriate personnel to render the interventions, or insurance reimbursement limitations. The development of strategies to remove such barriers is both a current and future concern for researchers and applied health psychology professionals.

As part of the challenge of implementing effective health psychology interventions in clinical situations, we advocate the view that clinical practice and public policy developments related to health psychology interventions should be considered together because of the inextricable linkages among issues of availability and access to services, public awareness and interest in services, managed care and reimbursement, and other public policy concerns. The Practice and Public Interest Directorates of the American Psychological Association accordingly provide general oversight over such matters from a broad organizational perspective, whereas specialized working groups such as the Interdivisional Healthcare Committee provide specific input and guidance regarding a variety of important issues such as (a) the establishment of new health behavior assessment and intervention procedures for billing purposes that are particularly pertinent to health psychology practitioners, (b) the development of the World Health Organization's International Classification of Functioning system designed to provide increased attention to this dimension of health-related behavior, and (c) broader paradigmatic questions concerning the role and significance of health psychology across the numerous

specialty areas of the American Psychological Association. Organizational efforts that foster the emergence of policies and standards in support of the adoption of effective health interventions across a range of clinical settings and impacted patient groups will continue to be needed in the future.

Application of theory and research in the development and proliferation of clinical health psychology interventions and public policy requires consideration of multiple options, including: (a) the level (e.g., individual, interpersonal, organizational, societal, and community) at which the intervention may be applied; (b) the type of provider (e.g., clinical health psychologists, paraprofessionals, and peers) responsible for delivering the intervention; and (c) the format of delivery of the intervention (e.g., face-to-face and Web-based learning). Often, intervention methods are modified to accommodate to the realities of the setting (Darkins & Cary, 2000; Parker et al., 1995) and the intervention targets to enhance their feasibility or effectiveness, or to reduce costs. Collaboration with stakeholders in the setting is critical in this planning. Even initial steps in the development of novel health psychology interventions need to consider these questions and options for interventions to be successfully adopted in a rapidly changing and economically challenged health care system.

With growing awareness of the effectiveness of behavioral and psychological interventions for individuals and their families, it is now time for health psychologists to expand targets of intervention to promote a public health perspective and agenda. The accomplishment of this goal will require changes in public policy regarding reimbursement models for psychological services. There are also important opportunities for applied research with linkages to practice and policy in areas such as needs assessment, program evaluation, and consultation. Intervention research could shift from a primary focus on efficacy studies that determine whether a treatment leads to treatment gains relative to appropriate controls, to greater consideration of effectiveness studies that determine the clinical significance of an intervention in applied settings. Increasing attention to issues of cultural and ethnic diversity, gender differences, and the broader social context of health psychological interventions is indicated. With data from applied research, it will be necessary to give greater consideration to means of dissemination, both in terms of transportability of interventions to practice and policy applications and ensuring that media are accurate in their description of research findings.

Education and Training

Major initiatives in education and training should promote an awareness of the nature, availability, and effectiveness of health psychology interventions to professional groups and the public. Professional groups primarily include psychologists, physicians, epidemiologists, public health educators, social workers, nurses, and other allied health practitioners. The education of these professionals increases the likelihood that the role of health psychology interventions will be properly recognized and that appropriate interventions will be implemented in clinical situations in which they are likely to be effective. Interdisciplinary professional organizations such as the Society of Behavioral Medicine, the American Psychosomatic Society, the American Pain Society, and the Association of Rheumatology Health Professionals currently provide opportunities for interdisciplinary exchange with a focus on

the effectiveness of health psychology interventions in a variety of educational formats, including research roundtables, symposia, and clinical forums.

In addition to targeting health professionals, educational programs and services that are directed toward lay audiences and patient groups will heighten awareness of the clinical utility of these interventions and enhance the likelihood of effective patient help-seeking behaviors. Important features of such programs, such as the arthritis self-management program developed by Kate Lorig and colleagues at Stanford University (Lorig & Holman, 1993), include a public health focus, the use of lay leaders, and adaptability to a variety of community settings and patient populations (Nicassio & Greenberg, 2001).

The adoption of the biopsychosocial model (Engel, 1980; Suls & Rothman, 2004) as the dominant conceptual framework for the application of health psychology interventions has succeeded in promoting an interdisciplinary context for education and training opportunities. The expansion of psychology into the field of health has not only expanded and enriched the educational paradigm for psychologists but it also has increased the awareness of medical and allied health practitioners regarding the availability and effectiveness of a new range of intervention approaches for their patients (Nicassio & Smith, 1995).

Advances in education and training have spanned the continuum from undergraduate through doctoral and postdoctoral levels over the previous 2 decades. Textbooks, journals, and other educational materials aimed primarily at psychology and behavioral science audiences have increased exponentially. Undergraduate and graduate courses in which students are exposed to effective health psychology interventions encompassing such techniques as biofeedback, behavior therapy, cognitive-behavior therapy, and group therapy are found throughout the country. Formal training in the application of health psychology interventions is available through independent doctoral programs in psychology, numerous practicum and internship sites in a range of health care settings, and to an increasing degree, the education of nursing students, medical students, and fellows in such areas as pain medicine, primary care, oncology, and cardiology.

Despite these positive developments, health psychology interventions are often underutilized because educational efforts underscoring clinical utility have not consistently reached or influenced clinical decision makers or potential consumers. A variety of approaches will be necessary to address this problem in the future. Above all, increasing knowledge about the relevance and clinical utility of health psychology interventions requires a more proactive stance on the part of health psychology researchers and the organizations they represent. On an individual basis, intervention researchers should make greater efforts to share their findings with physicians, allied health professionals, and psychology practitioners, and to present their work before various patient groups in clinical and community settings. Of similar note, organizations representing the disciplines of health psychology and behavioral medicine should continue to give increased consideration to establishing formal and informal linkages with professional organizations representing physicians, nurses, public health specialists, and other health care experts. Joint educational programs, research initiatives, and clinical themes will emerge from such collaborative energy and scholarly exchange.

What changes and challenges do we foresee in the coming years? Above all, education and training initiatives should promote the skills in students that will enable them to conduct effective health psychology intervention research, to apply health psychology interventions across a range of patient populations, and to be knowledgeable about the health care system and policies that affect service delivery and access to care. More formal educational training on the theoretical foundations for intervention development and the mechanisms of action through which interventions achieve their effects will provide the basis for important advances in treatment outcome research. In addition, specific methodologies for selecting intervention approaches in individual clinical cases need to be given greater emphasis in graduate education.

We also strongly suggest the need for continued emphasis on interdisciplinary approaches to education and training. Because the application of effective health psychology interventions depends on a range of social, psychological, and biological factors and their independent and interrelated influences, health psychologists should receive greater exposure to other relevant disciplines. Educational curricula will correspondingly need to embrace the value of interdisciplinary team building and the development of relationships with professionals from other disciplines because such collaboration provides the foundation for effective research and clinical care.

In addition, students should acquire a knowledge of federal, state, and local policies and laws that affect the adoption of, and access to, effective intervention approaches. For example, federal legislation that has allowed mental health coverage to be carved out to companies that function independently of the providers of medical care is an impediment to integrated management essential for application of the biopsychosocial model and the effective delivery of health psychology and behavioral health interventions (see Kiesler, 2000). Such policies also create artificial access barriers (e.g., transportation and increased bureaucracy) when patients travel to another site to receive a health psychology intervention under the rubric of the mental health delivery system.

Finally, there will be a need in health psychology training to study models of knowledge dissemination that will (a) increase the likelihood that health care professionals will prescribe health psychology interventions for appropriate patient groups, and (b) enhance awareness in patients and the general public of the role and clinical significance of health psychology interventions in optimizing health outcomes.

Summary

A history of excellent research has provided a strong foundation for documenting the effectiveness of a range of health psychology intervention strategies (see Christensen & Antoni, 2002; Keefe, Buffington, Studts, & Rumble, 2002; Turk & Okifuji, 2002). Health psychology interventions have been increasingly integrated into patient care and have played a major role in enhancing health outcomes in a variety of clinical populations. Nevertheless, the future significance and impact of health psychology interventions will depend on the effectiveness of the synergy that is achieved between research, clinical practice and public policy, and education and training efforts. The outcome research on health psychology interventions that constitutes the basis of effective clinical practice should be broader in scope and more theoretically sophisticated, taking into greater consideration individual difference fac-

tors and moderating influences, and addressing the mechanisms underlying their effectiveness. Research advances in these areas will make it more likely that health psychology interventions will be clinically effective, increasingly relevant, and adaptable to different patient groups and practice settings, provided that they are effectively disseminated, and public policy promotes their adoption and use. Education and training experiences must embrace an interdisciplinary perspective, emphasizing the importance of effectiveness research, and engendering the skills in health psychology students and trainees in other professions to be effective clinicians dealing with real-world problems and a range of patient groups. Working efficiently and in a coordinated manner, the different components of this synergy will ensure that the maximal public health benefit of effective intervention strategies will be realized.

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