Letter

Participation rates in worksite-based intervention studies: health promotion context as a crucial quality criterion

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SUMMARY

Recently, a set of specific quality evaluation criteria for health promotion research has been proposed in this journal. One of the quality criteria identified is the ‘health promotion context’. With this paper we would like to contribute to the dialogue by specifying the importance of this criterion on the basis of our on experience with worksite-based obesity prevention interventions. We advocate the reporting of participation rates among approached worksites in publications on worksite intervention effects. Such information will help to draw conclusions on the practical relevance of the shown effectiveness of the intervention. Health promotion practice is advised to adopt and disseminate evidence-based interventions, accompanied by a diffusion study with a minimal research burden for participants.

Lahtinen \textit{et al.}, have convincingly argued that widely acknowledged and accepted quality standards for health promotion research are urgently needed in order to improve quality and effectiveness of interventions (Lahtinen \textit{et al.}, 2005). They have therefore developed a set of specific quality evaluation criteria for health promotion research, which are intended to guide funding agencies, researchers, evaluators and reviewers (Lahtinen \textit{et al.}, 2005). As a consequence of recent experiences in the field of worksite-based health promotion, we were especially appealed by Lahtinen \textit{et al.}’s identification of ‘Health Promotion Context’ as a quality criterion. The authors have postulated the need for a dialogue on health promotion quality criteria and we fully acknowledge the triviality of such discussions. With this paper we would like to specify the importance of the health promotion context as a quality criterion and for this purpose, we will take our recent experiences with worksite-based obesity prevention interventions as an example. Specific recommendations are put forward for journal editors, researchers and health promotion practice.

In recent years worksites have often been viewed as ideal settings for health promotion programmes (Sorensen \textit{et al.}, 1999). Not only do worksites provide an easy longitudinal access to a large number of people, they also offer the possibility to conduct multi-level interventions, directed at individual, organizational and environmental determinants of health and health behaviours.

Matson-Koffman and colleagues have recently reviewed the literature to determine whether policy and environmental worksite interventions can increase people’s physical activity or improve their dietary habits. They provided a thorough description of studies published during 1990–2003, including information on the authors, the setting and location, the size and characteristics
of the sample, the intervention itself, the evaluation period and the actual findings. In total, details were given on 18 worksite-based interventions directed at either physical activity or nutrition. Matson-Koffman and colleagues concluded that worksite-based interventions are effective in changing physical activity and nutrition behaviours of the working population (Matson-Koffman et al., 2005). But are the effects of worksite interventions as promising as their and other reviews (Glanz et al., 1996; Hennrikus and Jeffery, 1996; Shephard, 1996; Pelletier, 1999; Emmons et al., 2000; Aldana and Pronk, 2001; Seymour et al., 2004; Sorensen et al., 2004; Matson-Koffman et al., 2005) suggest?

According to Bull and colleagues reviews of evaluations of worksite health promotion should not just focus on internal validity and effect sizes of the results. In fact, high external validity is needed to facilitate implementation of proven and broadly applicable interventions (Bull et al., 2003). External validity depends largely on the extent to which the studied population is a representation of the total population. In order to make a judgement on the external validity of intervention effects, the recruitment procedure of the studied worksites needs to be accurately described. Bull et al., showed that only six out of the 24 worksite-based intervention studies in their review offered information on the proportion of participating sites from those eligible to participate (Bull et al., 2003). Furthermore, only one of these six studies reported the number of worksites that were originally approached to participate in the study. The adoption participation rate in this particular study was 39.0%. We have examined the level of reporting of the adoption participation rate in the worksite-based studies included in the Matson-Koffman et al.’s review. Remarkably, only one out of the 18 studies reported the total number of companies originally approached to participate, with an adoption participation rate of 61.9%.

The general lack of reporting of participation rates may reflect low levels of participation among approached worksites. In medical research, the CONSORT statement (Moher et al., 2001) is increasingly accepted in reporting Randomised Controlled Trials. The CONSORT, which includes a flow chart providing readers with a clear picture of the progress of the participants in the trial, has been endorsed by prominent medical journals such as The Lancet, Annals of Internal Medicine and the Journal of the American Medical Association. Health promotion journals should consider implementing similar guidelines regarding in-depth reporting of the research process, giving readers the possibility to appropriately evaluate its validity.

Our own experience with worksite health promotion studies in the Netherlands, especially in the recent years of low economic growth that we experienced in the European Union (Gateway to the European Union, 2005), indicates that low participation rates among worksites approached for participation in health promotion programmes are common. For our worksite-based programme aiming to prevent unnecessary weight gain in workers, the NRG-In Balance-project, which is part of the larger Netherlands Heart Foundation’s-NRG study (Kremers et al., 2005), we approached 128 companies to participate. Only 12 of those companies (9%) were willing to participate. Three other large Dutch worksite health promotion programmes experienced similar recruitment problems and reported participation rates among worksites of 18% (Computer tailored information to influence nutrition, smoking and exercise habits (advice about lifestyle through tailoring). T. Smeets, Department of Health Education and Promotion, Maastricht University, The Netherlands), 16% (Testing the efficacy of computer-tailored nutrition education at the worksite. W. Kroeze, Department of Public Health, Erasmus Medical Centre, Rotterdam, The Netherlands) and 22% (Promotion of a physically active lifestyle among inactive adolescents and young adults by means of an activity monitor and an individually tailored advice using internet technology. S. Slootmaker, Department of Social Medicine, EMGO Institute, Free University Medical Centre, Amsterdam, The Netherlands).

The most important reasons for refusal to participate, in our experience, were lack of time and resources in times of economic stagnation and unwillingness to be subjected to the demands of research. One of these demands is randomization, which implies that companies need to take the risk of being excluded from the intervention. As a result, companies known to be collaborative may be sequentially approached for participation in different studies, or relatively cooperative federal organizations are over-sampled (Larsen and Simons, 1993; Titze et al., 2001; Yancey et al., 2004; Seymour et al., 2000; Aldana and Pronk, 2001; Matson-Koffman et al., 2005).
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et al., 2004). Such procedures may introduce serious threats to external validity.

The consequences of low external validity are as obvious as expensive: nationally implemented interventions that have shown to be effective in a trial may encounter many barriers in the dissemination process. The intervention could be effective in the few companies that are interested, but most worksites may simply not adopt the intervention. However, real-world diffusion studies are needed to learn about the exportability and adoption of interventions in less controlled conditions than those accompanied with trials (Harting et al., 2005). Oldenburg and colleagues have argued that less than 1% of all public health and health promotion studies are categorized as diffusion research (Oldenburg et al., 1999). Controlled trials with good process measures provide information on the potential effectiveness of intervention elements. Dissemination studies are urgently needed to inform us on the adoption and efficacy of successful intervention elements in health promotion practice. Only the supplementation of dissemination studies to controlled trials will illuminate the usefulness of interventions in daily health promotion practice. The research burden for participants should be minimized in order to coincide with the ‘real world’.

Consequently, we advocate the reporting of participation rates among approached worksites in publications on worksite intervention effects as well as indicating expected participation rates in research proposals. Such information will help to draw conclusions on the practical relevance of the shown effectiveness of the intervention, and thus, the evidence-base in health promotion will be optimized. Health promotion practice is advised to adopt and disseminate evidence-based interventions, accompanied by a diffusion study with a minimal research burden for participants.

Lahtinen et al.’s identification of ‘Health Promotion Context’ as a quality criterion entails the research should demonstrate appreciation for the manner and degree to which it is embedded in a larger health promotion context, by reference to critical aspects of the problem that are not objects of study (Lahtinen et al., 2005). We feel that reporting of participation rates among approached worksites in publications as well as indicating expected participation rates in research proposals would optimize the relevance of this quality criterion.


