

## EVIDENCE-BASED HEALTH PSYCHOLOGY: RACIONALE AND SUPPORT

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**ABSTRACT:** An evidence-based approach is encouraged to be adopted in health psychology for the following reasons: (1) It directs health psychologists to assess psychological factors that have been demonstrated in research to affect or to be affected by health conditions; (2) It can reduce therapist error in patient-assessment via use of reliable and valid measures in addition to clinical impressions; (3) Basing their knowledge on randomized-controlled trials (RCT), allows clinicians to recommend the use of new interventions with greater scientific and professional validity suitable to the “average patient”; (4) This approach will be more acceptable by the medical community. This review provides empirical examples for the importance of psychological factors in illness, and support for the efficacy of psychological interventions in health and illness such as cancer, coronary heart disease, preparation for surgery, pain-reduction and quality of life. Finally, implications for education of health psychologists are discussed.

*Key words:* Education of health psychologists, Evidence based health psychology.

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## PSICOLOGIA DA SAÚDE BASEADA NA EVIDÊNCIA: RACIONAL E SUPORTE

**RESUMO:** Recomenda-se que a psicologia da saúde adopte uma intervenção baseada na evidência pelas razões seguintes: (1) Orienta o psicólogo a avaliar os factores psicológicos que a investigação tem demonstrado que têm impacto ou são afectadas pelas condições de saúde; (2) contribui para a redução do erro na avaliação pelo terapeuta através do uso de medidas válidas a par das impressões clínicas; (3) Baseando o conhecimento em estudos com grupos de controlo aleatórios, permite aos clínicos recomendarem o uso de novas intervenções com validade científica e profissional apropriadas para o “doente médio”; (4) Esta abordagem é mais aceitável por parte da comunidade médica. A presente revisão fornece exemplos empíricos sobre a importância dos factores psicológicos em doenças como o cancro, doença cardíaca coronária, preparação para a cirurgia, redução da dor e qualidade de vida. Finalmente, discute-se as implicações para a educação dos psicólogos da saúde.

*Palavras chave:* Intervenção em psicologia da saúde, Psicologia da saúde baseada na evidência.

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Health psychology is the interdisciplinary domain which aims at understanding, predicting, preventing and treating the bi-directional relations between psychological factors and physiological and disease outcomes. Following this definition, health psychology involves knowledge of both

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behavioral science and medicine. In addition, this definition includes both pure research for understanding relations between psychological and physiological factors, as well as more applied aspects of prediction, prevention and intervention. Finally, the definition includes bi-directional relations: The effects of psychological factors on disease and vice versa. This relation can also, and in most situations does, occur in parallel as well.

#### The importance of an evidence-based health psychology

An evidence-based approach in clinical practice is highly important for many reasons. First, health psychologists should focus primarily on psychological factors that have been demonstrated in research to affect or to be affected by a health condition. Starting with such an approach will allow to assess psychological factors relevant to the “average patient” in a given illness. Health psychologists could then pursue the assessment of additional factors derived from theory, yet, un tested in a given illness. Second, health psychologists should use assessment tools based on previously developed, reliable and valid structured measures. This can reduce human (therapist) error in evaluating patients’ status and traits, typically done with clinical impression alone. Such structured assessment, especially on state measures of anxiety or depression, should not only be conducted at intake, yet, be conducted repeatedly, in order to monitor patients’ change and response to treatment. Third, clinicians need to recommend the use of new interventions that have been tested previously using randomized-controlled trials (RCT). This approach assumes that most psychological and physiological parameters, as well as their manipulation, have a mean score representing most people. The RCT evaluates interventions that work for a majority of patients or the “average patient”, using unbiased methodology. This provides clinicians’ recommendations greater scientific and professional validity. This scientific validation is also ethically important. Finally, the adoption of an evidence-based approach may also enhance acceptance of health psychology by other medical professionals. Evidence based medicine is an increasing trend in medicine, and given its scientific and professional importance, it has a more convincing effect than impressions or recommendations based on single-case experiences.

#### Domains in health psychology: The breadth and the evidence

The most fundamental domain of health psychology is perhaps the study of stress, and models of stress, appraisal, coping and outcome. The pioneering work of Hans Selye emphasized a generalized neuroendocrine and behavioral response including three main stages: Alarm, resistance and exhaustion. Since this model did not include the moderating effects of cognition and coping, Folkman and Lazarus (1985) added the importance of appraisals as influencing

the stress-process. A more recent and integrative model (Taylor, 1995) includes appraisals, internal resources and impediments (e.g., sense of coherence, negative attribution style) and external resources and impediments (social-support, other stressors) all potentially affecting the stress-illness relation. Most importantly, these models have been empirically tested in hundreds of studies (e.g., Folkman & Lazarus, 1985; Lutgendorf et al., 1999; Suls & Fletcher, 1985).

Health psychology now includes many diverse specific topics. For example, the study of predictors of recovery from surgery that demonstrate that psychological factors such as optimism contribute to recovery, after considering effects of surgical severity (e.g., Gidron et al., 1995; Scheier et al., 1989). Studies of psychological factors in coronary heart disease (CHD), also named “behavioral cardiology”, include hundreds of studies documenting relations between psychological factors and onset and prognosis of CHD (see review by Rozanski et al., 1999). These findings include the identification of hostility as the most predictive factor in the original Type-A behavioral pattern (e.g., Dembroski et al., 1989), and the importance of vital exhaustion (Appels & Mulder, 1988). The last decade has seen an increase in the interest of medical journals in the prognostic importance of depression following CHD (e.g., Frasure-Smith et al., 1993, 1999). The field of psycho-oncology is consistently expanding with research demonstrating prospective relations between psychological factors such as hopelessness and depression with cancer-progression (e.g., Everson et al., 1996; Watson et al., 1999). An important topic in health psychology is the study of the impact of psychological factors on pain (Flor & Turk, 1988; Turk, 1999), that has had an important effect on understanding the variable nature of pain and disability. Another important domain is the investigation of factors affecting patients’ adherence to treatment in chronic conditions such as hemodialysis (Christensen et al., 1997) or hypertension (e.g., Lee et al., 1992). These studies are important since physicians face many difficulties with detecting and altering non-compliant behavior, yet receive little, if any, formal training on this topic. Health psychologists need to take a leading role in educating physicians about this topic, basing their knowledge of research findings and practical skills for increasing compliance. Finally, the growing field of psychoneuroimmunology (PNI) demonstrates relations between stress and depression with immune functioning (e.g., Herbert & Cohen, 1993; Zorilla et al., 2001). The domain of PNI constitutes an important progress in health psychology since it begins to provide mechanisms for the relations found between mental and physical conditions mentioned above. This may also increase the global or “holistic” approach many health psychologists are trying to introduce into medicine. Health psychologists need to be more aware of findings in PNI since it may provide them with a better understanding of the pathways in which behavior relates to illness, and provide them greater credit by the biomedical community.

One of the most important roles health psychology (and other domains) has played in examining the impact of illness on people’s lives is the

assessment and improvement of quality of life (QOL). QOL is important since some researchers claim that disease becomes significant especially once it has an impact on functioning, a basic element of QOL (Kaplan, 1990). Hundreds of studies have been conducted on assessment of QOL, and one growing criterion for evaluating new drug therapies is their effects on QOL (e.g., Littlewood et al., 2001). Some studies have demonstrated that psychological factors may account for more variance in QOL than demographic or illness variables (Gidron et al., submitted manuscript).

Unlike clinical psychology or psychiatry, which focus primarily on pathological mental states, it is important to realize that health psychology addresses also milder mental states such as mild depressive symptoms, since these are very common in many types of illnesses. Furthermore, even minimal levels of depression were recently found to negatively affect prognosis of CHD patients (Bush et al., 2001). This also calls for less emphasis on categorical diagnostic criteria, and more emphasis on assessment of continuous measures of mental states and treatment of milder states.

#### Evidence for the effectiveness of psychological interventions in medical conditions

The effects of psychological interventions in medical conditions have been demonstrated in cancer patients (Fawzy et al., 1993), CHD patients (Friedman et al., 1986) and preparation for surgery (Johnston & Vogeley, 1993). Compas et al. (1998) analyzed the evidence of the effectiveness of interventions from health psychology or behavioral medicine in relation to smoking cessation, pain management, cancer and bulimia nervosa. Several meta-analytical studies have been conducted and confirmed the effectiveness of psychological interventions on various subjective and objective outcomes in various medical conditions. Dusseldorp et al. (1999) demonstrated significant effects of psychological interventions on reducing cardiovascular events. Among the most important study was the Friedman et al. (1986) study that demonstrated that Type-A modification plus medical education significantly reduced cardiovascular events compared to medical education alone. Given that hostility is perhaps the most toxic element of Type-A (e.g., Dembroski et al., 1989), focussing on hostility alone may even be more effective.

A few intervention studies have demonstrated that psychological interventions have a significant effect on reducing relapse or mortality in breast cancer (Spiegel et al., 1989) and in melanoma cancer (Fawzy et al., 1993). More intervention trials need to be conducted in cancer-patients in order to identify for which types of cancer or patients such treatment is effective.

In children, distraction procedures were found to have significant effects on pain-reduction (Kleiber & Harper, 1999), and a cognitive-behavioral intervention significantly improved subjective and objective outcomes of

asthma attacks (Castes et al., 1999). Several meta-analyses have been conducted in relation to pain in children and provide support for the efficacy of psychological interventions in various conditions such as recurrent headache (Holden et al., 1999) and procedural pain (Powers, 1999). A recent study also demonstrated that one of such interventions, cognitive distraction, did not add time to the medical procedure (Pres et al., submitted manuscript). The latter finding is important since many physicians claim that psychological interventions add to the time of conducting medical procedures.

Psychological preparation for surgery has been found in a meta-analysis to reduce length of stay in hospital, levels of pain and amount of analgesics, levels of distress and to improve functioning (Johnston & Vogeleson, 1993). This was particularly correct for procedural preparation (what will the surgical process include) and behavioral instructions (what physiotherapy can the patient perform after surgery to enhance rehabilitation).

### Implications for health psychology education

An evidence-based approach has important implications to health psychology education. This includes educating health psychologists, but also physicians, nurses, social workers and the public in general. This approach provides the scientific and clinical basis for health psychology, and hence, needs to be part of the fundamental approach in graduate programs of health psychology. This would make clinical health psychologists more confident in their work on one hand, yet more skeptical and cautious when working with unknown medical conditions on the other hand. In the latter case, clinicians educated with an evidence-based approach will use reliable and valid instruments to aid in the assessment of such patients, and they will search in the scientific literature for scientifically good studies that tested interventions for such conditions. The clinician still has in his or her capacity the degrees of freedom to adapt the scientific knowledge to any given patient's culture, gender, age or personality. Health psychology does have a general paradigm, the scientific paradigm, and this should serve the backbone of graduate programs and clinicians' daily work in health psychology.

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