



A LOGIC MODEL INSPIRED REVIEW AND ANALYSIS OF ALTERNATIVE OR COMPLEMENTARY APPROACHES TO PREVENT GROUP B STREPTOCOCCAL (GBS) COLONIZATION OR INFECTION IN PREGNANCY OR THE NEWBORN PERIOD

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“The National Center for Complementary and Alternative Medicine (NCCAM) defines CAM as a group of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine. Complementary medicine is used together with conventional medicine, whereas alternative medicine is used in place of conventional medicine.”

What is the Attraction of Alternative Medicine?
NR Terry, Medscape Family Medicine Sept 2009



CAM Reviews: Understand Your Health- “Just the Facts” 10th edition

Background:

- “Definition: In “Western culture ‘alternative’ is any healing practice that doesn’t fall within the realm of conventional medicine—rather than scientific (evidence) based medicine.”
- Commonly includes Chinese medicine, Unani, Ayurveda, meditation, acupuncture, and diet-based therapies, and can be included under the heading of Complementary Alternative Medicine (CAM) or Alternative or Integrative Medicine (AM or IM).
- “Prevention of maternal carriage and perinatal infection with GBS has been of intense interest and anecdotal opinion by some pregnancy care providers.”



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"People are trying different solutions because the official treatment does not work or because they are opponents of the chemical way of thinking," says a general practice doctor. "Western medicine has become a technical and chemical factory. We forget that the psyche of the patient plays a very important part."

Common: 38% Adults, 12% children



Why consider alternative treatment for GBS?

- "Conventional treatment to prevent GBS transmission at birth is intravenous antibiotics, 4 to 6 hours prior to delivery for women who have tested positive for GBS.
- While no mother wants to pass potentially harmful bacteria to her baby through the birth canal, it is important to note that a baby also receives essential healthy bacteria and other microflora when passing through the birth canal. The exchange of microflora during a vaginal birth marks the very beginnings of a baby forming his/her immune system.
- Antibiotic use during pregnancy and birth puts this natural, healthy exchange of microflora at risk. And therefore, antibiotics should only be used if all other methods of correcting bacterial imbalance have been exhausted."

http://midwifery-care.com/wordpress/wp-content/uploads/Ask-a-Midwife_-_Alternative-Treatment-for-GBS-Holistic-Squid.pdf



- GBS early-onset prevention strategies do not offer any measure of protection for babies during pregnancy.
- Parents are eager to find ways to reduce GBS colonization in hopes of protecting their unborn babies from GBS.



Methods:

- 1) We used a "Logic Model" approach to reduce risk of GBS disease, complicating pregnancy.
- 2) We reviewed "Complimentary" and "Alternative" approaches to reducing risks of GBS maternal colonization and perinatal infection.
- 3) We further analyzed possibilities for informative research approaches to prevent perinatal GBS disease.



Results

- 671 articles reviewed, 5 RCTs, 16 non-RCTs
- Ginger was found to be an effective relief for pregnancy nausea and vomiting

*Severe adverse events have been reported using *blue cohosh and **evening primrose oil (uterotonics).

*Dante G, et al. Herbal therapies in pregnancy: what works? Curr Opin Obstet Gynecol. 2014 April;26(2): 83-91.
**Gamma-linolenic acid (GLA): Native American Hemorrhoids: Cochrane Library "uterotonics" (25 April 2018)



Results

We found multiple untested suggestions:

- a) tea tree oil or olive oil tampons x 1 week
- b) wheatgrass douches x 2 week
- c) colloidal silver 1 dropper/day
- d) oral or vaginal garlic (crushed)
- e) "probiotics" (Lisa Hanson, 2014) (currently in clinical trials) and "yogurts"



A popular way purported to get a negative GBS test:

"Women who are scheduled for GBS testing should insert a clove of garlic that has been peeled but not cut into their vagina at bedtime. Remove and throw away in the a.m. Garlic cloves are a natural and potent antibiotic. The routine is done at bedtime because the taste of the garlic goes to the mouth right away and is better ignored overnight than the daytime. Doing this for 3 nights before the swab will put them in the neg. camp."

<http://www.gentlebirth.org/archives/gbsATL.html>



Concerns raised by parents of GBS-infected babies are:

- Is it prudent to try to test negative if GBS status is actually positive at birth?
- Midwives use natural protocols that may seem successful as the risk for GBS invasive disease is 1 in 200.
- Should unproven therapies be recommended?





"We followed an alternative GBS regimen of acidophilus, echinacea, garlic capsules, vitamin C, grapefruit seed extract, and garlic suppositories when pregnant with our son Wren.

He was 7 pounds, 20.5 inches and perfect after a normal labor and delivery at home. He breastfed then died 11 hours later from a Group B Strep infection in his lungs." - Josh Jones



Results

More recent suggestions include:

- a) *Stress reduction* (P Wadhwa, M Lu, 2011)
- b) *Vitamin D sufficiency (throughout pregnancy)* (Akoh CC, 2017)
- c) *Endocrine disrupting toxicants* (T Ding, Aronoff DM, 2017)



Result

- 1) A computer-assisted literature search under CAM and AM headings discovered multiple suggestions, which were untested except for chlorhexidine vaginal washes
- 2) The most enthusiastically recommended regimens included crushed garlic and multiple herbal preparations.
- 3) Potentially promising prophylactic strategies could be
 - Vitamin D sufficiency, early in pregnancy
 - Reduced exposure to reproductive toxicants
 - GBS maternal vaccination
 - Proven pro/prebiotics
 - Improvements in the microbiome



Results

- Antibiotics taken by mouth instead of through the vein and antibiotics taken before labor and delivery are NOT effective at preventing group B strep disease in babies.
- Birth canal washes with the disinfectant chlorhexidine also do NOT reduce the risk of a mother spreading group B strep bacteria to her baby or her baby developing early-onset disease.
- **"To date, receiving antibiotics through the vein during labor is the ONLY proven strategy to protect a baby from early-onset group B strep disease."**

<https://www.cdc.gov/groupbstrep/about/prevention.html>



Conclusion

- Despite enthusiasm for alternative treatment for GBS colonization and perinatal infection, no alternative approaches were found to be effective when tested or were not sufficiently tested to be proven to be effective.
- New suggested alternatives should be studied as part of full-fledged investigations.
- Public health agency information and messaging is needed to inform prospective parents as to the safety and any benefits of alternative treatments.



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