

Women, 18-44 years, Diabetes, Obesity, and Physical Activity

Diabetes is becoming increasingly prevalent in women 18-44 years of age, but intervention research on physical activity to delay or prevent diabetes is lacking in this age group.



Diabetes and Women 18-44 years of age

- An estimated 1.3 million women of reproductive age have diabetes; about 500,000 of them do not know they have the disease.
- Type 2 diabetes accounts for most case of diabetes during this life stage. Most women with type 1 diabetes were diagnosed during childhood or adolescence.
- Women of minority racial and ethnic groups are two to four times more likely than non-Hispanic white women to have type 2 diabetes.
- Reproductive-aged women with type 2 diabetes have fewer years of education, have lower income, and are less likely to be employed than women without diabetes.
- Estimates of the overall prevalence of gestational diabetes in the United States range from at least 2.5% to 4% of pregnancies that result in single live births, with higher percentages among some ethnic groups and older women.
- Most gestational diabetes occurs in women with risk factors for type 2 diabetes; they are unable to secrete sufficient insulin to overcome the increased insulin resistance that normally results as pregnancy proceeds.
- Gestational diabetes usually ends after the baby is born. But women with gestational diabetes have a 20%-50% chance of developing type 2 diabetes in the 5-10 years after childbirth.
- Children whose mothers had diabetes during their pregnancies have a greater likelihood of becoming obese during childhood and adolescence and of developing type 2 diabetes later in life.

The National Public Health Initiative on Diabetes and Women's Health recommends the following public health actions:

For women in the reproductive years of 18-44 the emphasis is on diabetes and pregnancy. The focus is on reducing the negative risks, such as, assisting women to have a healthy pre-pregnancy weight or lose the weight from pregnancy so that they do not place themselves at risk for obesity, and plus overcoming the barriers to physical activity, healthy eating, and normal weight. The opportunities are to tailor specific intergenerational messages and assist with the practice of preventive behaviors for women in this life stage.

Preventive Health Measures:

Promote expansion of routine physical exams to include risk assessment and appropriate follow-up for diabetes among reproductive-aged women.

- Develop practical and useful screening tools, such as assessment questions, appropriate physical activity, diet, hip and waist measurement, and body mass index, and incorporate them into standard health assessments.
- Train health personnel to conduct and use these assessments.
- Promote the use of tools among various health associations in clinical settings.
- Market the need for expanding routine exams to purchasers, health plans, and payers.
- Train future health professionals about women's health and diabetes to ensure that they are able to communicate with women and address their unique concerns.

Expand intergenerational programs and activities:

- Encourage relationships among women across the life span.
- Define the optimal parameters of intergenerational programs and activities.
- Identify barriers and enabling factors to participation in intergenerational programs.
- Identify existing successful programs and activities in urban/rural areas and different ethnic/cultural groups through qualitative and quantitative public health research.
- Use schools, churches, and other key venues within communities to create activities and occasions for women of all generations to congregate.

Case Study: Woman 18-44 years of age discovering that she has pre-diabetes

When Melinda was 24 years old, she got some surprising news from the student health clinic. She was told that she had pre-diabetes, which means that her blood glucose levels are higher than normal, but not high enough for a diagnosis of diabetes. Melinda has an increased risk of developing type 2 diabetes unless she does something about her diet and physical activity. Melinda says she was shocked when she was diagnosed with pre-diabetes. She never thought that it would happen to her, especially not at such a young age. But, she realizes that there are things she can do to prevent diabetes from happening... she has to change her lifestyle and behaviors. By losing weight and starting a regular exercise program, many people are able to get their blood glucose levels back to normal, delaying the onset of diabetes or even preventing it altogether. Melinda is now working hard to lose weight. She enjoys biking and going to the gym. She is also careful of the types of foods she eats. All of this can help Melinda get her blood glucose levels closer to a normal range, so that she can increase her chances



Prevalence (%) of diabetes, inadequate physical activity, overweight, and obesity among US women aged 18-44, BRFSS 2003.

	Diabetes ¹	No Physical Activity in Past Month	Insufficient Physical Activity ²	Overweight (BMI=25-29.99)	Obese (BMI ≥30)
Race					
White	2.1	17.5	37.8	23.0	15.9
Black	4.8	31.3	39.3	28.8	31.2
Asian	3.6	26.3	44.2	19.5	3.4
American Indian	5.6	20.3	30.4	29.6	23.4
Multiracial	2.5	23.0	36.3	23.3	21.2
Hispanic	3.6	37.6	34.4	25.3	20.2
Education					
Less than HS	4.3	42.7	28.4	22.2	24.5
HS grad	3.3	30.2	37.9	26.2	21.8
Some college/tech.	2.7	19.8	38.9	24.5	19.2
4 or more years college	1.8	13.3	39.0	22.2	12.0
Income					
<\$15,000	5.5	37.6	35.0	22.6	25.7
\$15-24,999	3.6	31.0	37.2	26.0	25.1
\$25-34,999	2.7	24.2	38.8	26.4	20.8
\$35-49,999	2.4	19.6	40.4	25.1	18.8
\$50,000+	1.6	13.3	38.3	23.9	13.3

¹ Not including gestational diabetes

² Moderate physical activity for 30 minutes or more per day for five or more days per week or vigorous physical activity for 20 minutes or more per day for three or more days per week

Diabetes Awareness:

Educate women and providers to increase their awareness about diabetes, its risk factors, its preventability where applicable through lifestyle choices, and its association with other chronic diseases (for example, cardiovascular disease).

- Assess and evaluate existing messages, programs, and campaigns.
- Increase the awareness of women and providers about the positive impact on both the quality and length of life for women with diabetes through preventing and delaying heart disease.
- Develop an effective social marketing campaign, using focus groups or other qualitative methods.
- Design and test messages and determine dissemination strategies for specific population subgroups.

Studies in Canada and Australia have demonstrated that women ages 18-44 years with children are the least likely group to be adequately engaged in physical activity. There are few studies that investigate or intervene with this age group.

Research Agenda:

- What are the effects of changes in weight, diet, and physical activity during and after pregnancy on the risk of developing gestational diabetes type 1 diabetes, and type 2 diabetes? What is the risk of developing diabetes in the offspring? What systems and infrastructure are needed to support those changes?
- What are the most cost-effective interventions for preconception planning among women with type 1 and type 2 diabetes to prevent diabetes anomalies in their offspring?



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