research update

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A Strategy for Increasing Physical Activity in Sedentary Populations

Sedentary populations combine physical inactivity with increased rates of cardiovascular disease, pointing to the need for ways to effectively promote physical activity in these groups (Canadian Fitness and Lifestyle Research Institute, 2002; US Department of Health and Human Services, 2004).

Social-cognitive theories (University of Twente, 2004) can be used to positively influence physical activity attitudes, self-efficacy, and intentions. But there is less evidence that these theories affect physical activity behaviour (Ajzen & Fishbein, 2005; Gollwitzer, 1999). Given the importance of regular physical activity to health and well-being, we need to develop strategies to increase physical activity in sedentary populations.

Example of a Strategy that May Work

Implementation intentions may help promote physical activity behaviour (Gollwitzer, 1993, 1999). Implementation intentions are plans specifying when, where, and how a person will translate intentions into action. People create very specific plans of action in order to perform a specified behaviour, e.g., bringing running shoes to work so they can go for a walk around the neighbourhood on Tuesday at lunchtime.

According to Gollwitzer (1993), forming an implementation intention forces people to prioritize their goals and commit to following a specific plan of action. This process also means that people can personally select the best time to carry out the intended behaviour. Being able to choose the best time has been shown to have the greatest impact on physical activity behaviour (Rise, Thompson, & Verplanken, 2003).

Forming implementation intentions can lead to increased physical activity and greater perceptions of control and confidence in scheduling physical activity (Arbour & Martin Ginis, 2004; Latimer, Martin Ginis & Arbour, in press; Milne, Orbell & Sheeran, 2002) and may be one way to increase physical activity in sedentary populations.

Our Study: Increasing Sedentary Women's Physical Activity

Our study examined the effects of a 12-week implementation intention intervention on sedentary women's perceptions of physical activity and walking behaviour.

Seventy-five women (average age = 48.17 years) were randomly assigned to either

- a control group where they were required to self-monitor their daily pedometer step count on a calendar; or
- an experimental group where they were asked to form specific walking plans (i.e., where, when, and how long) every six weeks as well as self-monitoring their daily step count.

We measured exercise intentions, perceived behavioural control, scheduling, and barrier self-efficacy at baseline, week six, and week 12.

Over the course of 12 weeks, women in the experimental group reported walking more steps and greater self-efficacy in scheduling and overcoming walking barriers than the women in the control group. In addition, women who formed walking plans tended to have higher perceptions of control over their walking at the end of the study compared with women who did not form these plans.

Implications for Health-Promotion Professionals

Our study's findings have important implications for health-promotion professionals. Using other social-cognitive, exercise-enhancing strategies (e.g., self-monitoring) with an implementation intention intervention seems to be an effective way to increase physical activity participation and perceptions of control in a sedentary population.

Implementation intentions are also relatively easy self-regulatory strategies to teach and require little time from the health-promotion professional. The professional may need to assess each person from time to time to evaluate progress or help people who are having trouble creating and/or following through with their physical activity plans. We certainly recommend further research into the effectiveness of implementation intentions in the health-promotion field.

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Research and education for the promotion of physical activity

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Importance of Screening Pregnant Women for Depression

Depression is the most common disease in women of childbearing age (aged 15 to 44) worldwide (World Health Organization, 2004). During their childbearing years, women are at a high risk for their first major depressive episode (Misri, Kostaras, Fox, & Kostaras, 2000).

However, depression during pregnancy does not get the same media or health-care attention as postpartum depression. Despite its burden on individual and public health, the causes and consequences of depression in pregnancy are poorly understood. Does the rate of depression significantly change during pregnancy and after delivery? How do we identify women during prenatal care who are at higher risk for depression?

Pilot Study Finds High Rates of Depressive Symptoms

In 2005, we did a pilot study with a small sample (n=39) of inner-city, high-risk pregnant women (mostly Aboriginal) enrolled in a prenatal outreach program in Saskatoon (Bowen & Muhajarine, 2006).

We screened women using the Edinburgh Postnatal Depression Scale (EPDS), a tool that omits the physical symptoms often associated with depression (such as nausea, headaches, and changes in weight or appetite) that are also common in pregnancy and thus not reliable indicators of depression (Cox & Holden, 2003).

Forty-seven per cent of the women had symptoms of minor depression and 27% had probable major depression. As in other studies, women without social support tended to be more depressed than those with social support. We also found unexpectedly high rates of smoking in women: 72% in depressed women, and 75% in those who were not depressed, compared to the Canadian average of 9% (Health Canada, 2005).

Women who quit smoking during pregnancy tended to be more depressed than those who quit before becoming pregnant, continued smoking, or did not smoke. Similarly, women who quit drinking alcohol during pregnancy tended to be more depressed than those who quit before becoming pregnant, although current drinkers had the highest levels of depression. Health-care providers should carefully monitor women who quit smoking and drinking during pregnancy for signs of depression.

Ours is the first known reported study of prenatal depression in Canadian, inner-city, mainly Aboriginal women. The study is important because of the frequency of depression and risk behaviours in these women whose lives are already socially disadvantaged. We are now doing a longitudinal study funded by the Canadian Institutes of Health Research that includes both women from the general population and a larger sample of inner-city women.

Screening Gives Pregnant Women a Chance to Discuss Feelings

It is important for health-care providers to be aware that some women experience depression during pregnancy and to identify women who need further assessment and support. The EPDS is a simple, quick screening tool. This screening also offers pregnant women a chance to get immediate reassurance about depression, suicidal thoughts, and other feelings that they may be reluctant to discuss.

When administering the EPDS, allow time to discuss the findings and to set up any referrals. Although the EPDS is an easy tool for most women to complete themselves, caregivers can read the questions and answers (being careful not to prompt responses) for women with low literacy.

Staff administering the EPDS in our pilot study reported that it made it easier to detect depression in clients. The process also increased communication and the woman's ability to cope with her situation. We developed a handout (Feelings in Pregnancy and Motherhood) that describes the symptoms of depression and its impact, self-care strategies, and local treatment resources. We use the handout both in the prenatal outreach program and in our larger study.

Larger Study Underway

Our current study tracks a group of women (n=650) during early pregnancy to study the determinants of depression during pregnancy. To understand how depression changes and the factors related to these changes, we measure depression three times:

- in early pregnancy (before 20 weeks);
- in late pregnancy (after 20 weeks);
- postpartum (the first few weeks after delivery).

With their consent, we inform women's physicians if their scores indicate probable major depression. We want to identify factors that contribute to or lessen the risk of prenatal depression, as this information may lead to new opportunities to identify and prevent it.

Our research has increased awareness of prenatal depression, both in our health region and more widely. This awareness is the first step to improved detection, prevention, and intervention. Angela Bowen, one of the study investigators, is also developing a maternal mental-health service in a new primary care centre in the health region.

Angela Bowen, PhD candidate, and Nazeem Muhajarine, PhD, with the assistance of Fleur Macqueen Smith, Community Health and Epidemiology and Saskatchewan Population Health and Evaluation Research Unit (SPHERU), University of Saskatchewan. See www.feelingsinpregnancy.ca for more information. *The pilot study was funded by the Community-University Institute for Social Research, University of Saskatchewan. The larger study is funded by the Canadian Institutes of Health Research. Bowen is also funded by SPHERU's Community and Population Health Research Training Program. For this article's references, please visit the centre's website at www.centre4activeliving.ca*

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