

The Use of Poke Root in the Treatment of Lactational Mastitis: Practice Patterns among Midwives in British Columbia

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ABSTRACT

Introduction: The prevalence of mastitis has been reported as high as 33%. Effective milk removal, pain medication, and antibiotics are the mainstays of treatment. Midwives support the use of complementary and alternative medicines, but few studies have examined their use. This paper explores practice patterns of midwives in British Columbia with respect to the use of poke root, *Phytolacca decandra*, in the treatment of mastitis.

Methodology: A questionnaire was distributed to all registered midwives in British Columbia asking about their familiarity with poke root, whether they recommend it for treatment of mastitis, how they recommend that it be used, and whether they perceive it as effective in treating mastitis.

Results: A total of 106 questionnaires were returned. Fifty midwives [47.2%] reported using poke root. Over sixty-nine percent of respondents used it as a tincture, 22.4% used it as a homeopathic, and 8.2% used it topically. The dose, route, timing, and duration of use varied; however, there were few perceived side effects, and the satisfaction among midwives was high.

Conclusion: The questionnaire responses demonstrate that a large number of midwives in British Columbia perceive poke root to

be effective in treating lactational mastitis. Reported rates of satisfaction with the therapy among midwives were high. The tremendous variability in administration and the lack of known side effects highlight the need for a future study that will examine the effectiveness of poke root to facilitate informed choice discussion.

KEYWORDS

breast or chest feeding, lactational mastitis, midwives, poke root, *Phytolacca decandra*, complementary and alternative medicines

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INTRODUCTION

Breast or chest feeding is universally acknowledged as the first step in the promotion of the health and well-being of children and their families. The World Health Organization (WHO) recommends breastfeeding for at least two years.¹ Registered midwives in British Columbia (BC) provide comprehensive care throughout the postpartum period, including a regular schedule of postpartum visits and 24-hour on-call availability. Occasionally, BC midwives provide care for up to three months post partum, but usually the midwife will transfer care to a family physician at six weeks post partum.² Approximately 30% of nursing clients experience at least one feeding problem by two weeks post partum.³ As such, midwives are well positioned to offer timely education, counsel, and treatment when infant feeding issues arise. Such support is paramount, given that clients may cease nursing in the early weeks post partum when they encounter problems.⁴

Lactational mastitis is an infection in the breast tissue characterized by pain, redness, fever, myalgia, and malaise.⁵ The prevalence of mastitis in nursing clients has been reported to be as high as 33%.⁴ Effective milk removal, pain medication, and antibiotic therapy are the mainstays of current treatment. The College of Midwives of British Columbia lists antibiotics for the treatment of symptoms consistent with mastitis that persist for more than 24 hours (or sooner, in the context of worsening pain).⁶ However, a recent Cochrane Review indicated that there is little agreement regarding which clients should be prescribed an antibiotic, the type of antibiotic that

should be used, the best time to begin treatment, and the appropriate duration of treatment.⁷ Additional concerns—such as the systemic overuse of antibiotics, leading to an increase in antibiotic resistance and to unfavourable side effects—prevail.⁶ Similarly, alternative medicines are being used without a knowledge of their effectiveness and with great variability in dosing and in the duration of treatment. Further study is needed to determine appropriate treatments for this common postpartum condition.⁷

The use of alternative or complementary medicines receives considerable support from midwives.⁸ Despite this, evidence regarding the use of alternative therapies in the treatment of lactational mastitis is limited. Our questionnaire (Figure 1) explored BC midwives' perception of the effectiveness of poke root (*Phytolacca decandra*) in the treatment of lactational mastitis. While there are anecdotal reports of the effectiveness of poke root in clearing mastitis, no published studies of its application or effectiveness exist. The acquisition of evidence will facilitate future discussion of informed choice in regard to the use of poke root and may ultimately lead to greater satisfaction, improved experiences, and better outcomes for midwives and their clients.

OBJECTIVES

Our questionnaire (Figure 1) had three main objectives: [1] to document the use of poke root as a treatment for mastitis by registered midwives in BC, [2] to gather data on midwives' perceptions of the effectiveness of poke root in treating mastitis, and

Figure 1. The Use of Poke Root as an Alternative Remedy in the Treatment of Mastitis

POKE ROOT SURVEY

1. Do you/have you ever used poke root? Y/N If yes, please go to Question 3.
2. Why do you not use it? (Please select as many answers as applicable.)
 - Never heard of it
 - Unsure how to use it
 - Not enough evidence behind its use
 - I am concerned about the safety of its use
 - It believe it to be ineffective in the treatment of mastitis
 - My clients do not request it
 - I am unable to obtain it in my community
 - Other.....
3. How do you use poke root?
 - Tincture
 - Homeopathy
 - Topical
4. What dose/quantity/frequency of ingestion/application of poke root do you usually recommend?
.....
5. When do you usually recommend poke root?
 - Upon immediate presentation of initial signs and symptoms associated with mastitis
 - Once a maternal fever is present
 - After.....hours of frequent nursing
 - Other.....
6. Do you usually recommend poke root as a first step to treating mastitis? If no, please elaborate on when you choose to suggest poke root
Y/N.....
7. How long does it generally take poke root to result in improvement of symptoms?
.....
8. How long does it generally take poke root to lead to resolution of symptoms?
.....
9. Do you recommend the client start an antibiotic if poke root is not effective?
.....
9 a) If so, how long do you usually give poke root to work before making this suggestion?
.....
10. Have any clients ever reported any side effects associated with poke root use? If so, please specify.
Y/N
11. Overall, how satisfied are you with poke root as a remedy for the treatment of mastitis in this case?
[Scale from 1 [not satisfied] to 10 [completely satisfied.]]

[3] to ascertain care providers' satisfaction with poke root as a treatment for mastitis.

METHODOLOGY

Research funding was obtained to support the development of a pilot questionnaire to ascertain BC midwives' experiences with the use of poke root in the treatment of lactational mastitis (Figure 1). The questionnaire was distributed to all practicing registered midwives in BC via a province-wide, midwives-only e-mail listserv; the e-mails contained a link to the questionnaire, which was housed on REDCap, a secure data capture platform. The questionnaire asked whether the midwives are familiar with the herb and whether they recommend it to their clients as a treatment for mastitis. Midwives who use poke root were invited to participate in a preliminary evaluation of perceptions of outcomes that are associated with its use. The questionnaire was designed to gather general, subjective, retrospective, and aggregate data only.

ANALYSIS

Data was analyzed descriptively with SPSS software. The analyses addressed the following questions:

- Are BC midwives using poke root to treat lactational mastitis?
- How is poke root being used (i.e., method, dosage, timing, duration, and route of administration)?
- What are midwives' perceptions of the outcomes that are associated with poke root use?

RESULTS

Use of Poke Root

A total of 106 questionnaires (a 32% response rate) were completed and returned. Fifty [47.2%] midwives reported using poke root in their practice. Of the midwives who reported not using it, 30 [53.6%] had never heard of it, 41 [73.2%] were unsure of how to use it, 8 [14.3%] felt there not to be enough evidence for its use, 6 [10.7%] were concerned about its safety, 3 [5.4%] believed it to be ineffective in

the treatment of mastitis, 19 [33.9%] stated that their clients did not request it, 2 midwives [3.6%] were unable to obtain it in their communities, and 1 midwife [1.8%] reported "other" reasons for not using it.

Forty-nine midwives responded to the question that asked how they used poke root. Of these, 34 [69.4%] used it as a tincture, 11 [22.4%] used it as a homeopathic, and 4 [8.2%] used it topically.

The dose of poke root varied with the application method and between midwives (Table 1).

Thirty-seven [74%] midwives reported recommending poke root upon the presentation of initial signs and symptoms associated with mastitis, 5 [10%] midwives recommended it upon the presentation of a maternal fever, 1 midwife [2%] recommended it after 3 hours of frequent nursing, and 7 midwives [14%] had "other" ways of deciding when to start it. Two midwives reported recommending it after the "24-hour cure."* Another two midwives reported using poke root if mastitis is recurrent or unresolved after 24 hours, or with the first signs of blocked ducts, when correcting latch and warm compresses are not working.

Thirty-one respondents [62%] reported recommending poke root as a first step to treating mastitis. The 19 [38%] who did not recommend it reported varied scenarios under which they would initiate its use (Table 2).

Use of Antibiotics

Forty-eight midwives [96%] reported recommending the initiation of an antibiotic if poke root is not effective whereas 2 midwives [4%] did not.

Before suggesting that a client start antibiotics, 19 midwives [38%] reported waiting 24 hours, 15 midwives [30%] reported waiting 24–48 hours, whereas the time elapsed before recommending an antibiotic ranged from as little as 6 hours to 3 days for other midwives. Many midwives reported the decision to start antibiotics really depended on the full clinical picture and whether the symptoms of mastitis were worsening.

* The 24-hour cure involves having the client go to bed with the baby so that the client can rest while continuing to nurse frequently; heat to soften the breast and encourage milk flow, and breast massage to drain the breast are often used.

Table 1. Methods of Poke Root Administration Used by Study Participants

Method of Administration	Dose and Frequency	No. of RMs
Tincture [Dose and frequency reported by 24 RMs]	3–6 drops QID until resolution of symptoms	1
	5 drops q12h for 36 hours	1
	2–4 drops BID × 24h, then once a day until resolution of symptoms	1
	2–4 drops BID–TID	4
	4 drops q2h ×4, then 4 drops q6h ×6	6
	1–2 drops once a day to BID	3
	4 drops BID for 3 days maximum	1
	4 drops TID–QID for 2–3 days	1
	2–5 drops maximum BID for 10 days	1
	3–4 drops BI	1
	3–6 drops BID–TID	1
	2–4 drops in 24 hours	1
	10 drops TID	1
	4 drops BID ×3 days	1
Homeopathic [Dose and frequency reported by 10 RMs]	5×30 CH q15 minutes until symptoms start to lessen, then TID	1
	3 tablets TID ×3 days	2
	3 tablets 200C daily	1
	1 tablet 200C TID until relief	1
	30 CH, 3 tablets TID	1
	30 CH QID until improvement	1
	3 tablets BID for <5 days	1
	2 tablets 6× per day until resolved	1
1 tablet q1h for 2 hours, then q4h for 24 hours	1	
Topical	Topical ×20 minutes, wash off, repeat after 6 hours	1
	Put on breast pad	1
	Mixed with warm water and castor oil and applied ×30 minutes TID	1
	Make into poultice and apply	1

BID: 2 times a day;
 CH: dilutions are centesimal [C] dilutions, using Hahnemann's [H] dilution method
 q: every
 QID: 4 times a day;
 RMs: registered midwives
 TID: 3 times a day

Table 2. Participant Midwives' Recommendations for the Use of Poke Root as the First Step in Treating Mastitis

- Recommend after trying resting, pumping, ibuprofen, or massage
- Recommend if heat and positional breastfeeding have not helped, and situation is worsening.
- Use depending on severity/intensity of symptoms (e.g., recommend with mild symptoms)
- Recommend when client is exploring alternative solutions for mastitis than antibiotic treatment or has a history of getting mastitis when nursing
- Recommend only when a client is resists taking antibiotics
- Recommend with recurrent or unresolving mastitis
- Recommend when initial treatment steps, frequent feeding, breast compressions result in no improvement after 12–24 hours or at the onset of a fever
- Discuss option of poke root if client is afebrile with persistent symptoms or if considering antibiotics.
- Suggest if symptoms seem to come on very suddenly or if the client has tried acetaminophen [Tylenol] and ibuprofen [Advil], heat and cold, expression, etc., and is progressing to feeling very unwell.
- Recommend only after frequent feeding, heat, and massage.
- Recommend upon presentation of signs of blocked ducts; I recommend antibiotics if there is progression to mastitis.
- Recommend if immediate bed rest for 12 hours does not help or symptoms are rapidly worsening; otherwise, 24 hours strict bed rest, and reassess situation. If no improvement, start poke root.
- Recommend for clients who prefer herbal or homeopathic remedies.
- Recommend depending on time of day and availability to client; often suggested it as part of the first line of defense against escalating symptoms.
- Offer as an alternative to antibiotics if client is interested.
- Usually, I discuss castor oil compresses first if clients resist antibiotic use; then I discuss poke root and homeopathics.
- I recommend nursing frequently, warm compress and massage, strategic positioning during nursing, and occasional raw potato compress.
- Recommend when mastitis is preceded by a plugged duct and is either recurrent or slow to resolve and, sometimes, when the client is reluctant to use antibiotics or when there is an oversupply of milk combined with frequent plugged ducts leading to mastitis.

Perceived Outcomes Associated with Poke Root Use

Midwives' Perceptions of Effectiveness

When asked how long it takes for the use of poke root to result in an improvement of symptoms, 24 midwives [48%] reported an improvement within 24 hours; 13 [26%], within 12 hours; 5 [10%], within 24–48 hours; and 2 [4%], within 48–72 hours.

When asked how long it takes for the use of poke root to result in the resolution of symptoms, 16

midwives [32%] reported symptom resolution within 24–48 hours; 14 [28%], within 24 hours; 7 [14%], in 48–72 hours; 1 [2%], within 6 days; and 1 [2%], within 7 days. Three midwives [6%] considered symptoms to usually resolve in the first 12 hours.

Side Effects

Only two respondents [4%] reported that any side effects associated with poke root use occurred among their clients. One of these midwives reported

sweating and flu-like symptoms in clients who used more than the recommended dose. The other did not specify which side effects were seen. Forty-eight midwives [96%] reported no known side effects among their clients.

Provider Satisfaction

Reported outcomes of poke root use were very positive. Mean satisfaction was rated as 82.6% among the midwives who recommended it to their clients.

Midwives recommended using poke root in three ways: as a tincture, as a homeopathic remedy, or as a topical application.

DISCUSSION

This is the first study to explore the perceived effectiveness of the use of poke root in the treatment of lactational mastitis and satisfaction with the treatment among registered BC midwives who use it. Of the 330 registered midwives in BC, 106 completed the questionnaire; almost half reported having recommended poke root to their clients as a method for treating lactational mastitis. The midwives who did not use it reported a lack of awareness and knowledge of how to use poke root as the reason for not using it. This latter finding is not surprising given the lack of published literature on the use of poke root as a treatment of lactational mastitis. Furthermore, the use of herbal remedies for the treatment of common conditions encountered in pregnancy and post partum is not currently part of the bachelors of midwifery curriculum offered in BC. Midwives recommended using poke root in three ways: as a tincture, as a homeopathic remedy, or as a topical application. The treatment protocols for each of these methods of administration were highly variable. Again, this is not surprising given the lack of published literature and the absence of guidelines

on the use of poke root. However, it appears that a protocol may have been developed, as there is some consistency in the use of poke root as a tincture. Six midwives reported using it in the same way, both in terms of dosage, frequency, and duration of treatment. As the current questionnaire allowed for the collection of only retrospective, non-identifiable, aggregate data, we are unable to determine if these six midwives are from the same community or practice. Again, as with many aspects of midwifery care, knowledge about herbal remedies for the treatment of mastitis and many other conditions is most often gained informally, rather than through an education program. The results of this questionnaire cannot be used to gauge the effectiveness of poke root, given the inconsistency and huge variability in its use. They do, however, identify a need for research about the safety and appropriate use of poke root because of the large number of BC midwives who currently use it without protocols.

In terms of the timing of poke root administration, the majority of midwives [74%; n = 37] reported having recommended poke root upon presentation of the initial signs and symptoms associated with mastitis, while only 10% reported having recommended it once a fever was present. The response to this question of timing raises a number of uncertainties. First, the specific timing of the presentation of initial signs and symptoms of mastitis is difficult to determine. There is a fine line between the diagnosis of a blocked duct and that of mild mastitis. Indeed, it is generally agreed that a continuum exists—from a blocked duct (or engorgement) to mastitis to abscess.⁹ Second, clients probably contact their care providers at different points along this continuum, and the diagnosis of mastitis is not always made in person and may be made with a history taken over the phone.

A later question asked whether the midwives recommended using poke root as a first step in treating mastitis; 31 midwives [62%] responded affirmatively. The word “treatment” in this question may have been open to interpretation. It is possible that some midwives may consider the 24-hour cure a management strategy before the start of nonpharmacological (i.e., poke root) or pharmacological (i.e., antibiotic) treatment. Conversely, others may consider the 24-hour cure as

a treatment. It is unclear whether poke root is best incorporated into the 24-hour cure or used in place of antibiotics. The WHO, the College of Midwives of British Columbia, and the Academy of Breastfeeding Medicine in the United States recommend first-line treatments for 24 hours [i.e.: the 24 hour cure] before antibiotics are started.^{6,10,11} If the symptoms are becoming worse in the first 24 hours or if the client is acutely ill, start antibiotics sooner. First-line treatment includes increasing the frequency of feeds, improving the latch, and positioning the infant with his or her chin pointed toward the blockage. Heat (provided by a shower, a warm cloth, or a heat pack) is often applied before the feed to improve relaxation and milk flow.⁴

Regardless of whether mastitis is resolving with or without antibiotic treatment, symptoms should progressively improve and should disappear over 2 to 5 days. Fever will usually be gone within 24 hours; the pain, within 24 to 48 hours; and the breast hardness, within the following few days. The redness may remain for a week or longer.⁶ Given the varying time within which the various symptoms improve, the perceived effectiveness of any treatment for mastitis is hard to quantify. Most studies of treatments for mastitis have included a clinical assessment of improvement or resolution of symptoms but not a client assessment of comfort. Because the symptoms associated with mastitis resolve at different rates, it is hard to determine what constitutes “improvement.” Just as there is a continuum between a blocked duct and mastitis, there appears to be a progression or continuum associated with healing. A prospective case-by-case study is needed. The needed study would include an examination of the timing of antibiotic treatment versus nonmedical therapies and the tracking of associated clinical outcomes, the results of which would be compared with the results of an expectant management approach [i.e., control group].

Our questionnaire has a number of limitations. Because this study is an initial foray into this previously understudied area, we collected retrospective, aggregate data. The collecting of retrospective data has many disadvantages, such as recall bias and confounding variables that cannot be controlled for.¹² Although not as desirable as case-by-case prospective data collection, the questionnaire

was a feasible way of finding if registered midwives are in fact aware of and using poke root. To date, only anecdotal evidence of such use exists.

The response rate to the survey was 32%. Just 106 midwives submitted completed questionnaires. Although this sample size is small, 50 respondents reported having recommending poke root, representing 15% of registered midwives in BC. This likely reflects an underreporting of poke root use among registered midwives, as it is likely that many did not complete the voluntary questionnaire. In addition, although an attempt was made to keep the questionnaire short to improve the response rate, binary answer options may have led to an oversimplification of respondents’ experiences with poke root.

While exploratory in nature, this questionnaire was the first about the use of poke root by BC midwives. The high satisfaction rates and the lack of perceived side effects of poke root use in this context highlight the need for future study. It is hoped that these pilot results can be used to design a prospective cohort study to gather data on the use of all treatments (including alternative therapies) of lactational mastitis by registered midwives in Canada. Future research will determine whether a specific protocol for poke root use is associated with beneficial outcomes. Future studies should also be aimed at determining the factors that drive the choice of a complementary therapy over a more standard medical treatment. This evidence will set the stage for a future randomized controlled trial exploring lactational mastitis treatments, the results of which will facilitate future discussion of informed choice and may ultimately lead to greater satisfaction, improved experiences, and better outcomes for midwives and their nursing clients.

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