

App helps pregnant women to a healthy lifestyle

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Researchers at Linköping University in Sweden have developed an app to help women achieve a healthy weight gain and lifestyle during a pregnancy. The results from an evaluation of the app have now been published in two scientific articles. Using the app contributed to a better diet. Pregnant women with overweight or obesity who received the app

also gained less weight during pregnancy.

"Pregnancy is a phase in life when many people try to do what is best for themselves and their baby. We think it's important to be able to offer a tool that has a sound base in research. Our vision is that the app will help both those working in maternity care and pregnant women, by providing support for a healthy lifestyle," says Marie L f, professor at the Department of Health, Medicine and Caring Sciences at Link ping University, who has led the research.

Weight gain during [pregnancy](#) is normal. The definition of appropriate [weight gain](#), or recommended [weight](#) gain, depends on the weight status prior to pregnancy. There may be [negative consequences](#) if a woman gains too much or too little weight.

"Gaining too much weight during pregnancy increases the risk of pre-eclampsia and gestational diabetes, and of subsequent overweight in both mother and child. At the same time, gaining less weight than recommended is associated with an increased risk of preterm birth and low birth weight," says Johanna Sandborg, doctoral student at Karolinska Institutet affiliated with Link ping University. She is first author for both of the articles that have been published in the journal JMIR mHealth and uHealth.

The researchers emphasise that the app aims to support pregnant women in achieving a healthy lifestyle during pregnancy. It provides an exercise guide, help to keep track of dietary habits and [physical activity](#), support in changing habits, recipes and information. It has been developed by a team consisting of nutritionists, dieticians, midwives, physicians, physiotherapists, behavioural scientists, and systems developers.

In order to evaluate the effectiveness of using the app, the researchers have conducted a study in which just over 300 pregnant women in

Östergötland took part. Half of them received standard care within the maternity care system (the control group), and the other half also had access to the app (the intervention group). Previous similar studies of smartphone apps have most often focused on pregnant women with overweight and obesity, in other words, those with a high body mass index (BMI). In this case, however, women from all BMI categories were included. All participants registered their physical activity and [food consumption](#) (using the Riksmaten FLEX tool from the National Food Agency, Sweden) at 14 weeks of pregnancy and approximately six months later. The researchers also measured the women's weight, height and body fat percentage on both occasions.

"The diet in the group that used the HealthyMoms app was slightly better towards the end of the pregnancy than that of the control group. Another result is that the women with overweight or obesity before pregnancy in the intervention group gained on average 1.7 kg less than those in the [control group](#). We regard it as very positive that our app can lead to an effect similar to that seen in studies evaluating interventions that require more personnel and resources," says Marie Löf.

The researchers interviewed 19 of the [women](#) who had had access to the app. In these interviews, the participants expressed that the app contained a good combination of useful tools, and that they trusted the content since the app came from a credible source.

"We now have an evidence-based, validated tool that we can use in the healthcare system, benefitting both [pregnant women](#) and personnel," says Marie Löf.

The researchers are working on how to spread the HealthyMoms app to a broader group, and to offer it in more languages than Swedish. They are working with co-workers who speak Somali and Arabic not only to translate the information, but also to adapt the app for different groups.

More information: Johanna Sandborg et al, Effectiveness of a Smartphone App to Promote Healthy Weight Gain, Diet, and Physical Activity During Pregnancy (HealthyMoms): Randomized Controlled Trial, *JMIR mHealth and uHealth* (2021). [DOI: 10.2196/26091](https://doi.org/10.2196/26091)

Johanna Sandborg et al, Participants' Engagement and Satisfaction With a Smartphone App Intended to Support Healthy Weight Gain, Diet, and Physical Activity During Pregnancy: Qualitative Study Within the HealthyMoms Trial, *JMIR mHealth and uHealth* (2021). [DOI: 10.2196/26159](https://doi.org/10.2196/26159)

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Provided by Linköping University

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