NATIONAL CURRICULUM IN REPRODUCTIVE PSYCHIATRY

Perimenopause

Media Conference: Exploring the interface between media and reproductive psychiatry around the topic of "Bioidentical" Hormones

Facilitator's Guide

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Overview
Popular media frequently touches on issues germane to reproductive psychiatry, such as postpartum depression, stress in pregnancy, and breastfeeding. Well-known celebrities such as Gwyneth Paltrow and Chrissy Teigen have voiced their experiences with maternal mental health to millions of people worldwide. However, the tone of the messages arising from the media can be tinged with stigma.

The ability to field patient questions arising from popular culture is an important professional skill for trainees. In particular, trainees should be able to explain data and statistics cited in the lay media in an accurate, reassuring, and clinically relevant manner. Thus, the goal of this module is to have residents build communication skills that enable them to serve as knowledgeable and thoughtful representatives of reproductive psychiatry to a lay audience.

Each session consists of three parts: 1) reviewing and critiquing a piece from the popular media (such as from newspaper articles or social media); 2) appraising the comparable medical literature; and 3) role-playing a psychiatrist/patient interaction about how to communicate this topic to a lay audience.

The aim of reviewing the medical literature is to compare its findings with the information portrayed in the media. For the purposes of this exercise, the most relevant parts of medical literature are the abstract, the introduction, and the discussion. The aim is not to have an in-depth, "journal-club" analysis of the article (which is an important skill for residents to master elsewhere in their training), but rather to delineate in broad strokes the gaps between the information presented by the media portrayal and by the medical literature.

Sessions usually last 50 minutes, but can modified, depending on the number of media items and articles selected. The media conference is tailored for PGY-4 psychiatry residents but can be modified for any resident trainee group. A small group setting with time and space to work within break-out groups is recommended. After review of the media items and the medical literature, the group will divide up into small groups of 2-3 residents to role-play the clinical interaction.

This module can be tied-in with the statistics modules, so that residents can review statistical concepts first and then apply them to the media/literature module.

Selection of Content

Content can either be selected in advance or selected at the time of the session. The faculty and resident group may pre-select a topic that is of particular interest to the group and distribute the media item and the article one to two weeks prior to the session. Alternatively, if there is a media item of particular interest to one or more of the trainees, they can bring the item to the session and the relevant literature can be appraised in the session in real time by the faculty and trainees, using a laptop and projector.

Learning Objectives

By the end of this module, participants will:

1) Demonstrate the ability to analyze reproductive psychiatry issues as portrayed in the lay media
2) Be able to locate and analyze relevant scientific literature as it relates to the issue raised in the media
3) Be able to communicate thoughtfully and accurately with a lay audience (e.g. a patient in a reproductive psychiatry consultation)

Resources required

1) A faculty moderator
2) Samples from media
3) Relevant article references
4) Laptop (with internet access) and projector

Structure of the session

This model is designed for 90 minutes. If the amount of time needs to be shortened, only one media clip can be used and the review of medical literature can be shortened.

1) Presentation of media items (20 minutes): Faculty and residents together will review the media item(s)
2) Review of medical literature (20 minutes): Faculty and residents together will briefly assess the comparable medical literature
3) Role-play with case example (30 minutes): Small groups of residents will role-play a psychiatrist/patient discussion
4) Large group discussion (10 minutes)
5) Wrap-up and Q+A (10 minutes)

Presentation of media items:

1) Video clip: Dr. Oz Reveals Ways to Ease Menopause (featured on WXII 12 News from Winston-Salem, North Carolina October 2011)
   http://www.youtube.com/watch?v=Li515pqv4ow

2) Video clip: Part 1: Bio-Identical Hormones & Menopause (featured on Kare II News Saturday from Minneapolis, Minnesota May 2010). Part 1 of a 4 part series from Dr. Khalid Mahmud, a leading physician in Anti-Aging Medicine.
   http://www.youtube.com/watch?v=8GtJMPR-hig

   Start clip from minute 4:50.

Critique of media coverage

1) What is the central claim of these media pieces?

Facilitator elicits the following:

- Hormone decreases cause the unpleasant symptoms of menopause (weight gain, irritability) which can be corrected using bioidentical hormones (clip #1) which relieve all symptoms quickly
    - Bioidenticals are "tweaked in lab" but "made from plants"
- HRT (drugs) are not safe because they are not natural (clip #2)

2) How do these media pieces influence (and potentially bias) the everyday viewer?

Facilitator elicits the following:

- Estrogen is portrayed as like "valium" to the brain (clip #1)
- Dramatic music and "real life" people talking about their menopause struggle (clip #1)
    - Bioidenticals are portrayed as "life changing" and corrected all the negative symptoms of menopause
    - Bioidenticals are portrayed as "safe, they're made from plants"
- It's on the news, so it must be true and trustworthy
- Comparing H2O and H2O2 with bioidentical hormones?
    - Hormones are portrayed as drugs which were only created to make a profit
    - The message is given that it is not natural to take oral medications, treatments should go directly into the blood
    - The message is given that there is a need to check blood levels, like checking potassium and that one cannot measure "drug" hormones, because they are not natural.
- What words are used to elicit emotions?
    - Making profit
    - Not natural
    - "patient" supports this for the same reasons as doctor

3) What is the "face validity" of the clips?

Facilitator elicits the following:

- The message is that bioidentical hormones are safer than the old hormone replacement therapy and there is no need to worry about side effects; they can treat all symptoms of menopause.

Understanding Terminology

1) What does bioidentical mean?

Facilitator elicits the following:

- The hormones are chemically identical to those that the body produces.

2) What does the term natural mean?

Facilitator elicits the following:

- The hormones produced are derived from either plant or animal sources. They are not made in a lab. However, even these hormones still need to be commercially processed to become bioavailable. The plant sources typically used are yams or soy. For example, the estrogen tested in the WHI was made from pregnant horse's urine.

- Facilitator point: Bioidentical hormone therapy is often called natural therapy because the hormones are the most similar to the ones produced by the body. However, these terms are not synonymous and are often misleading.

3) What is compounding?

Facilitator elicits the following:

- Custom compounding is done only at certain pharmacies. A physician must write a prescription for a dose, combination, or preparation which is not routinely available. Compounding pharmacies can use some of the same ingredients that are made in FDA approved products, but the overall result is not FDA approved or regulated.

Appraisal of Scientific Literature

Source material for media article:

Effectiveness of Compounded Bioidentical Hormone Replacement Therapy: An Observational Cohort Study by Rutz et al. published in BMC Women's Health in 2011.

1) What is the study design? What "level" of evidence would this study design produce? What are the strengths and limitations with this study design?

Facilitator elicits the following:

- This is an Observational Cohort study. There is no assigned control group, instead the researcher observes the natural course of events.
  - Cohort studies are grouped based on presence or absence of exposure
  - Subjects are followed for a certain period of time to see if they develop the disease, or outcome
- Level 2-2 study.
  - Most perinatal literature is observational rather than interventional. There is a high ethical bar to randomizing pregnant women
  - Level 1 is a traditional RCT and Level 2-1 is a controlled trial that is not randomized
  - There is often not the "gold standard" of RCT for treatment recommendations
- A strength is that the writers performed a subgroup analysis on women ages 40 to 70 years which would be more indicative of the age in which most women undergo natural menopause. Weaknesses include small sample size, short-follow up, and using non-validated, non-standardized rating scale of menopausal symptoms.

2) What does the statistic patient year (or person year) mean? How is this used to express risk of myocardial infarction or breast cancer?

Facilitator elicits the following:

- The statistic patient year is a way to express risk. For example, if there are 15 patients in a study who are followed for 20 years for an outcome, that equates to 300 patient years (15 x 20) in the study. If there was a bad outcome in 6 patients, then that would equal one bad outcome for every 50 (300 / 6) patient years.
  - For example, one serious side effect for every 1,000 patient years, might be considered an acceptable risk.
- In the section on BHRT Safety, only 62 out of 296 women had documented follow-up regarding myocardial infarction and breast cancer. We are not given the age range of these women or other confounding variables. The follow-up was only 1.9 years for a total of 117 person years. In this

time period, there was no documented incidents. The authors state that this was not a sufficient sample size to make any statements about safety of compounded BHRT.

3) What are the authors' conclusions in the discussion section?

Facilitator elicits the following:

- Compounded BHRT is effective for improving mood symptoms. No conclusions could be drawn regarding vasomotor symptoms (page 6, column 1, paragraph 1). The study lacks sufficient sample size to make firm statements about the safety of compounded BHRT (page 8, column 2, paragraph 3).
- Almost for the entirety of the discussion section, the authors discuss the positive findings in the RCTs for the FDA approved forms of BHRT. This is misleading. The authors appear to be equating the results from their "compounded" BRHT with the FDA approved "manufactured" BHRT. Findings from one type cannot be extrapolated onto the other as they are not the same medications.

Other medical literature related to this topic

Compounded bioidentical menopausal hormone therapy, Committee Opinion by American College of Obstetricians and Gynecologists and American Society for Reproductive Medicine from August 2012

1) What are the central findings of this committee opinion?

Facilitator elicits the following:

- "Bioidentical hormone therapy" is recognized by the FDA and Endocrine Society as a marketing term and not one based on scientific evidence.
- Some bioidentical hormones are FDA approved, but other compounded hormones are not and considered inferior to FDA approved treatments because of unknown pharmacokinetic properties.
    - Could be beneficial due to greater dosage flexibility, availability of lower dose preparations, and potential lower cost
    - However, customized compounded hormones pose risks with variability in purity and potency and lack of efficacy and safety data
- Evidence is inadequate to support increased efficacy or safety for individualized hormone therapy regimens based on salivary, serum, or urine testing.

Role-playing Exercise

Trainees should separate into groups of 2 or 3 with one trainee playing the role of the reproductive psychiatrist and one or two trainees playing the role of the patient who desires treatment for her menopausal symptoms, in particular, her low mood, irritability, and difficulty sleeping.

Sample Clinical Case

Lisa M. is a 55-year-old married woman with a history of depression, past medical history of hypertension and high cholesterol, G3P3, no history of suicide attempts or hospitalizations, family history of depression in her mother, and was treated with psychotherapy in the past. She expresses concern that since going through "the change" last year, she has had more irritable mood with difficulty concentrating and poor sleep. She has joined a menopause support group. She is also frustrated by continued hot flashes despite using a vitamin which was recommended by a friend. She wakes up every night drenched in sweat and needs to change clothes, sometimes even take a shower, to feel comfortable again.

She first had depression following the death of her mother due to breast cancer when she was in her early 20s. At that time, she attended a grief counseling support group and her symptoms resolved. She had one other episode of depression during her second pregnancy when there was some marital discord. That mood episode was successfully treated with a combination of individual and marital counseling. She is currently upset that her support group doesn't seem to be improving her mood.

Lisa has always been concerned about taking "pills" after seeing her mom treated with chemotherapy which caused her to throw up and lose her hair. For her high blood pressure and high cholesterol, Lisa worked at changing her diet and exercise routine with good results. She even belongs to a "supplement of the month" club which provides herbal remedies for minor ailments. She was hopeful when a friend recommended a vitamin for her menopausal symptoms, but it has yet to improve Lisa's mood or hot flashes.

She heard from a member of her support group that some antidepressants can also treat symptoms of menopause but those have side effects. She recently read an article on-line which discussed bioidentical hormones, a natural, safer way to treat the symptoms of menopause, including mood symptoms. Because she is cautious about taking medications and supports an "all-natural" lifestyle, she is wondering your opinion on using compounded bioidentical hormones to treat her mood in addition to her hot flashes. There is a clinic near her local GNC which could provide the necessary assessment, hormone level testing, and compounding all in one convenient location!

Sample reproductive psychiatry script:

"The terms natural and bioidentical are often used interchangeably, but they do not necessarily mean the same thing. Natural drugs are anything derived from plants or animals, and bioidentical hormones are often made from yams, or soy, but then are processed in a lab. There are some bioidentical hormones approved by the FDA, but compounded bioidentical hormones are not recommended because they are not overseen by the FDA. The levels of actual drug components in compounded hormones are variable and their interactions in the body can be unpredictable.

There are some studies which have suggested that hormone replacement therapy can improve mood in those who are undergoing menopause. However, the first-line treatment recommendations for perimenopausal depression is antidepressants and/or psychotherapy. Based on your history of two episodes of depression in the past, and because your current episode is not improving, I would recommend an antidepressant which would help with your mood and has also been shown to help reduce hot flashes."

Patient then asks a series of questions:

Is there any way to test my hormone levels to get an exact treatment regimen?

- Saliva does not consistently provide a reasonable representation of endogenous circulating serum hormones
    - Levels vary based on diet, time of day, and the specific hormone
    - Saliva often contains lower levels of hormones than found in serum
    - Symptoms are the end point, not levels, even though exact levels can be tested through mass spectrometry, this testing is not necessary or helpful in guiding treatment.

Are there any options to treat depression specifically for menopausal women?

- There are antidepressants that can treat both mood and symptoms of menopause, specifically hot flashes.

- Paroxetine (Paxil) is FDA approved for menopausal vasomotor symptoms. It is called Brisdelle. Paxil CR is often used off label at doses usually lower (12.5-25mg/day) than those used for depression.
- Venlafaxine (Effexor) is used off-label for hot flashes due to hormonal chemotherapy at doses similar to those used for depression (ER 37.5-150mg)
- Two, large, placebo-controlled RCTs using desvenlafaxine (Pristiq) showed significant improvements in depressive symptoms.

Wrap-up and Q+A

1) For the learner role-playing the reproductive psychiatrist: what was challenging about this interaction?

   Sample answers might include: putting complex information into understandable terms; giving the patient information about risks without further increasing her anxiety; giving information that is necessarily not black and white; trying to reassure the patient without dismissing her concerns; acknowledging the limitations of our current data.

2) For the learner role-playing the patient: what was it like to be on the "patient" side of this discussion? Was there anything in particular that your partner did that helped you feel more comfortable in your decision-making?

   Sample answers might include: psychiatrists seemed confident and/or knowledgeable; she seemed to be neutral/ not "pushing medicine on me;" he explained things to me in easy-to-understand language.

Additional Resources

https://www.menopause.org/publications/clinical-practice-materials/bioidentical-hormone-therapy

References

1. *Effectiveness of Compounded Bioidentical Hormone Replacement Therapy: An Observational Cohort Study* by Rutz et al. published in BMC Women's Health in 2011.
2. *Compounded bioidentical menopausal hormone therapy*, Committee Opinion by American College of Obstetricians and Gynecologists and American Society for Reproductive Medicine from August 2012
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5. Harvard Women's Health Watch, What are bioidentical hormones? August 2006.
6. European Patients' Academy, Glossary, patient years
7. Guidelines for the Evaluation and Treatment of Perimenopausal Depression: Summary and Recommendations. Maki et al. Journal of Women's Health. 2018.