CORRESPONDENCE

Evaluating the Efficacy of an Education and Treatment Program for Patients with Coronary Heart Disease—A Randomized Controlled Trial

by Dr. med. Richard J. Melamed, Dr. phil. Alexander Tillmann, Heidrun-Eva Kufleitner, Uwe Thürmer, Dr. med. Martin Dürsch in issue 47/2014

Modifying Behaviors in Patients With Coronary Heart Disease

In order to investigate the high prevalence of cardiovascular risk factors in the Münster region in Germany, we conducted the COSIMA study (“Coronary Secondary Prevention in the Münster Area”) at the Institute of Epidemiology and Social Medicine at Münster University from 2002 to 2004. In the context of this study, we surveyed 1000 doctors in private practice (1), as well as 1000 patients with a coronary event (2), whose practice or place of residence were located in the study area.

Most of the patients were able to correctly list the most important risk factors for coronary heart disease (smoking, hypertension, hypercholesterolemia, high alcohol consumption, and overweight) with correct answers of >50% each, and recognized the need for modifying their lifestyle because of the disease. According to patients’ self-report, compliance with their doctors’ treatment recommendations was good, because only 7.9% of patients reported difficulties in following these recommendations.

Detailed analyses of modifications of relevant coronary risk factors according to the transtheoretical model by Prochaska and DiClemente (TTM) (3), however, painted a more differentiated picture: 37% of patients who smoked, 51% of overweight patients with a BMI > 25 kg/m² who had not attempted to lose weight in the past, and 52% of physically inactive patients were not considering any behavioral change (corresponding to the precontemplation stage in the TTM). Analogously, only few of these patients had reached the preparation stage: 17% for smoking cessation, 24% for increasing physical activity, and 18% for weight loss.

Our data therefore underline the importance of education and treatment programs in the context of secondary prevention of coronary heart disease, which can support patients in achieving a long-term modification of cardiovascular risk factors (4).

DOI: 10.3238/arztebl.2015.0459a

REFERENCES

- Behrens T, Keil U, Heidrich J: Correspondence (letter to the editor): Barriers to guideline implementation. *Dtsch Arztebl Int* 2011; 108: 491.
- Heidrich J, Behrens T, Raspe F, Reinecke H, Loeher A, Keil U: Motivational stages to change lifestyle in patients with coronary heart disease. *European Society of Cardiology (ESC) Congress 2005*, Stockholm; 3.-7. 9. 2005. *Eur Heart J* 2005; 26 (Suppl 1): 364–5.

- Prochaska JO, DiClemente CC, Norcross JC: In search of how people change. Applications to addictive behaviors. *Am Psychol* 1992; 47: 1102–14.
- Melamed RJ, Tillmann A, Kufleitner HE, Thürmer U, Dürsch M: Evaluating the efficacy of an education and treatment program for patients with coronary heart disease—a randomized controlled trial. *Dtsch Arztebl Int* 2014; 111: 802–8.

Prof. Dr. med. Thomas Behrens

Institut für Prävention und Arbeitsmedizin der Deutschen Gesetzlichen Unfallversicherung, Institut der Ruhr-Universität
behrens@ipa-dguv.de

Dr. med. Jan Heidrich

Epidemiologisches Krebsregister NRW gGmbH

Prof. Dr. med. Ulrich Keil

Institut für Epidemiologie und Sozialmedizin, Universität Münster

Evaluation Does Exist

The German Statutory Pension Insurance finances almost 50 000 medical rehabilitations annually for patients with coronary heart disease. In most cases, the rehabilitation takes place immediately after an acute event or after an intervention/operation. For more than 10 years, the rehab system of the Pension Insurance has used standardized training programs for their patients, including those with coronary heart disease. The “Curriculum coronary heart disease” was established on a nationwide basis in 2003 and updated in 2010. A scientific investigation and evaluation of the training program was carried out in the context of quality assurance. The results in the short term (1), medium term (2), and long term (2) have been published. Even though the setting is not the acute medical sector, the claim made in the article—that sufficiently evaluated and published training and treatment programs for patients with coronary heart disease are to date not available in Germany—will certainly have to be qualified (3).

DOI: 10.3238/arztebl.2015.0459b

REFERENCES

- Seekatz B, Haug G, Mosler G, et al.: Entwicklung und kurzfristige Effektivität eines standardisierten Schulungsprogramms für die Rehabilitation bei koronarer Herzkrankheit. *Rehabilitation* 2013; 52: 344–51.
- Meng K, Seekatz B, Haug G, et al.: Evaluation of a standardized patient education program for inpatient cardiac rehabilitation: impact on illness knowledge and self-management behaviors up to 1 year. *Health Education Research* 2014; 29: 235–46.
- Melamed RJ, Tillmann A, Kufleitner HE, Thürmer U, Dürsch M: Evaluating the efficacy of an education and treatment program for patients with coronary heart disease—a randomized controlled trial. *Dtsch Arztebl Int* 2014; 111: 802–8.

Dr. med. Johannes Falk

Deutsche Rentenversicherung Bund, Geschäftsbereich Sozialmedizin und Rehabilitation
Dr.Johannes.Falk@drv-bund.de

In Reply:

We cannot help but agree with Professor Behrens's comments. Awareness of one's own risk factors does not necessarily equate to the willingness to change these. Mere provision of information/knowledge in the form of lectures for patients or doctors' treatment recommendations are hardly suitable for modifying lifestyles. The program studied by us aimed to not only educate patients but also "treat" them. In the sense of Prochaska and DiClemente's transtheoretical model (1), group interactions and promotion of individual initiatives run through steps for learning new behavioral patterns. The training plan is set out on an individual basis, for example (preparation stage), and patients keep exercise diaries. As a result of three training modules at week-long intervals, initial positive effects and experiences of success can be communicated (action stage). In our study, the efficacy of the training and treatment program was proved by the fact that participants kept up their newly learnt behavioral patterns after an average of 220 days (maintenance stage).

It was not an objective of our study to investigate whether participants were stabilized in a new behavior in the long term.

We thank Falk for pointing out that a training program for coronary heart disease exists for inpatient rehabilitation. We wish to further specify our assertion to make it clear that for outpatient use—for example, in the context of disease management programs—Germany currently has no sufficiently evaluated and published education and treatment programs for patients with coronary heart disease. The fact that in the cited studies (2, 3), the training program provided in the rehab hospitals had a statistically significant effect on lifestyle deserves positive emphasis. The differences remained significant a year later. This further underlines the effectiveness of this form of intervention for the purpose of lifestyle optimization. It is worth noting that the cohort of patients studied by Seekatz et al. consisted of mainly men (93.5%) with a mean age of 53.1

years. The study population we investigated was composed of patients of the type that seeks out GPs or cardiologists every day. The proportion of men was 79% and thus closer to the sex distribution described for Germany (4). The age distribution, with a concentration of 70–79 year olds, in our study mirrored that in "real life." We see our study as a contribution to health-care services research, of the sort that can only be delivered by doctors in private practices in everyday routine practice (5).

DOI: 10.3238/arztebl.2015.0460

REFERENCES

1. DiClemente CC, Prochaska JO, Fairhurst SK, et al: The process of smoking cessation: an analysis of precontemplation, contemplation, and preparation stages of change. *J Consult Clin Psychol* 1991; 59: 295–304.
2. Seekatz B, Haug G, Mosler G, et al.: Entwicklung und kurzfristige Effektivität eines standardisierten Schulungsprogramms für die Rehabilitation bei koronarer Herzkrankheit. *Rehabilitation* 2013; 52: 344–51
3. Meng K, Seekatz B, Haug G, et al.: Evaluation of a standardized patient education program for inpatient cardiac rehabilitation: impact on illness knowledge and self-management behaviors up to 1 year. *Health Education Research* 2014; 29: 235–46.
4. Robert-Koch-Institut (eds.): Koronare Herzkrankheit. Faktenblatt zu GEDA 2012: Ergebnisse der Studie: Gesundheit in Deutschland aktuell 2012. RKI, Berlin. www.rki.de/geda (last accessed on 25 October 2014).
5. Melamed RJ, Tillmann A, Kufleitner HE, Thürmer U, Dürsch M: Evaluating the efficacy of an education and treatment program for patients with coronary heart disease—a randomized controlled trial. *Dtsch Arztebl Int* 2014; 111: 802–8.

Dr. med. Martin Dürsch

Kardiologie Frankfurt-Sachsenhausen, Frankfurt am Main
m.duersch@kfsh.de

Dr. med. Richard Melamed

Fachbereich Medizin, Goethe-Universität Frankfurt am Main,
Frankfurt am Main

Dr. phil. Tillmann

Studiumdigitale, zentrale E-Learning-Einrichtung,
Goethe-Universität Frankfurt am Main

Conflict of interest statement

The authors of all contributions declare that no conflict of interest exists.