

# Tailoring menopause education to the needs of primary care clinicians: the Oregon menopause ECHO experience

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## Abstract

**Objective:** We aimed to conduct an educational needs assessment for practicing primary care clinicians using Project ECHO® (Extension for Community Healthcare Outcomes), a platform for telementoring healthcare professionals in rural and under-resourced areas.

**Methods:** We conducted 12 weekly and monthly, 1-hour sessions comprised of brief didactics and facilitated discussions of real, deidentified cases. Didactic topics included perimenopause, mood, hormone and nonhormone therapies, genitourinary symptoms, and skeletal health. Feedback was obtained by preprogram, postprogram, and weekly surveys via REDCap. Participants rated the faculty-selected curriculum and discussions with Likert items. Qualitative assessment of participant comments, questions, case presentations, and chat discussions was performed to identify needs for additional educational topics.

**Results:** Participants included 54 physicians and advanced practitioners from 17 of Oregon's 36 counties, 1 urban, 7 urban/rural, 8 rural, and 1 frontier. The didactic content and case discussions were rated highly, with Likert scores of 5.3-5.5 (scale, 1-6), for being evidence-based, objective, and relevant. Confidence in performing targeted activities relating to menopause care was improved from scores of 2.0-2.6 (scale, 1-5) before the program to 3.7-3.9 after the program,  $P < 0.01$  for each comparison. We identified several topics for future curricula, including breast health, sexual dysfunction, weight management and abnormal vaginal bleeding.

**Conclusion:** For these practicing primary care clinicians, the basic menopause curriculum was highly relevant, but greater depth and complexity were needed to address the characteristics of patients in their practices. The ECHO model was successful in addressing the menopause knowledge gap for diverse types of health care professionals.

**Key Words:** Menopause, Medical education, Curriculum, ECHO, Primary health care, Rural health.

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Menopause is a universal experience for people born with ovaries. Vasomotor symptoms, the hallmark of the transition from premenopause to postmenopause, occur in >80% of individuals, typically persist for 7-10 years and can negatively impact quality of life and workplace productivity.<sup>1-3</sup> Menopause is associated with chronic health conditions that also increase with age, such as osteoporosis, cardiovascular disease, and metabolic syndrome. Despite the prevalence of symptoms and adverse consequences, many do not receive effective therapy from their health care professionals.<sup>4,5</sup> This deficit in appropriate care may be attributed to the lack of teaching about menopause in many training programs, both in obstetrics and gynecology (OBGYN) and primary care.<sup>6-9</sup>

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Menopause care is clearly within the purview of OBGYN practice, but the OBGYN workforce in the United States is too small to provide care for the 2 million women who enter menopause each year. In 2024, the estimated number of practicing OBGYNs was small (41,113) compared with the number of physicians in Family Medicine (100,650) and general Internal Medicine (97,071).<sup>10</sup> Supplementing the physician workforce, there were 280,140 nurse practitioners, 152,103 physician assistants and 352,027 pharmacists who may also provide menopause care and counseling. In many Western states, naturopathic practitioners provide prescription therapies for menopause symptoms, including hormone therapy ( $n \sim 5,500\text{--}7,000$ , licensed in 26 states).

Further, in 2010, fewer than 50% of US counties had an OBGYN specialist.<sup>11</sup> Since then, the growth in the number of OBGYN physicians has been disproportionately less than population growth,<sup>12</sup> and trends in relocation from 2005 to 2015 show further movement away from rural and impoverished areas.<sup>13</sup> The Menopause Society provides menopause education and certification to a diverse, multidisciplinary set of physicians and allied health professionals from a variety of specialties.<sup>14</sup> While growing rapidly, the density of Menopause Society Certified Practitioners (MSCPs) is low, with  $\leq 0.5$  MSCPs per 10,000 females ages 45–65.<sup>15</sup> Undoubtedly, primary care physicians and advanced practitioners are needed to address menopause care needs.

A barrier to menopause education is the lack of a standardized menopause curriculum to guide training and assessment. To date, limited curricular efforts have been designed by menopause content experts and tested in residency programs.<sup>7,8</sup> It is unclear whether such curricula meet the needs of practicing primary care clinicians. Planning curricula requires an educational needs assessment from the learners—primary care clinicians in this case.<sup>16</sup>

We delivered an educational program for primary care clinicians in the state of Oregon, utilizing the well-established Project ECHO® (Extension for Community Healthcare Outcomes) model.<sup>17</sup> Project ECHO® (<https://projectecho.unm.edu/model/>) is a proven learning model for reaching geographically underserved areas. Our objective in this paper is to evaluate the relevance of a menopause curriculum designed by menopause experts and to identify additional areas of curricular need based on qualitative assessments of feedback solicited from participants.

## METHODS

### Design

This mixed-methods observational study comprised a quantitative evaluation of a planned educational program and a qualitative assessment of feedback and session content to identify unaddressed educational needs. The institutional review board deemed the study as not human subjects research.

### Setting

The Menopause in Primary Care ECHO is a program offered by the Oregon ECHO Network (OEN), a

platform for telementoring health care professionals in rural and under-resourced areas of the state. Oregon is a large Western state, 98,381 square miles in area, which is largely rural or frontier with most of the population living in the northwestern corner of the state (Fig. 1A). Rural residents experience disparities across behavioral health, chronic disease management, cancer screening, prenatal care, and lack access to many specialty services.<sup>18</sup> The Oregon Rural Practice-based Research Network (ORPRN) aims to address these challenges through community-engaged research, education, and policy. Since 2017, ORPRN has hosted the OEN to promote knowledge transfer of evidence-based recommendations into clinical practice and to build communities of practice.<sup>19</sup> In 2025, OEN offered 36 no-cost continuing medical education (CME) programs to over 1,400 clinicians statewide. The ECHO model was selected given its alignment with adult learning theories.<sup>20,21</sup> Globally, Project ECHO has touched nearly 8.8 million participants, with more than 8,800 programs in 215 countries.<sup>22</sup>

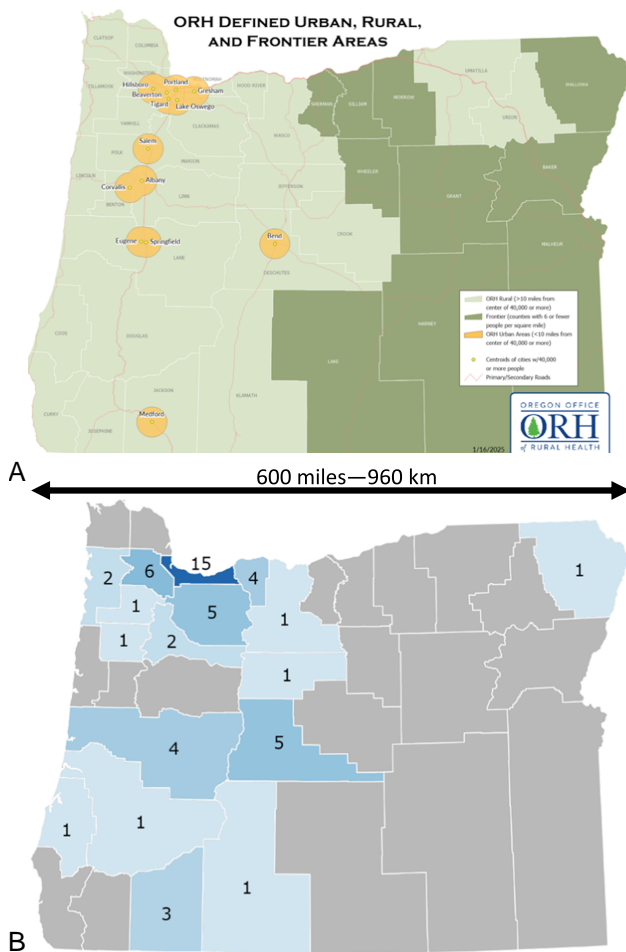
### Participants

Participants in this study represent “purposeful sampling” of practicing clinicians who self-identify their interest in menopause education by enrolling in the program and who are drawn from a network that prioritizes rural clinicians in the state of Oregon.<sup>23</sup> We promoted the program among the network of clinicians who participate in ORPRN, including over 6,000 past OEN participants. We limited enrollment to  $\sim 50$  participants to encourage participant engagement in the discussions and to promote group cohesion. We prioritized clinicians serving underserved populations in Oregon and enrolled clinicians in well-resourced systems as space allowed.

### Intervention

The program consisted of 12 virtual sessions, each facilitated by 4 faculty from the specialties of OBGYN, Urogynecology (prior residency training in OBGYN), Family Medicine, and Pharmacology. One didactic lecture was presented by a guest faculty member, an endocrinologist. The first 8 weekly sessions included a didactic presentation and one case presentation, followed by 4 monthly community-of-practice sessions devoted to case presentations and open discussion. The eight didactic sessions followed the ECHO model of a 20-minute didactic topic presentation followed by a 30-minute case discussion, with time for open discussion. The sessions were held on the Zoom platform and scheduled for 60 minutes during the noon hour, promptly beginning and ending on time. Faculty-selected titles for the didactics of the eight sessions were: (1) perimenopause management, (2) vasomotor symptoms, (3) hormone therapy overview, (4) hormone therapy & chronic medical conditions, (5) nonhormone therapy, (6) genitourinary syndrome of menopause, (7) mood, sex, and menopause, and (8) skeletal health.

Participants were encouraged to submit a real case for each session, but the case did not have to reflect the



**FIG. 1.** (A) Oregon map, showing urban, rural and frontier areas as defined by the Oregon Office of Rural Health. (B) Map of Oregon counties showing the location and number of Extension for Community Healthcare Outcomes (ECHO) participants. ORH, Oregon Office of Rural Health.

didactic topic. For the first session, the faculty presented a sample case to set an example of the format. Willingness to submit cases requires building a trusting environment within the sessions. Case discussions began with clarifying questions, followed by case management recommendations from both participants and faculty. Supportive resources were posted via an online portal, which included session slides, a summary of the case recommendations, and relevant articles.

## Outcomes

Participant feedback was requested before and after each of the 12 sessions, as well as before and after the entire program via REDCap surveys. Surveys included both quantitative Likert item ratings and open-ended questions. Participants were asked to rate their comfort with performing targeted activities related to menopause care.

## Analysis

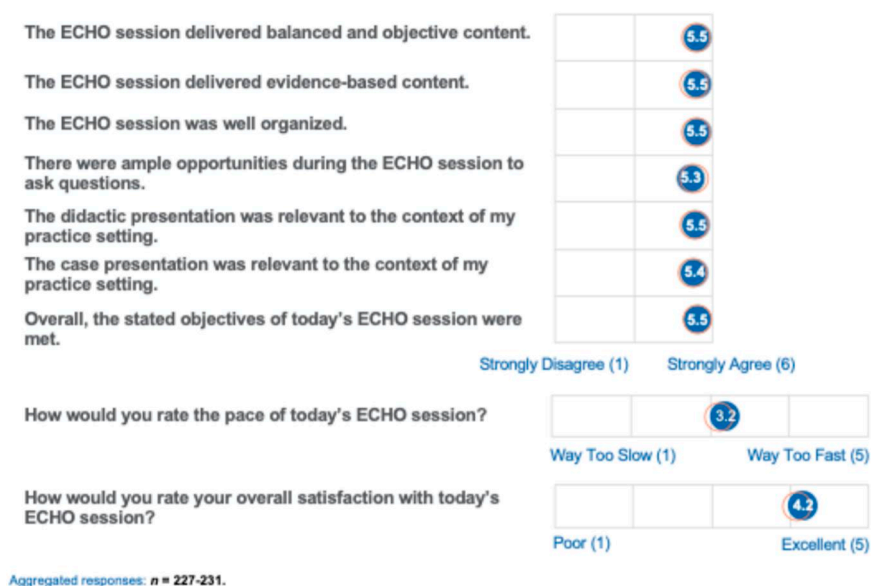
Individual responses from post-session surveys were aggregated to report participants' overall satisfaction regarding ECHO session delivery. Session delivery was assessed using nine items. Seven items examined the sessions' objectives, presentation, and content, scored 1 (strongly disagree) to 6 (strongly agree) (Fig. 2). The last two items assessed the session's pace, scored 1 (too slow) to 5 (too fast), and overall session satisfaction scored 1 (poor) to 5 (excellent). Participant knowledge regarding menopause treatment and management was assessed using six pre-post survey items scored 1 (not at all confident) to 5 (extremely confident) (Fig. 3). Program evaluation data were included in the analysis for participants attending at least one ECHO session and who completed the retrospective pre-post program survey. Variables were summarized as means with standard deviations, and differences in continuous measures across groups were assessed pre-post using paired *t*-tests. A *P*-value of <0.05 was considered statistically significant, and statistical analyses were conducted using Stata software, Version 18.5 (StataCorp, College Station, TX).

A qualitative assessment of written proceedings—deidentified case presentations, session chats, and survey comments—was undertaken by the two authors with the most experience in menopause care, K.A. and A.C. They independently reviewed this content to identify and code themes for curricular topics that were not included in the original planning. The individually identified themes were then discussed and revised to achieve concordance. All authors then reviewed the themes for additional perspective.

## RESULTS

The program was oversubscribed with 81 registrants. The 54 participants selected for participation included 26 physicians, 11 nurse practitioners, 9 physician assistants, 3 naturopaths, 1 nurse, 1 pharmacist, 1 dentist, 1 social worker, and 1 faculty member of public health. In all, 78% of participants reported their gender as woman and 22% as man. The practice location for 17 participants was >100 miles distant from the state's major academic medical center, and 23 participants practiced in communities with populations of <50,000. Participants represented 17 of Oregon's 36 counties, 1 urban, 7 urban/rural, 8 rural, and 1 frontier (Fig. 1B).

Mean attendance at the initial eight didactic/case sessions was 36.2 (67%) and dropped to 13.8 (26%) for the last four sessions, where a didactic was not offered. Overall, 48 (89%) attended at least one session. The response rate from attendees for the weekly surveys during the initial 8 weeks was 77%. The attendance and survey response rates for the individual sessions are shown in Supplemental Table 1, Supplemental Digital Content 1, <http://links.lww.com/MENO/B512>. Ratings of the faculty-selected curriculum by Likert scale (Fig. 2) were high, 5.3–5.5 on a scale of 1–6 (higher scores more positive). Participants found the didactic content and the case



**FIG. 2.** Aggregated responses of weekly feedback from participants about the eight sessions with didactic content, n = 227-231. Blue circles represent the menopause ECHO program, orange circles represent all OEN ECHO programs in 2023-2024. ECHO, Extension for Community Healthcare Outcomes. OEN, Oregon ECHO Network.

discussions to be evidence-based, objective, and relevant to their practice setting (Fig. 2).

At the conclusion of the 12 sessions, a post-program survey was administered to better understand the overall perceptions of the program and 23 (48%) participants responded. All 23 (100%) said they would recommend the ECHO program to a colleague. Many respondents (59%) had shared the knowledge learned by providing a menopause case consultation for a colleague, resulting in further dissemination of menopause learnings. Almost all (n = 21 [95%]) said that they were likely to use new information from this ECHO program in patient care. Confidence in performing each targeted activity relating to menopause care was improved from scores of 2.0-2.6 (scale, 1-5) before the program to 3.7-3.9 after the program (Fig. 3),  $P < 0.01$  for each comparison.

Participants provided ample commentary in the open-ended questions in the weekly, pre-program and post-program surveys. Most participants (76%) volunteered multiple anticipated changes in their practice as a result of the ECHO program including: (1) less need to refer patients to specialists; (2) greater comfort with the clinical diagnosis of perimenopause and need for consideration of contraception as well as menopause symptom management; (3) use of risk calculators to guide care; (4) greater comfort in choosing an initial therapy and monitoring effectiveness; and (5) greater comfort with the types of estrogens and progestogens. Perceived barriers to making these changes included limited time to address patient concerns during clinical encounters and insurance restrictions.

In the qualitative analysis, we identified many themes that could be organized into encompassing cate-

gories for additional curricular topics (Fig. 4). We addressed some of these as they arose during case discussions, but could not cover the topics more comprehensively in the didactic sessions.

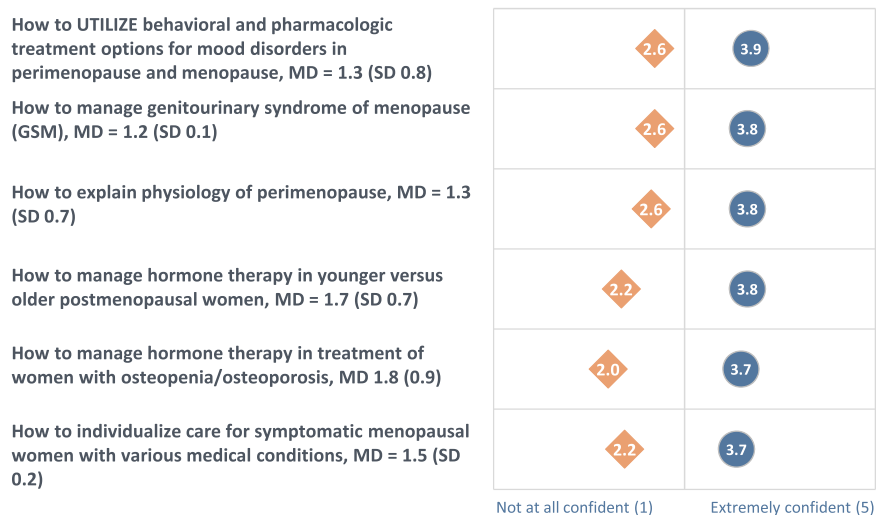
Notably, the feedback responses contained particularly positive comments, above and beyond the usual feedback that faculty have experienced in CME programs. We coded these comments as a theme termed the “joy of learning” (Fig. 5). Examples include “a lovely way to connect with new, like-minded clinicians,” “This was awesome ...,” and “The amount of learning regarding menopause each session cannot be over exaggerated.”

## DISCUSSION

### Key findings

Primary care clinicians who participated in this ECHO program found the faculty-selected curriculum to be relevant, evidence-based, and well-organized. However, we identified several additional educational needs that were not included in the original planning that should be added to future programs (Fig. 4). Participants found the combination of didactics and case discussions more useful than case discussions alone, possibly reflecting the low baseline knowledge and lack of previous menopause education. For subsequent ECHO programs, we added four didactic topics inspired by these findings: (1) sexual dysfunction; (2) abnormal vaginal bleeding; (3) weight management; and (4) breast health.

Representative cases for basic menopause education often describe a healthy woman presenting with menopause symptoms, but most perimenopausal women have one or more chronic conditions. In the Study of Women’s



**FIG. 3.** Level of confidence in performing targeted activities, ◆Pre. ●Post n = 23, mean difference (MD) by paired *t* test, standard deviation (SD),  $P < 0.01$  for each comparison.

Health Across the Nation, 70.3% of 50-year-old women had at least one chronic condition, the most common being depressive symptoms (44.6%), osteoarthritis (30.5%), hypertension (30.4%), diabetes (7.1%), heart disease (3.0%), and stroke (1.3%).<sup>24</sup> The cases submitted by our ECHO program participants included a variety of chronic conditions that present to primary care clinicians and must be part of clinician education.

### Clinical implications

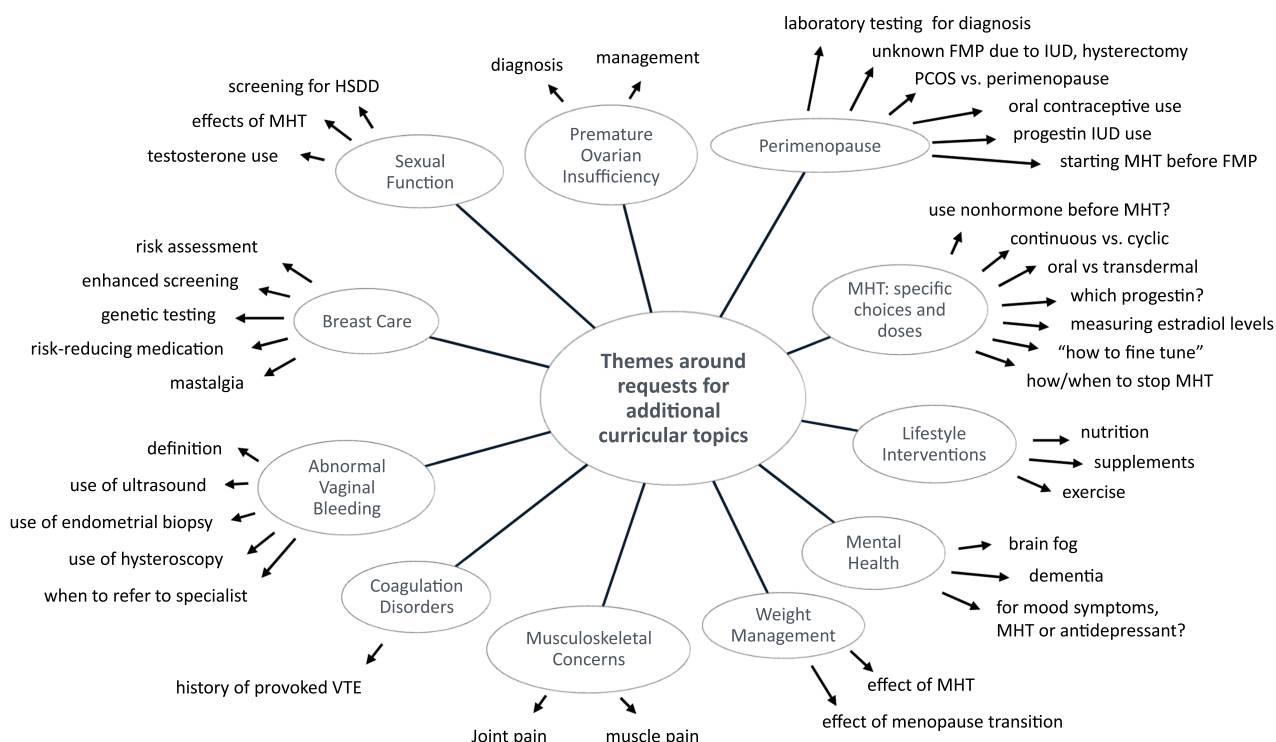
Participants indicated many anticipated practice changes because of the program, with few barriers to implementation. This is in keeping with the fact that the ECHO model achieves higher orders of learning in Bloom's and Fink's taxonomy of learning.<sup>25</sup> Didactic presentations promote acquisition and understanding of knowledge, but case presentations with active participation allow application of knowledge gained and greater implementation of knowledge into clinical care. As we address the huge gap in menopause education, we should employ teaching methods that engage active participation of learners in case management and avoid solely didactic models. In this way, learning within the ECHO model mirrors the supervised case management of training during residency for physicians and preceptorships for advanced practitioners.

An unanticipated positive outcome of the ECHO program was the spontaneous expressions of enjoyment from participants and faculty. A White Paper by the Institute for Healthcare Improvement posits that fostering "joy in work" is a key strategy to counter the epidemic of burnout expressed by healthcare professionals.<sup>26</sup> Clinicians regularly have the opportunity to profoundly improve patients' lives, which is inherently joyful and provides meaning and connection. In this White Paper, fairness and equity are noted as important contributors to

joy in work, with the following statement about health care organizations: "When everyone is engaged in an equitable and diverse environment, they feel as though they can listen to what matters to patients and colleagues; comfortably ask questions, request help, or challenge what's happening; and use teamwork to successfully solve challenges." This exactly describes the optimal learning environment of an ECHO session.

Two other themes associated with the joy of learning are pursuing the intellectual aspects of medicine and acknowledging professional growth and personal accomplishment within medicine.<sup>27</sup> As faculty and staff, we also enjoyed the collegiality of the ECHO learning environment as well as the challenges of managing a group with diverse backgrounds, beliefs, and knowledge. The case presentations were often complex situations that prompted the expert menopause faculty (K.A. and A.C.) to review the literature for best-practice recommendations, despite having nearly seven decades of combined clinical experience. We learned from each other and the participants.

The ECHO model for learning is an important option to address the menopause knowledge gap for clinicians in practice who did not have a menopause curriculum in their postgraduate training. The ECHO model is also utilized for experienced clinicians to share and discuss more challenging cases.<sup>28</sup> Project ECHO offers extensive, cost-free training in the planning, implementation and support of ECHO programs.<sup>22</sup> Because the target audience is clinicians in practice, ECHO programs are comprised of multiple sessions over time and are most often offered at the beginning and end of the workday or during the lunch hour to fit with clinical schedules. The virtual platform allows for a large geographic reach, but covering 1-2 time zones is most practical. Building a learning community is a key goal of the



**FIG. 4.** Themes for additional curricular topics derived from qualitative assessment of deidentified case presentations, session chats, and comments in solicited feedback. FMP, final menstrual period, HSDD, hypoactive sexual desire disorder; IUD, intra-uterine device; MHT, menopausal hormone therapy; PCOS, Polycystic Ovary Syndrome; VTE, deep venous thrombosis.

ECHO model, and this requires faculty facilitation to inspire group participation and engagement. Missed sessions due to clinical responsibilities should be expected and planned for by providing on-demand recordings and resource materials. The ongoing nature of ECHO programs allows for feedback to identify new curricular content, and the case topics keep the sessions grounded in everyday care.

**Implications for research and teaching**

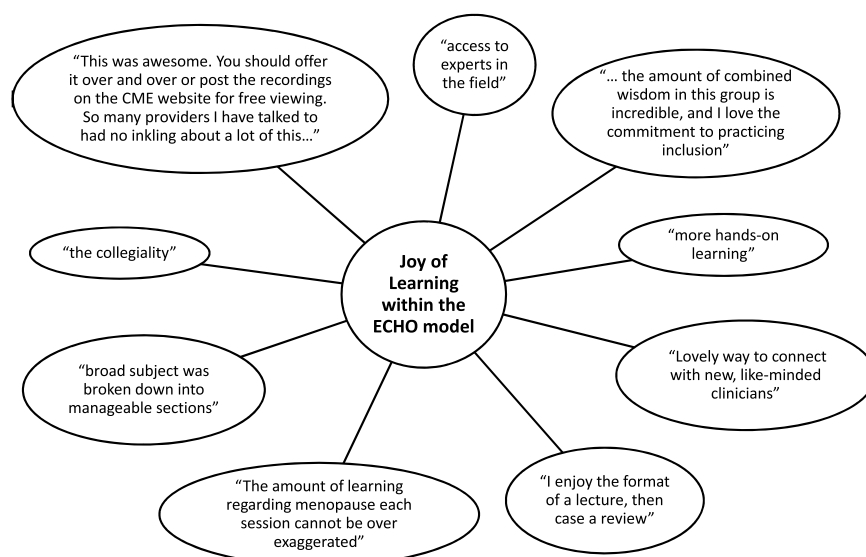
Quantitative assessment of educational attainment can only measure what is known or expected to be of relevance. The successful design of menopause educational interventions requires a needs assessment of the learners,<sup>16</sup> but learners often do not know their needs until presented with a clinical dilemma. Curricular topics that arise in case discussions provide an ongoing qualitative needs assessment of the participants. Our experience shows that curricula for practicing clinicians must encompass a high level of complexity. Case-based learning is effective for all levels of learners, but many educators do not create hypothetical teaching cases that reflect the complex reality of caring for an aging, underserved, and potentially under-resourced patient population. As efforts continue to expand menopause education across all levels of learners, it is essential that we learn from clinicians working in those settings so that our developed curricula reflect their practice realities.

**Strengths and limitations**

A strength of this ECHO program is the strong response rate of participants to the frequent surveys that provided ample amounts of ratings and commentary for assessment. Having faculty from four disciplines broadened the educational experience and provided multiple perspectives when preparing and assessing the curriculum. The expertise and ongoing support of the administrative staff were central to ensuring adherence to the ECHO model. The small, purposeful sample size limits the generalizability of the findings to clinicians with demographics similar to those of our cohort. We lack input from participants who did not respond to the surveys.

**CONCLUSIONS**

In this Menopause in Primary Care ECHO, the basic menopause curriculum was shown to be highly relevant, but our work suggests that more depth and complexity of content are required to meet the educational needs of primary care clinicians who care for perimenopausal and menopausal patients. Limited access to specialty care is a known challenge for those practicing in under-resourced settings. Current assessments for menopause knowledge do not address sexual dysfunction, abnormal vaginal bleeding, weight management and breast health.<sup>7,29</sup>



**FIG. 5.** Specific comments expressing the “joy of learning” theme within the ECHO model of “Menopause in Primary Care.” ECHO, Extension for Community Healthcare Outcomes.

Menopause care is provided by many types of health care professionals. We found that the ECHO model, a well-established educational approach, can be successfully employed to address the menopause knowledge gap in primary care for diverse types of health care professionals.

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