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Interventions to improve physical activity in socioeconomically disadvantaged women

A systematic review and meta-analysis finds that group interventions are better than individual or community interventions at improving physical activity among socioeconomically disadvantaged women.

Overview: Lack of physical activity is a risk factor for chronic diseases, such as heart disease, stroke and diabetes. Physical inactivity in the UK has been estimated to have cost the NHS £0.9 billion in related ill health in 2006–07 (Scarborough et al. 2011).

Women are less likely to take part in physical activity than are men: only 28% of women in England meet the current recommended level of physical activity, compared with 40% of men (Start Active, Stay Active 2011). In addition, people from low socioeconomic groups have low rates of participation in physical activity (Kavanagh et al. 2005).

See the NICE Evidence Services topic page on physical activity for a general overview of the subject.

Current advice: The chief medical officers for the 4 UK nations recommend that all adults should aim to be active daily (UK physical activity guidelines 2011). Adults aged 19 years and over should do at least 150 minutes (2.5 hours) of moderate intensity physical activity a week, such as walking at 3–4 mph. Alternatively adults should complete 75 minutes of vigorous intensity activity spread across the week, such as cycling at 12–14 mph, or a combination of moderate and vigorous intensity activity.

NICE guidance on physical activity for adults in primary care recommends that adults who are not currently meeting the UK physical activity guidelines should be advised to do the recommended level of activity. These people should be provided with information about local opportunities to be physically active for people with a range of abilities, preferences and needs. NICE also has public health guidance on four commonly used methods to increase physical activity.

The NICE Pathway on physical activity brings together all related NICE guidance and associated products on the topic in a set of interactive topic-based diagrams.

New evidence: Cleland et al. (2013) did a systematic review and meta-analysis of trials that looked at interventions to increase physical activity in socioeconomically disadvantaged women. The authors searched for studies in women who had a low education status or a low income, were unemployed or in low status occupations, or who lived in an area of low socioeconomic status. A total of 19 studies, most of which were conducted in Europe and North America, were eligible for inclusion in the review. An initial random effects meta-analysis identified significant statistical heterogeneity, so the data could not be pooled to produce an overall measure of effect. Instead the authors conducted analyses of predefined factors that might influence the success of an intervention, such as setting and duration.

Delivery mode was the only factor found to have a significant effect on the success of an intervention to increase physical activity. Studies in which the intervention had a group component – such as group education meetings or practical sessions – found a greater difference between intervention and

control groups (standardised mean difference [SMD] 0.36, 95% confidence interval [CI] 0.17 to 0.54, p=0.0002) than studies in which the intervention was delivered individually (SMD –0.02, 95% CI –0.35 to 0.31, p=0.90) or in a community setting (SMD –0.02, 95% CI –0.10 to 0.05, p=0.58).

The authors estimated that this difference would be equivalent to an additional 70 minutes of physical activity a week for women in group interventions or an extra 1000 steps a day. The authors noted that most studies in their analysis used self-reported measures of physical activity and that only 5 of the 19 studies included had a low or medium risk of bias. Nevertheless they suggested that the use of group-based approaches is a key factor in interventions that successfully improve physical activity in socioeconomically disadvantaged women.

Commentary: "Evidence exists to support group interventions being successful for other public health measures compared with other interventions; for example, for people quitting smoking. However, it should be noted that group interventions are the format least likely to engage people in quitting, so personal preference needs factoring in. The level of preference for group interventions among the participants in the studies analysed here is not clear, because recruitment and drop out data are not included in a number of the studies.

"In addition, it is unclear whether the effect noted in this study was specifically the result of group approaches or whether the holistic nature of the intervention was the significant factor. Any future work should separate these aspects of intervention delivery.

"Practice in terms of approaches to increasing physical activity should not be changed solely on the basis of this study. The findings do, however, provide useful information for healthcare professionals considering options for increasing physical activity in communities of disadvantaged women. It would be helpful to have comparative cost effectiveness data between individual and group interventions to further support these deliberations." ***– Elaine Michel, Director of Public Health, Derbyshire County Council***

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