

**Pinn Point on Women's Health  
"Depression"**

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Guest Speaker:  
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ANNOUNCER: From the National Institutes of Health in Bethesda, Maryland, America's premier medical research agency, this is Pinn Point on Women's Health with Dr. Vivian Pinn, Director of the Office of Research on Women's Health.

Now here's Dr. Pinn.

DR. PINN: Welcome to another episode of Pinn Point on Women's Health. Each month in this podcast, we take a look at some of the latest developments in the area of women's health and the medical research that affects our lives and our health.

For this podcast, I am very happy to welcome Dr. Peter Schmidt, who is Chief of the Section on Behavioral Endocrinology in the National Institute of Mental Health, here at the National Institutes of Health, but first, some hot flashes from the world of women's health research, coming up in 60 seconds when we continue with Pinn Point on

Women's Health.

[Commercial break.]

DR. PINN: Welcome back to Pinn Point on Women's Health. Again, we want to take a look at some of the hot flashes in the news regarding women's health research.

There has been a recent publication reporting on a study coming out of Duke University, the Duke Comprehensive Cancer Center and the Duke Institute for Genome Sciences and Policy, that have reported that there appear to be different genomic characteristics to breast cancers in women under the age of 45 that differ from breast cancers that are seen in older women, especially those over the age of 65.

Until we know more about this, perhaps it may not mean so much to each individual woman, but the significance of this is when we know that there often tend to be more aggressive tumors in younger women with breast cancer that also tend to be less responsive to treatment, this type of characterization can help us develop better treatments and better ways to understand these tumors in women who are in the younger age range.

Another study that was published recently was from the Swedish Medical Center and the University of Washington

School of Public Health and Community Medicine in Seattle, Washington, having to do with how to cut risk for preeclampsia in women who are pregnant. This study reported that eating more fiber during the first trimester of pregnancy seems to reduce the risk of developing preeclampsia, which is a potentially fatal condition characterized by elevated blood pressure.

According to the Preeclampsia Foundation, about 5 to 8 percent of women may experience this condition during pregnancy. It is characterized by elevated blood pressure in women, and the only way to end preeclampsia is to deliver the baby. So, obviously, it is better to be able to prevent preeclampsia to help ensure that a term pregnancy takes place.

Some of the risk factors for this condition include obesity, a family history of Type 2 diabetes and/or hypertension, depression, anxiety, diets low in fruits and vegetables, and low levels of physical activity.

These findings were reported in the American Journal of Hypertension during the month of July 2008, and this study corroborates what has been reported from many other studies.

If you are wondering how this translates in terms of increasing fiber intake, this study pointed out that consuming two slices of whole grain bread daily would be the equivalent of adding 5 grams of fiber a day, and just think, those two slices of whole grain bread daily could help decrease the risk of preeclampsia if you are pregnant.

And finally, I want to point out something related to women's health careers and what NIH is doing. NIH just recently released a request for applications to support research on causal factors and interventions that promote and support the careers of women in biomedical and behavioral science and engineering. This initiative will provide from 2 to \$3 million to fund up to eight RO1 awards during fiscal year 2009.

Now, I should tell you that this RFA grew out of the NIH Working Group on Women in Biomedical Careers, which is co-chaired by Dr. Elias Zerhouni, the Director of NIH, and myself, and this working group is looking to see what NIH can do to advance careers for women in biomedical careers.

One of the issues that has been raised and has been given a lot of consideration has been what are some of

the causal factors that contribute to the career patterns of women in behavioral science, engineering, and biomedical careers, and do we really understand the efficacy of programs designed to eliminate sex gender disparities.

This RFA will help us to fund research to evaluate the efficacy of programs that exist and to really understand the effectiveness of those that do exist. For information, go to the NIH Web site, nih.gov, and it is right on the front page of that Web site. We invite your interest, and we invite your grant applications for this initiative.

We will have more updates in the next podcast, and coming up next, I will visit with Dr. Schmidt for a discussion on women and women's mental health. We will be right back with more Pinn Point on Women's Health.

[Commercial break.]

DR. PINN: Welcome back to Pinn Point on Women's Health.

Our guest today is Dr. Peter Schmidt, Chief of the Section on Behavioral Endocrinology in the National Institute of Mental Health, here at the National Institutes of Health, and Dr. Schmidt is going to discuss with us today depression and why it is important for women and about

women.

So, Dr. Schmidt, tell us, why is depression an important topic for us to understand related to women's health?

DR. SCHMIDT: Thanks, Vivian, and thank you for inviting me to talk with you today.

Depression is a very important condition for women for several reasons. First, it is about twice as frequent in women compared to men. So a woman over her lifetime has about a 1-in-5 chance or about approximately a 20-percent risk of developing a depression at some point in her life, whereas in men, it would be, say, around 12 percent.

We think that there are probably some biological reasons that may relate or contribute to that difference in the prevalence, but there also may be some social reasons as well, and certainly, that is a great source of interest.

DR. PINN: One of the questions I wanted to ask you is a question that I am often asked, which is, is depression really more common in women than it is in men, or are women more apt to seek help, professional help for their depression? I think you may have addressed that, but maybe you can clarify that point because it is a question I often

hear.

DR. SCHMIDT: I am with you. I think it is a very important point to clarify, and that, in fact, probably both are the case.

I think the most important issue is that when people who have trained to administer and to make the clinical meaningful diagnosis of depression, when they have gone out into the community away from clinics, that they have continued to identify this twofold or a twice greater risk for depression in women compared to men, not only when they have gone into the communities in the western world, but even in some eastern countries. So that seems to be very, very much present.

Now, we also know that in looking at a number of conditions that many women may present for care more so and at a greater rate than men, but in terms of depression, when I am talking about a twofold increased risk, that is based on community samples of people.

DR. PINN: What are some of the risk factors for depression in women?

DR. SCHMIDT: Well, there's a number of risk factors. Certainly, a past history of depression is one of

the greater risks. So, if a woman or a man has had a previous episode of depression, they are at an increased risk for developing subsequent episodes.

In addition, a number of risk factors have been identified, including some social in terms of lower socioeconomic group, geographical issues, urban versus rural kind of inhabitants seem to be at a higher risk. Things like smoking, factors like that, lifestyle factors may increase the risk.

Many of them seem to carry an increased risk independent of what may happen when somebody does develop a depression, that some of these factors may actually be forms of like smoking or alcohol use, maybe forms of self-medication, but they seem to convey an increased risk separately as well.

DR. PINN: What about genetic predisposition, family history? Do we see depression running in families?

DR. SCHMIDT: We do. We see that basically all forms of depression seem to have some familiarity in that family history does increase the risk.

Now, recently, there's been some very interesting work on that in both men and women showing an interaction

between, say, a genetic risk that may be present in the family and life events, which is another major risk factor as early life trauma. So, when these two seem to come together at a certain level of severity, both in terms of the genetic risk and the number of life events that somebody has sustained, that it seems to translate into an increased risk for depression.

DR. PINN: Dr. Schmidt, tell us about the impact of depression on women and women's ability to function and women's ability to work and to have normal lives.

DR. SCHMIDT: We know that recently several studies -- one in particular out of the World Health Organization -- has identified that in developed countries, depression is one of the leading sources of disease-related disability. So, when you look beyond mortality in terms of cause of death and you look at what might just impact or impair someone's function, depression at this time is second only to heart disease as a leading source of disease-related disability in the western world, and it is predicted to become one of the leading sources of disability worldwide over the next 20 years.

In particular, in more developing economies when

infectious diseases are treated, then depression should become kind of a greater source of problems, and this impact is twofold.

One, depression, as you mentioned, can impact on a person's life and their quality of life on several levels. So it may have an economic burden in terms of preventing them from doing their work, from showing up at work at times. It may have a personal impact where it may impact on relationships, both the ability, say with a partner to maintain a particular or also their ability to parent.

Finally, there may be a certain medical morbidity that is the source associated with depression, and increasingly, we see that having an episode of depression increases a person's risk for developing a number of medical illnesses.

So, for example, in women this is particularly important that an episode of depression may increase the risk for osteoporosis, may increase the risk for the metabolic syndrome. It carries an association of a twofold risk for developing dementia and may also increase the risk for heart disease.

In the latter in terms of cardiovascular disease,

studies from the Women's Health Initiative have shown that in women who have had no prior risk factors for heart disease, that even having a relatively mild depression would increase the risk of dying from a heart attack by about 50 percent over a period of 5 years. So there is a substantial kind of risk that is particularly relevant to women at midlife.

DR. PINN: So that is a very striking statistic that depression can increase the risk for cardiovascular disease and heart attack, and we know that heart attacks or myocardial infarctions are the leading cause of death for women in this country. So the association of depression and perhaps preventing or alleviating depression becomes even more significant when we think about the health and longevity of women.

DR. PINN: Exactly. We used to think that it wouldn't be so unreasonable to think that somebody would get depressed if they had a heart attack or if they had a stroke, but as people started studying these relationships, they found that indeed the depressions often preceded some of these medical events by six to eight years or longer.

So the notion that the depression was occurring

after the fact, which it may in some people and may increase their risk of morbidity or kind of disease related or disease severity, but there are also many times when the depression precedes by several years the medical event, and that truly is what people are now starting to focus on, to try to see whether treating the depressions at that point would decrease the risk in these individuals from subsequently developing a medical illness.

DR. PINN: Well, let's go back to another condition you mentioned, which is osteoporosis. We have a podcast on osteoporosis in which it was also mentioned that there was a tie between depression and osteoporosis. How do you relate osteoporosis to depression?

DR. SCHMIDT: Well, good question.

DR. PINN: Or do we know?

DR. SCHMIDT: We truly don't know for sure. There are many candidates, but we do know that having previously had a depression seems to increase the risk of a lower bone density in both men and women.

More so increasingly, we are seeing that some of the treatments for depression may increase the risk for developing -- reducing bone density.

So, for example, two studies have looked at agents, the selective serotonin reuptake in agents. They are also called SSRIs as their acronym.

The way in which these medications work is that they alter a protein that regulates the amount of serotonin in the synapse. That protein is also on some bone cells, and so their effect in terms of potentially improving mood may also overlap with an effect on bone.

Now, the problem is they may be very effective for treating depression, but in some people, it seems to increase their risk for developing osteoporosis. So that is why people are on these medications for a long time. They should touch back or check back with their doctor about whether this is adding to their cumulative risk for osteoporosis down the road.

DR. PINN: A very important point to remember.

We have been talking about depression, but I am sure there are different types of depression. So maybe you can inform our listeners of the different types of depression or how you would classify depression.

DR. PINN: Yes. Well, the two most frequent or the two most prevalent forms of depression are described as

what is called "major depressive episode" or a "minor depressive episode." They are basically similar phenomena. They just differ in their severity.

So a major depression is defined by a classification schema published by the American Psychiatric Association in a diagnostic manual, and essentially, it requires that certain symptoms be present for a persistent period of time. So, in that diagnostic classification, symptoms of sadness or loss of interest be present nearly every day, all day, for at least a 2-week period. So, in that way, they are looking at trying to establish a persistence of these symptoms.

In addition to those core symptoms of sadness or loss of enjoying or interest in their usual activities, there may be a number of other symptoms such as a disturbance in sleep, changes in appetite, feelings of guilt or that the person no longer has value, as well as a number of other vegetative symptoms that may be present. These symptoms also need to be present for that 2-week duration.

Where some of these symptoms then are distinguished from, say, just sadness is that these symptoms are also associated with some personal or functional

impairment, so that the symptoms of depression are preventing the person from doing their work as they normally would, or the symptoms of depression are preventing the person from -- you know, interfering with their relationship.

So, in major depression, there is a criteria of the number of symptoms that are present, which is a proxy for severity. Minor depression, it is the same symptoms, but fewer are present, but also for a persistent period of 2 weeks.

Now, in addition to those traditional symptoms, we are also seeing that many people present -- and particularly women -- present with somatic symptoms. So this is another difference between men and women in the kind of depression. That many women will present with somatic symptoms. In fact, overall about 50 percent of people with depression present with somatic symptoms, but this tends to be more frequent in women than men.

DR. PINN: What are somatic symptoms?

DR. SCHMIDT: Somatic symptoms would be physical symptoms like actually in addition to the sadness or loss of enjoyment, the person might present with actual

musculoskeletal pain, so pain, kind of diffuse pain throughout the body, or they are pronounced fatigued, that they are just feeling they are listless, that they do something and they tire more easily. So those symptoms seem to be present in depression, and rather than causing the depression, similar to what we described in terms of the medical illnesses, that we also now are seeing that they seem to be part of the depression, as much as some of the emotional symptoms.

DR. PINN: Is there a variation in age for young women versus more mature women in terms of depression or types of depression or experiences with depression?

DR. SCHMIDT: Well, I think that in general, no. Depression once a woman is of reproductive age, so we start seeing differences in depression or we actually see an increase, the increase in depression that occurs around puberty, and at that time is when we start observing the sex difference in terms of women being at an increased risk compared to men.

So, once puberty or at least around kind of mid-teens, that is the time we start seeing kind of more depression, and we start seeing these sex differences in the

prevalence of depression.

Then it seems to be fairly stable at that point, the prevalence rates, until after the menopause and say several years after the menopause when there seems to be a reduced risk of depression in some women.

Now, we are not sure about that, whether there's just fewer people. It may reflect the difference in longevity between men and women, but there does seem to be somewhat of a kind of decrease in the prevalence risks for both men and women as they get older.

DR. PINN: When we have seminars here at NIH, I can say that the seminar topic that has drawn the largest crowds -- and I would like to think we have a lot of popular topics on women's health research, but the topic that has drawn the largest crowds have been those dealing with mood disorders. There is an extremely lot of interest and concern about mood disorders in women. Could you talk about mood disorders a little bit?

DR. SCHMIDT: Sure. Part of what you suggested is that in addition to these sex differences in either the prevalence or in the presentation of depression, there also seem to be periods of time when a woman -- some women may be

at an increased risk of developing depression, particularly during periods of hormonal transitions. Some women, a proportion of women, will be at an increased risk of experiencing a disorder in their mood at that time.

So, for example, as I mentioned, although we don't understand puberty, the physiology of puberty very well, that appears to signal a time when some of these sex differences appear. Other times, such as the postpartum period, for a subgroup of women, they may be at an increased risk for developing depression at this time; otherwise, the menopause transition and across the menstrual cycle.

Now, what is critical is that the majority of women don't seem to be experiencing or are at risk for developing a mood disorder or even mood symptoms at these times, but in a subgroup that we are now identifying, that seems to be a period at risk.

DR. PINN: And obviously, those women have a lot of concerns or have questions about that or wonder if that is what they are experiencing.

In talking about times during a woman's life span when she may be at greater risk for having depression, there has been a lot in the news and a lot of confusion I think

related to postpartum depression. Could you say a little bit about postpartum depression and what we really know about it?

DR. SCHMIDT: Well, it is a very important topic, Vivian, and I think there has been increasingly a focus on the need for more research on this condition, both at a government level, as well as scientifically.

Our best estimates in terms of the prevalence of postpartum depression would be that a major depression occurs approximately in 7 percent of births. Minor depression, as I had mentioned, a less severe form, but also very important and associated with much disability in its own right, may occur in another 7 percent. So overall, about 14 percent of births will be associated with a depression.

The depressions that we know may occur, even though we call them postpartum depression. In many women, the first evidence of some negative mood symptoms or mood symptoms developing may occur in the last trimester, and so there may actually be somewhat of a misnomer that it may be around the time of delivery in which we see the onset of depressive symptoms.

The birth rate, if you think of the number of births that are in the country, it works out to be about I think a half-a-million women that are at risk of developing postpartum major or minor depressions. So it is a substantial number of women that are at risk, and it carries an impact on both the ability of the woman to serve as a mother during the very early time with her baby, as well as kind of the relationships with her spouse.

DR. PINN: Are there certain things that women should know or consider that might let them know that they might be more at risk of developing postpartum depression, or are there specific things that those who are providing health care for women who are pregnant should know to look for that might alert them to the possibility of increased risk of developing postpartum depression, and how are we handling it today? Other than being able to detect it early, do we have ways to prevent, and how are we treating it?

DR. SCHMIDT: Okay. That is a long list.

First off, probably the biggest risk factor, as with other forms of depression, the biggest risk factor is having a depression previously during a prior pregnancy. So

having one episode of postpartum depression increases the risk three- to fourfold of another one. So, if a woman has had a depression in the past, then for she and her doctor, that should be right on the radar screen during pregnancy, and they should be watching very carefully during the postpartum period.

Now, otherwise, family history seems to also be associated with pregnancy. In fact, postpartum depression seems to very much run in families. So, if a woman knows of her mother or of a sister that may have had an episode of depression, that also should raise a flag. It doesn't predict with 100 percent kind of accuracy, but it increases the risk slightly, and it should be on the person's screen for working with her doctor.

Otherwise, I think in the absence of those risk factors or even in the presence, the woman should -- the first thing is to ask the question, if she notices that after a couple of weeks she is feeling out of sorts, say during the latter part of pregnancy or even postpartum, if she is noticing herself tearful.

Many of the women that we see in the clinic would describe feeling kind of tearful, starting to worry about

the baby's health, worry about their ability to function as a mother. They also may start noticing that instead of kind of getting help from people, they tend to be more isolated.

A number of women that we have seen in the clinic or my patients say that they will stay in bed. They are not able to sleep as well and feel kind of restored, but they are just isolating themselves in their bedrooms. So those kind of feelings or behaviors should alert a woman that it is time to talk to her doctor.

Certainly, the doctors should be asking these kind of questions with the prevalence rates that we have talked about, that these are not rare conditions, and certainly, there are treatments that are effective that involve medication and non-medication therapies that are effective, and these things should be provided as options to these women.

DR. PINN: Let me ask you one other question which is one that has been discussed a lot as we talk about women in clinical trials and clinical research studies, and that is what do we now know about treating women for their depression during the time that they are going through pregnancy?

DR. SCHMIDT: Well, there is a lot of information about using medications during pregnancy to prevent relapses, and so this is probably one of the most difficult and complicated questions in clinical medicine, that we know that taking a woman off medications during pregnancy may increase her risk for relapse, whereas keeping a woman on medication, like an antidepressant or a mood stabilizer, may convey an increased risk either for complications around pregnancy or subsequently for the child's development. Certainly, I think the view of many women that I have spoken with, they would prefer not to be on any medications, just in terms of the child's health and avoiding any possible risk of interfering with the child's normal development.

Now, having said that, becoming depressed may be associated with a tremendous amount of dysfunction during pregnancy when an attention, for the woman's attention to her own health and their baby's, the developing baby, is critical.

So this is a very individual decision. There are risks on both sides, and so one needs to take stock of what could be the consequences of somebody developing a depression.

So, for example, depending on the severity of the previous depression, depending on the type of network of support that the woman might have during pregnancy, all of these factors need to be taken into account with her. So, really, what I do is I sit down with the women who are kind of bringing this to us, and we sort out very much on an individual basis what would be the risks of following one strategy versus another.

DR. PINN: Excellent. Excellent discussion. I am sure the women and their health care providers who are listening to this podcast will take that message to heart.

I don't want to keep you too long, but I have two more areas that I want to briefly touch on. One is an important one, since we are at the National Institutes of Health. What can you tell us about some of the research that is going on related to depression in women, and are there some potential breakthroughs or some very exciting news that we have recently learned from research being conducted here, perhaps from your own research?

DR. SCHMIDT: Well, first, Vivian, there has been -- and I think this reflects so well on your efforts and your office is that there has been a huge increase in the

number of women who are participating in trials. It doesn't mean we don't need more to participate, but really, I think throughout the country, there has been a great, kind of upsurge, increase in the number of women participating in clinical trials, and this is very important because we are getting information now that we didn't and we couldn't get maybe 5 to 10 years ago.

In terms of recent studies and recent efforts, I think we are learning a lot more about what the relationship between hormones, changes in hormones, reproductive hormones, and the onset of depression in women.

So, for example, all of these conditions seem to be associated with a change in the hormone. There is not an actual hormone deficiency that is present. So, in women with postpartum depression or in women who develop depression during the menopause transition, it is not that there is an abnormality of estrogen or progesterone that is present, but it seems to be that the changes in the hormones in these women who are otherwise vulnerable will trigger the onset of symptoms, perhaps similar to how, say, a negative life event may trigger depression in some people. So these may be very important queues to trigger depression.

Now, in that regard, we know that a woman who has severe premenstrual dysphoria, it seems to be a different condition than postpartum depression. So these are not all the same condition. They may affect different women.

Our efforts are to try to understand what the role of these hormones are, both in what is causing the condition, but also what might be an effective treatment. We know that, for example, the response to a traditional antidepressant in depression is about 30 percent. So, if we are looking to eliminate depressive symptoms, recent studies supported by NIMH have shown that we would be seeing about a 30 percent remission rate. A little higher number will actually respond to traditional antidepressants.

So there is a need for finding alternative therapies, and as well, many people would like to find an alternative therapy, given that some of these medications also may increase the risk for a number of other medical conditions.

So hormonal therapies is one area. For example, we have a study where we are looking at the effects of estradiol in depression during the postpartum period. We have seen some fairly rapid response to this treatment, and

it may be that it provides a very quick response that will allow the woman to have kind of a relief of her depression, and then once her menstrual cycle starts up again, after nursing or just after delivery, that she may be then good to go in terms of kind of producing her own estrogen. But it may be that this provides a critical bridge that would allow her to have an elimination of her symptoms.

Similarly, in women who experience depression during the menopause transition, we have shown in past studies -- and that has been replicated in other centers -- that estradiol short term has an antidepressant-like effect. We are now looking at other alternatives to estradiol given the results of the Women's Health Initiative raising questions about the long-term safety of estrogen. We are now looking at a number of compounds called "selective estrogen receptor modulators" that may act like estrogen in some tissues, but not like estrogen in other tissues. So we perhaps have a different safety profile in these people.

So the idea of developing alternative therapies in some of these mood disorders where they are linked to a hormone transition may arm us with some new therapies for women as well.

DR. PINN: I want to congratulate you for your research and the efforts that you put forth. That is why we are very excited to have you with us today talking about women and depression. I am really impressed with the work that you and your lab have been doing and how you sort of set the stage for many investigators across the country to be furthering research in similar areas.

I have one last area, which is a little bit different, and that is, as we talk about women in depression, it sort of fits with mental health in general. What are some of the current efforts that you can cite for us to help us overcome some of the societal factors which too often have women feeling that there is a stigma to having depression, just as they may feel there is a stigma to having some mental illness instead of understanding it is a medical illness, so that women don't fear seeking help when they need it for depression or other forms of mental health?

DR. SCHMIDT: Yes, Vivian. That is a really very important point.

I think there was a study that was actually conducted by the NIMH that looked at what proportion of men

and women get adequate treatment in the United States, and so adequate treatment was defined by a physician prescribing a medication and seeing the person for a number of visits or just going and seeing kind of a health care provider and sitting with them for 20 or 30 minutes on three or four occasions, so pretty kind of modest requirements, but even with that, 80 percent of the depressed people who are studied in this country didn't get even adequate care.

So there is a great kind of stigma about depression in particular and many forms of behavioral health or mental illness. Most people after they have a depression, for example, don't present for treatment for six to eight years after that first episode, and given the sequela that we talked about, both in terms of emotional, social, as well as even now medical issues, that this is a real, real problem.

So I think, first off, we need to get the word out, so programs like this. People need to be educated about what depression is, that there are effective treatments for it, that this isn't something that reflects on people's character or their constitution. Depressions are very likely biological events that are also transferred

from one family member to another. So these are medical conditions. They take a very devastating toll and can be treated very effectively.

DR. PINN: Well, I think you have sort of given our closing statement, but I am going to ask you anyway. I have asked you a number of questions. I don't know if I have missed inquiring about an important area related to women and depression. So I want to give you a chance to have the final word in this podcast about women and depression.

DR. SCHMIDT: I think we have covered many things, and I would like to thank you for inviting me to speak with you for this podcast.

I think my main comment is that women would probably be their best advocates in the health care system, and if they are concerned that they are having symptoms of sadness or loss of enjoyment and that these symptoms are persisting and causing them some trouble, that at that point, they should go and talk to somebody about whether some treatment would be indicated.

DR. PINN: Thank you so much, Dr. Schmidt, for what was an extremely informative discussion, and thank you

also for the work that you are doing in research that will help advance women's health, and especially women's health as it relates to their mental health and preserving our minds and our ability to function.

So coming up next, a few final thoughts for this month when Pinn Point on Women's Health continues.

[Commercial break.]

DR. PINN: You have heard a wonderful discussion about what we know about depression, major depression, minor depression, when it occurs, how it affects women, the fact that it is more common in women than it is in men, but it can affect both the males and females in your families, that we tend to see it more often after puberty in women, that we learned that there are somatic symptoms that may be associated with depression, that we see depression not only related to perhaps the menstrual cycle in women, perhaps showing the relationship to hormonal transitions, but also discussed and learned quite a bit I think about postpartum depression, as well as depression associated with the menopause transition.

For that, I am very grateful to Dr. Peter Schmidt from the National Institute of Mental Health for all the

information that he has given us, and perhaps most of all, the fact that he has pointed out what we know, what we are learning, what we have learned, and that he himself, like many others, are conducting research now to help us better understand the issues, the biology, the results of, and how to better diagnose and treat and prevent depression in women, as well as men, and to understand how depression may differ from or be similar to that, that we see in men.

So, with what he has presented to you, I can refer you for more information. You can go to the NIH Web site and just enter into the Search vehicle, "depression," and it will take you to the National Institute of Mental Health where you can then get more information or follow-up information to the discussion that you have heard today.

In a moment, the announcer will tell you where to send your comments and suggestions for further episodes.

I would like to thank you for joining us on this episode of Pinn Point on Women's Health. I am Dr. Vivian Pinn, Director of the Office of Research on Women's Health at the National Institutes of Health in Bethesda, Maryland.

Thank you for joining us.

ANNOUNCER: You can e-mail your comments and

suggestions concerning this podcast to Marsha Love at  
lovem@od.nih.gov.

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