

Increasing perimenopausal patient and clinician satisfaction with care through use of shared
decision making

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Abstract

Vasomotor symptoms (VMS) associated with menopause vary greatly, as do the multitude of available treatment options. It can be difficult for clinicians to manage these symptoms while balancing patient safety concerns and preferences. Shared decision-making (SDM) can assist both the provider and patient to navigate the various treatment options, minimizing gaps between their preferences. To assess the effect of SDM in a nurse-led practice in the Southwest, two nurse practitioners (NP) were invited to use a menopausal decision aid (DA). Women aged 40 to 64 years experiencing VMS were invited to participate in the project. Following a visit with the NP in which the DA was used, patients completed a six question post-intervention survey based on both the Decisional Conflict Scale (DCS) and SDM-Q-9 surveys. Patients were also asked to complete a telephone interview about the process 1-2 weeks post-intervention. The NP completed a post-intervention survey based on the SDM-Q-Doc to assess clinician satisfaction with the SDM process. Eight patients (mean age, 47.9 years), presenting with a range of 2 to 6 perimenopausal symptoms participated in the project. All patients (100%) *strongly* or *completely agreed* that the clinician precisely explained the advantages & disadvantages of treatment options, helped them understand all the information, reached an agreement on how to proceed with care, and were *extremely satisfied* or *satisfied* with their decision and making an informed choice. Both clinicians *completely agreed* they had come to an agreement on how to proceed, and *completely* or *strongly agreed* they helped the patient understand all information. There was a correlation between the use of SDM patient's age, making an informed choice, and being satisfied with their decision. Incorporating a perimenopausal DA can enhance patient and clinician satisfaction with SDM to understand their treatment options and make an informed menopausal decision.

Keywords: menopause, shared decision making, decision aid, vasomotor symptoms

Increasing perimenopausal patient and clinician satisfaction with SDM

For many women experiencing menopause, the symptoms can be a source of confusion and frustration. According to the North American Menopause Society [(NAMS), 2015], more than seventy-five percent of women in midlife experience vasomotor symptoms associated with menopause. These symptoms last approximately five to seven years; however, they can continue for longer than fifteen years. Symptoms vary widely in terms of frequency, intensity, and the type of symptoms. For each symptom there are a number of treatment options available. Therefore, selection from among the myriad of choices for treatment can be difficult for practitioners and patients alike. Of 293 women surveyed on VMS treatment options alone, nearly half reported feeling confused (NAMS, 2015). In order to help streamline these patient encounters, a shared decision making (SDM) tool can be invaluable. SDM is an approach in which patients and clinicians together utilize an evidence-based tool to facilitate informed patient choices and include patient preferences on how to proceed with their care (Elwyn et al., 2012).

Background and Significance

Midlife Women with Menopausal Symptoms

An estimated 38 million women between ages 45 to 64 years' experience VMS daily in the U.S. (Reed et al., 2014). The two most commonly reported menopausal symptoms - a sudden sensation of mild or intense body heat ("hot flashes") and diaphoresis during sleep ("night sweats") - occur in approximately 75% of women (NAMS, 2015; NAMS, 2016). These symptoms can contribute to mood and sleep disturbances, diminished energy, vaginal dryness, low-libido, and concentration difficulties, disrupting a woman's quality of life (Reed et al., 2014). If untreated, the economic and healthcare burden of VMS is significant. One retrospective cohort study of

500,000 women's insurance claims demonstrated that women with VMS incurred over 1.5 million VMS-related outpatient visits over a one year span, totaling over \$339 million in direct costs, and \$27.6 million in indirect costs such as lost work days (Sarrel et al., 2015). Another study found the higher the VMS symptom severity, the greater work productivity loss, healthcare usage, and overall poorer health status than for those females with mild or no symptoms (Whiteley et al., 2013).

Shared Decision Making

VMS vary dramatically, as do the variety of treatment options available. In order to help streamline these patient encounters, a SDM tool, or decision aid (DA), can be utilized to enhance decision making, giving the patients options to make informed choices and express their preferences on how to proceed with their care (Elwyn et al., 2012). SDM tools are endorsed by the American College of Obstetricians and Gynecologists (ACOG), National Cancer Institute and U.S. Institute of Medicine, and can be effective in reducing patient misperceptions of symptoms and minimizing gaps between the clinician and patient communication (ACOG, 2014; Brown et al., 2012; Kiatpongsan, Carlson, Feibelman, & Sepucha, 2014). Conceptualized in the 1990's by Charles et al., (1997) the SDM model is an interactional process between the patient and clinician, developed to equip the patient with information, and empower participation in the treatment decision-making process (Brown et al., 2012).

By encouraging practitioners to incorporate and focus on the patient and their specific preferences versus strictly on disease management, SDM is strategy for enhancing patient-centered healthcare. In a recent Cochrane review, when comparing decision aids to usual care (or non-decision aids), exposure to a decision aid resulted in increased patient knowledge and a higher percentage of patients electing a treatment option congruent with their personal values. The same

systematic review confirmed that decision aids had a positive effect on practitioner-patient communication and patient satisfaction with the selected decision and decision-making process (Stacey et al., 2014). The goal of the project was to provide clinicians with a better understanding of SDM use in the clinical setting for improved VMS management, enhanced clinician self-efficacy, and patient empowerment.

Search Strategy

The inquiries led to the clinically relevant PICOT question, “In midlife women experiencing menopausal symptoms, how does implementing a shared decision making (SDM) tool for menopausal symptom management compare to current practice or no-SDM tool in the impact on patient satisfaction with decision, decisional conflict, and clinician satisfaction?”

Database Search

An extensive search was conducted on the following three databases to answer the PICO question: Cochrane Database of Systematic Reviews, PubMed Central (PMC), and Cumulative Index to Nursing and Allied Health Literature (CINAHL). These databases were selected for their relevance in medical, nursing, and psychological content. Initial search terms included the following medical subject heading (MeSH) terms in alignment with Boolean connectors: *shared decision making* (and) *women* (or) *decision aid(s)* (AND) *women* (or) *vasomotor symptoms* (and) *shared decision making*. Limitations placed on these terms included primary research articles, publication timeframe, and publication language. Initial abstract yields were analyzed utilizing the PRISMA Flowchart inclusion and exclusion criteria in order to determine relevance to PICO question.

Inclusion and Exclusion Criteria

Inclusion criteria included peer-reviewed articles, and clinical trials published in English between 2011 and 2016. Additionally, articles that reported the outcomes of the use of shared decision making or a decision aid with a complex health decision, and had females as the primary participants were selected. Studies were excluded if they did not meet inclusion criteria or were not sufficiently relevant.

Initial and Final Yields

The Cochrane Database of Systematic Reviews yielded 13 results from 9,236 records utilizing the MeSH term SDM. Next, the initial PMC search generated 86 results from 1941 articles on SDM utilizing the following MeSH terms: *menopausal symptoms, menopause, hormone replacement, menopause symptoms, SDM, decision making, DA, informed decisions, satisfaction, or preference*. Lastly, the CINAHL database yielded 28 results with MeSH terms: DA, SDM, informed decision, hormone replacement, or hormone. Collectively, the three databases generated 127 journal articles related to SDM. These articles were further scrutinized for relevance to the selected PICOT question, and a final yield of 37 journal articles were examined using rapid critical appraisal (Melnik, 2015). Of these, 11 articles were selected for inclusion in this review.

Critical Appraisal and Synthesis of Evidence

The eleven studies consulted in this review of SDM for menopausal symptom management, included eight randomized controlled trials, two qualitative reviews, and one retrospective survey. The studies primarily demonstrated high to moderately high quality and strength, including three systematic reviews (level I evidence), four randomized RCTs (level II evidence), and two non-randomized RCTs (level III evidence) based on Melnyk and Fineout-Overholt (2011) revised Hierarchy of Evidence Rating System. Additionally, the majority of

studies reported the level of significance (p value) and confidence intervals, and data analysis for all studies had appropriately selected tests to evaluate study design and methodology. Studies incorporated the use of Fischer's exact test, t-test for comparing continuous variables, the χ^2 test for categorical values, the Linear mixed effects model, and the Logistic Regression Model enhancing the validity and reliability.

A moderate amount of homogeneity was demonstrated among the sample. Of studies incorporating race, the majority of participants identified as Caucasian (48-74%), and the average age of participants ranged from 51 to 63.1 years, with all but one study primarily including female participants (54.5%-100%) [Leighl et al., 2011]. A DA was the primary intervention utilized within all studies, and varied based on the intended intervention and patient population. Although only two studies were directly focused on the use of SDM and MSM, all studies involved using SDM or decision aids for making a complex health decision, thereby making it relevant to the PICOT question. Therefore, evidence suggests that use of SDM to guide discussions about management options for complex menopausal symptoms is an effective strategy.

Purpose Statement

Navigating the complex variety of menopausal treatment options to incorporate the patient's individual attitude and values, with external factors such as risks versus benefits, can be challenging for practitioners. Achieving this delicate balance of patient preference with available, evidence based treatment modalities can be achieved through a SDM process (Carpenter, Byrne, & Studts, 2011). This project aims to determine if, when a standardized DA is introduced in a private practice setting, patient decisional conflict will decrease, and patient satisfaction with decision and clinician satisfaction will increase.

Evidence-Based Practice Model and Conceptual Framework

In order to implement the use of a DA at the project site, the Rosswurm and Larrabee's Model for EBP change was utilized to design and plan the introduction of the proposed practice change in a logical sequence. Rosswurm and Larrabee's Model consists of six steps: assess, link, synthesize, design, implement and evaluate, and integrate and maintain (Rosswurm & Larrabee, 1999). After assessing clinic menopausal symptom discussions with patients, it was determined that the care was not standardized. Initial internal data collection identified 423 females that were seen in the previous year for menopausal symptoms. The project manager presented evidence to the clinicians that approaching menopausal management with a proven intervention could result in increased patient and provider satisfaction with the care encounter. In collaboration with the NP and staff, a plan was designed on how the use of the algorithm and shared decision-making approach would be implemented and evaluated. By including the NPs and staff in the planning and execution of the plan, the foundation was set for the behavior to become a routine practice and maintained, assuming that the SDM was found to be a good fit for this practice. The *Menopro* algorithm is a validated tool endorsed by NAMS (2015) designed to assist clinicians and patients to determine appropriate menopausal treatment options.

Incorporating patient preferences into patient centered care actions through utilization of a DA is in alignment with the Collaborative Deliberation Theoretical Model (Elwyn et al., 2014). This model is grounded in integrating an empathetic and respectful approach to interactive communication and deliberation, and is composed of five constructs: constructive engagement, recognition of alternative actions, comparative learning, preference construction and elicitation, and preference integration (Elwyn et al., 2014). Constructive engagement included the use of an approach that actively involved the patient and practitioner exploring solutions to a health problem that was of concern to the patient. Recognition of alternative actions occurred when patients were

able to recognize relevant alternative actions, which may or may not be beneficial to perimenopausal symptom management. Comparative learning occurred when the clinician was able to utilize the decision aid to facilitate and transmit available treatment options, and in turn the patient utilizes this information to be able to make a decision on treatment options. Preference construction and elicitation incorporates the patient's preferences, values, and motivation. Preference integration occurred when the patient's expressed preferences were included in the clinician's management plan. Collaborative deliberation, participants can effectively utilize a DA to review relevant risks and benefits of potential treatment options.

Methods

Study Design

Two clinicians in a small, private practice in the Southwest were recruited to participate in a project to introduce the use of a menopausal algorithm (decision aid) to enhance perimenopausal symptom management over a 2-month timeframe. Arizona State University Institutional Review Board assigned an expedited approval for the protocol. Current practice did not include shared decision-making or decision aids. The single-page menopausal algorithm was based on the NAMS *Menopro* app and Australian Menopause Society menopause algorithms. Permission to utilize both applications were obtained prior to study initiation. Practitioners received a 30-minute training on use of the menopausal algorithm in practice to guide the SDM patient communication to discuss evidence-based approaches to manage VMS and the risks and benefits of each option.

Eligible patients were invited to participate when they presented to the clinic if they were English-speaking, female patients aged 40 to 64 years who presented with perimenopausal symptoms, as reflected by their responses to a Menopausal Rating Scale (MRS) received at

appointment check-in, which is current protocol at practice site. The MRS is reviewed by the practitioner prior to entering the room. If the MRS indicated that the patient was experiencing menopausal symptoms or concerns, the NP provided the patient with a project information and invitation letter and obtained informed consent. Additionally, patients received an ACOG patient education hormone therapy fact sheet for review prior to appointment. A single page post-intervention survey was administered to patients following the visit which included a section for patients to indicate their present health concern, treatment decision (hormone therapy, lifestyle choice, or alternative), and six quantitative questions based on both the Decisional Conflict Scale (DCS) and SDM-Q-9 surveys. Three questions from the Decisional Conflict Scale (DCS) were used to measure patient decisional conflict following the SDM intervention.: this validated, 16-item questionnaire is a 5-point Likert scale scored from 1 (extremely dissatisfied) to 5 (extremely satisfied), with initial psychometric testing of DCS found an internal consistency ($\alpha = 0.78$ to 0.92), and reliability coefficient 0.81 , (O'Connor, 1995). Subsequent studies found internal consistency ($\alpha = 0.63$ to 0.97) [Katapodi, Munro, Pierce, & Williams, 2011]. Three questions from the SDM-Q-9 survey were utilized to measure patient's satisfaction with menopausal decisions made with a SDM intervention: this validated, 9-item questionnaire is a 6-point Likert scale scored from 1 (completely disagree) to 6 (completely agree), with lower values representing more conflict. Initial psychometric testing of SDM-Q-9 found a high reliability, internal consistency ($\alpha > 0.9$) [Kriston et al., 2010].

After each patient visit, the practitioners answered three questions from the Shared Decision Making Questionnaire Physician Version (SDM-Q-Doc). The SDM-Q-Doc assessed the clinician's perspective and satisfaction with the SDM process in menopausal management (Scholl, Kriston, Dirmaier, Buchholz, & Harter, 2012). This validated, 9-item questionnaire is a 6-point

Likert scale scored from one (1) (completely disagree) to six (6) (completely agree), and is available free online. Initial psychometric SDM-Q-Doc testing found an interval consistency ($\alpha = 0.88$), and received a high level of acceptance from participating physicians during instrument assessment. Inter-item correlation scores ranged from 0.131 to 0.744 ($M = 0.443$), demonstrating a moderate reliability for clinician SDM assessment (Scholl et al., 2012). Women's Health NPs with experience in caring for perimenopausal women were utilized to validate all modified instruments used in the project for validity and reliability.

A telephone call was made to patients to complete an interview to evaluate if: (1) the patient was able to follow the prescribed plan of care, (2) patient was satisfied with her choices, and (3) there were any additional questions or concerns. The interview questions were designed by the practice owner, and reviewed by project manager and expert reviewers for validity.

Intervention

If patients agreed to participate in the project, the clinician utilized the SDM menopausal algorithm to discuss patient concerns, available evidenced based approaches to managing their symptoms, the risks and benefits for each options, and to guide the discussion to determine an agreeable plan of care for both patient and practitioner. At the visit's conclusion, patients were invited to complete the modified DCS and SDM-Q-9. The NP completed the modified SDM-Q-Doc at the conclusion of the visits. One to two weeks after the patient's appointment, study personnel called the patient for the follow-up survey

Data Analysis

A Spearman *rho* correlation coefficient was calculated to examine the relationship between a participant's age and SDM questionnaires, and the relationship between the practitioner's clinical

management decision and the SDM-Q-Doc. All statistical analysis were performed utilizing SPSS 23.

Results

Patient Shared Decision Making Process

Eight female patients completed surveys (72% participation rate). The mean age of the patients was 47.9 years (range 40-53). Patients presented with a mean average of 3 (range 2-6) perimenopausal symptoms, as noted on the MRS (Table 1). Seventy-five percent (6) of patients noted low-libido, 62.5% (5) hot flashes, and 37.5% (3) night sweats. The remainder of symptoms included (1) insomnia, (3) fatigue (mental or physical), (1) joint pain, (1) joint discomfort, (1) heart discomfort, (1) sleep problems, and (1) irritability. Additionally, on the post-intervention survey, all patients noted they had menopausal or hormonal symptoms concerns, and 87.5% of patients (in conjunction with their practitioner), selected hormone therapy as treatment of choice, the other participant did not note a treatment selection.

Table 1. Clinical concerns on Menopause Rating Scale

Clinical Concerns	n (%)
Low libido	6 (75)
Hot flashes	5 (62.5)
Night sweats	3 (37.5)
Fatigue (mental &/or physical)	3 (37.5)
Insomnia	1 (12.5)
Joint discomfort	1 (12.5)
Joint pain	1 (12.5)
Heart discomfort	1 (12.5)
Sleep problems	1 (12.5)
Irritability	1 (12.5)

The majority of patients (87.5%) *completely agreed* the practitioner precisely explained the advantages & disadvantages of treatment options, helped them understand all the information, and reached an agreement on how to proceed with care. Seventy-five percent were *extremely satisfied* with their decision and making an informed choice. Clinicians *completely*

agreed they had come to an agreement on how to proceed, and 87.5% *completely agreed* they helped the patient understand all the information. A positive correlation was found ($\rho(8) = .026$, $p < .001$), indicating a significant relationship between age and participant's "I am satisfied with my decision" and "I feel I have made an informed choice". The remainder of the survey results were not normally distributed or significant (Table 2).

Three (37.5%) of participants were able to be contacted for the post-intervention telephone interview. Results revealed all patients were satisfied with their treatment choices (all selected hormone therapy), and have been able to follow the mutually agreed upon plan of care. One patient noted she "had an idea going in on what she wanted, but she did go over pros and cons for each choice, and it was informative. Although I went with my initial choice, it was nice to hear all the options". Another participant stated "(she) did not know anything about all the hormonal options so (she) was very happy to learn about available treatment options so (she) doesn't have to worry about mush on the brain (mental fatigue)." The third participant noted "(she) was very happy with the overall experience, and was doing (her own) research as well, and feels very secure with (her) comfort level and decision to utilize hormone therapy and will be transferring all (her) future care over to the NPs practice". No patients had any additional questions or concerns regarding their care.

Table 2. Patient surveys

SDM-Q-9	Mean (SD)	Completely agree <i>f</i> (%)	Strongly agree <i>f</i> (%)
My practitioner precisely explained the advantages and disadvantages of the treatment options	5.88 (.354)	7 (87.5)	1 (12.5)
My practitioner helped me understand all the information	5.88 (.354)	7 (87.5)	1 (12.5)
My practitioner and I reached an agreement on how to proceed	5.88 (.354)	7 (87.5)	1 (12.5)

DCS	Mean (SD)	Extremely satisfied <i>f</i> (%)	Very satisfied <i>f</i> (%)	Satisfied <i>f</i> (%)
I feel I have made an informed choice	4.63 (.744)	6 (54.5)	1 (12.5)	1 (12.5)
I am satisfied with my decision	4.63 (.744)	6 (54.5)	1 (12.5)	1 (12.5)
Overall medical care at your doctor's office	5.00 (.000)	8 (100)		

Practitioners Shared Decision Making Process

Two practitioners completed the SDM-Q-Doc patient surveys after patient encounters. Both clinicians utilized the perimenopausal algorithm, although one used it more than the other due to appointment availability, and one SDM-Q-Doc survey was not conducted post-clinical visit. Both responded to the questions in ways that indicated that they found that the tool enabled them to engage the patient in the collaborative discussion and treatment decision. They believed the discussion helped the patient to understand all the information provided, and they agreed that they covered all the benefits and disadvantages of the options. There was a difference between provider and patient preferences, but the patient preference was the one selected for the management plan.

Discussion

The majority of patient respondents strongly favored using SDM in order to better understand perimenopausal symptom treatment options, and make an informed and satisfying choice. Overall, patients were satisfied with the care received during the SDM visit to address their varying perimenopausal symptoms. In fact, on one of the practitioner's hand-written surveys, it was noted that the patient found the information very helpful. The potential benefits of using SDM in practice from a patient perspective demonstrated that a patient's age correlated with a practitioner's ability to help them understand perimenopausal treatment options provided and reach agreement on how to proceed with care in congruence with patient choices. So, for instance, the older the patient, the more likely the patient would report the algorithm helped them to understand

the options and reach an agreement on the treatment plan. Furthermore, SDM enhanced patient satisfaction with their decision and making an informed choice.

From a practitioner perspective, the project demonstrated that practitioners at least *strongly agreed* they were able to explain the advantages and disadvantages of menopausal treatment options, helping the patient to understand all of the information provided, and in turn, come to a joint agreement with treatment plans in all SDM visits. Although the patient results were favorable, feedback received from one of the practitioners was not as favorable, related to the amount of information the patients were given to review, and the limited treatment selection choices based on the NAMS algorithm and patient education handouts.

It may be beneficial to have a shorter patient education handout for patients to review prior to clinic appointment. The ACOG hormone therapy patient education fact sheet was selected for use based on its thorough descriptions of the various treatment options including risks, benefits, and side effects (ACOG, 2015). However, due to 5-page length, the practitioner expressed concerns over patients not having time to read the information, or lack of willingness of patients to read educational materials. Furthermore, by some patients receiving information directly prior to appointment, it caused a slight delay in appointment start time. Some recommendations for future educational materials would be to provide patients education materials to read in a timely manner by distributing via electronically through practice patient portal or make educational pamphlets tailored to patients' specific inquiries or symptom concerns if applicable.

Project Limitations

Although this project included a small number of patients and only two practitioners, it demonstrated that SDM in practice may be beneficial for the patient when reviewing pros and cons of viable treatment options when making a complex health care decision. Furthermore, there was

no pre-intervention data collected, thereby, an analysis could not be conducted to determine if utilizing the SDM algorithm was more beneficial than not utilizing one, as was previous practice. Additionally, some of the practitioner treatment selections were not listed on the algorithm, resulting in the practitioner needing to verbalize preferred treatment options, data that may or may not be incorporated into the data analysis. These treatment selections were not included on the NAMS algorithm; therefore it was not included in the SDM tool for project purposes, and resulted in some dissatisfaction with the tool on the part of the practitioner. However, for future practice, the algorithm could be tailored based on specific practitioner requirements.

Conclusion

This project aimed to enhance clinician and patient satisfaction with health care encounters for discussions about perimenopausal symptom management. By providing clinicians with a SDM guide to facilitate discussion of risks, benefits, and treatment options for VMS symptoms, this collaborative care approach enhanced the clinician and patients' healthcare experience through an interactional process of patient empowerment. This project correlated with current research demonstrating SDM is valuable in practice to enhance patient satisfaction, understanding, and knowledge while reducing decisional conflict when choosing a perimenopausal treatment plan. All patient and clinician responses were positive in nature, and identified that SDM is valuable in practice.

Recommendations for future projects or related research should include providing patient education handouts tailored to patients primary symptom concerns, given in an advanced timeframe as to not interrupt or delay patient care timeliness. Furthermore, lengthening project timeframe could incorporate more females with VMS symptoms, further solidifying project

effectiveness. Additionally, the algorithm could be tailored incorporate clinician preferences to enhance communication by incorporating all alternative treatment modalities.

Implications for future practice are exponential in nature for supporting patient centered care and the Centers for Medicare and Medicaid qualitative initiatives. Undertaking this simplistic system change can be easily sustainable in practice, and can be beneficial to inexperienced or seasoned clinicians alike. Most importantly, assisting women with perimenopausal concerns through a proven evidenced based intervention such as SDM will undoubtedly enhance their satisfaction and quality of life, thereby reducing decisional conflict and improving symptom concerns.

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