



Baby's Best Shot ... Or Not?

An adult-learning curriculum for pregnant first-time moms in Johns Creek, Ga., deciding whether to fully vaccinate their babies

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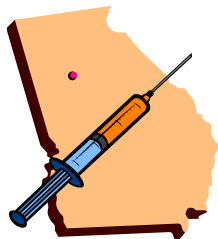
Emory University Rollins School of Public Health

April 26, 2011



Vaccines

- Prevent illness and death from 14 diseases
 - Prevented an estimated 2 million child deaths worldwide in 2003 (WHO)
- Scientific studies shown to be very safe, and much safer than the diseases they prevent
 - Diseases come back when vaccination rates drop
 - Some too sick or young to be vaccinated, so need herd immunity
 - Not shown to cause autism



The Problem

- Vaccination rates below optimal levels
 - Exemptions
 - Misinformation from non-scientific sources
 - Use of logic and temporality to make vaccination-autism link
 - Popularized from bad science of British journal article, and has grown from there
 - Only 70.4% of 2-year-olds in Fulton County fully immunized
 - 2nd-lowest county/regional percentage in state of Georgia (almost 10% below state average)
 - Not all due to poverty



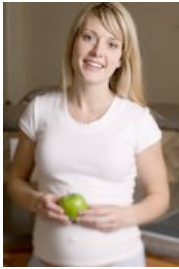
Purpose and goals

- Purpose

- To help mothers make a scientifically informed decision on whether to fully vaccinate their infants, through the use of adult learning theory and methods

- Goals

- Learners will formulate their own questions about child vaccination and decide how to seek and recognize reliable information to answer them.
- Learners will find answers to their own questions about child vaccination.
- Learners will apply the knowledge and skills gained in sessions 1 and 2 to simulated real-life vaccine situations.



Target audience

- Pregnant first-time mothers living in, working in, shopping in or otherwise spending time in Johns Creek, Fulton County, Ga.
 - White, high-income, married, college-educated mothers with big families (eventually)
 - Matches Omer et al's findings on moms who don't vaccinate being likely to have the above characteristics
 - Recruit in obgyn offices, Whole Foods
 - First-time mothers the most receptive to learning new facts
 - Seek advice from mom peers
 - Accustomed to finding own health info
 - But quality of info unclear



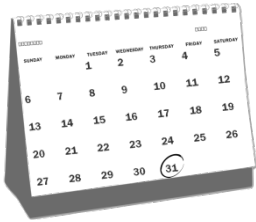
Needs assessment

- Prior vaccine interventions with other audiences and methods
 - Doctors and Problem-Based Learning
 - Parents with decision-making booklet with facts on vaccines and omission bias in mail
 - But no in-person curriculum targeting mothers with adult learning theory and methods

Adult learning theory

- Adults learn differently than children do
 - Need facilitators, not teachers
 - Prefer self-directed curricula
 - Experience → Peer learning opportunities
 - Prefer problem-centered learning
 - Motivated internally





Scope and sequence

- Three sessions over three weeks, averaging 75 minutes apiece
 - Session 1: Introduce and debate different methods of knowing and deciding
 - Authority, tenacity, logic, scientific method and its steps
 - Omission bias
 - Methods: Brief lecture, group discussion, self-reflection (essay)
 - Session 2: Find own answers to vaccination questions online
 - Applying what was learned and discussed in Session 1
 - Methods: Online search alone or in pairs, group discussion, self-reflection (essay)
 - Session 3: Role-play simulated real-life vaccine-related
 - Apply skills and knowledge from sessions 1 and 2
 - Methods: Role play, group discussion, self-reflection (essay)



Teaching techniques



- Based on adult learning theory
 - Small- and large-group discussion (all sessions)
 - Peer learning (all sessions)
 - Role play (Session 3)
 - Non-didactic presentation of new ideas within open discussion (Sessions 1 and 2)
 - Two-minute essays (all sessions)

Use of “Ways of Knowing and Deciding” handout

- To reinforce material verbally presented in Session 1
 - Four ways of knowing something, each with example and accompanying illustration



- Authority
- Tenacity
- Logic

- If drank milk right before had allergic reaction, allergic reaction must be due to the milk. But what if you didn't realize a bee had also stung you at the same time?

- Scientific method

- Omission bias and decision-making
 - Learners guided in discussion of benefits and downsides, and truth, of each
 - Connected to vaccine decision? How?



Ways of Knowing and Deciding

Four ways of knowing something or getting information:

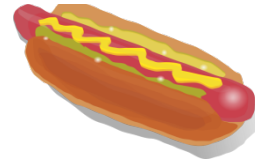
1. Authority

- Believing something because an authority figure says it's true
- Examples: Knowledge from teachers, priests or ministers, parents



2. Tenacity

- Believing something out of habit or due to tradition
- Example: "Feed a cold, starve a fever"



3. Logic

- Believing that time or other simple "if-then" associations that make sense mean that one thing caused or led to another

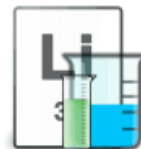
Example: If you drank milk right before you had allergic reaction, the allergic reaction must be due to the milk. But what if you didn't realize a bee had also stung you at the same time?



4. Scientific method

- Believing information after it has been tested through a series of steps

Example: FDA drug testing



Omission bias:

- Judgment that harm from not doing something is less bad than harm from doing something

Example: "I might give my teenager the idea to abuse drugs by talking to her about drug abuse the wrong way, so I just won't say anything"





Evaluation plan

- **Level 1 (Reaction):** Formative focus groups with community moms, and summative paper-pencil surveys with participants
 - What need to learn to help you decide? (formative)
 - What was the most helpful? What would do differently? (summative)
 - Qualities of facilitator? Lesson time/location/start date/frequency? (both)
- **Level 2 (Learning):** Pre- and post-curriculum participant phone surveys
 - Immediate post-test, 6-month post-test, 15-month post-test, 2-year, 3-month post-test
- **Level 3 (Behavior):** Post-curriculum phone surveys of each learners' infant vaccination-related behavior
 - Based on infant vaccination intervals
 - 3 months, 7 months, 13 months, 19 months and 25 months postpartum
- **Level 4 (Results):** Obtain existing epidemiologic info, or do cross-sectional survey, in city of Johns Creek examining
 - Percent of children under age 2 fully vaccinated pre- and post-curriculum (1 year before and after, 2 years before and after)
 - Level of vaccine-preventable disease in children under age 2 pre- and post-curriculum (1 year before and after, 2 years before and after)

Thank you!

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