Strategies to Communicate Contraceptive Effectiveness

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Overview

Background & Rationale

Knowledge of contraceptive effectiveness is crucial to making an informed choice. Decisions may be influenced by knowing the likelihood of pregnancy with each method as well as factors that influence effectiveness.

Intentional use of theory helps expand the knowledge base. Lack of guiding theory for an educational intervention is akin to having no physiologic basis for a medical intervention.

Theories and models are often used in HIV research and STI prevention, but are found less frequently in contraceptive research.

***Theories and models commonly used in health education*: Health Belief Model, Social Cognitive Theory, Theory of Reasoned Action, and Transtheoretical Model.**

Objective

Review all randomized controlled trials comparing strategies for communicating to consumers the effectiveness of contraceptives in preventing pregnancy.

Criteria for Inclusion

Studies

All randomized controlled trials comparing strategies for communicating to consumers the effectiveness of contraceptives in preventing pregnancy.

Comparison: usual practice or an alternative to the experimental intervention.

Interventions

Educational programs or materials and counseling sessions focused on individuals or groups.

Content: effectiveness of more than one type of contraception.

Contraceptive methods could be hormonal or non-hormonal.

Outcomes

Knowledge of contraceptive effectiveness, attitude about contraception or toward any particular contraceptive, and choice of contraceptive method.

Methods

Search strategies

Searched computerized databases MEDLINE, POPLINE, CENTRAL, PsycINFO, and EMBASE.

Examined reference lists of relevant articles.

Wrote to researchers for information about other published or unpublished trials.

Trial selection & assessment

One author reviewed all titles and abstracts; second author reviewed categorization.

Studies were examined for:

- **methodological quality and sources of bias**
- **theoretical basis**
  - **explicit or implicit theory or model**
  - **evidence of using the theory or model in intervention design and implementation.**

Data extraction & synthesis

Data were abstracted by two authors; one entered data and second verified correct entry.

Dichotomous variables: Peto odds ratio (OR) with 95% confidence interval (CI)

Continuous variables: mean difference with 95% CI

Theoretical basis: extracted concepts from each report; identified the construct or principle implied by that concept and an implied model or theory that includes the construct or principle.

Effects of Interventions

Five randomized controlled trials met the inclusion criteria. The interventions varied in content and format, so no meta-analysis was conducted.

Marshall et al (1984): Tested 5 media for communicating the same information about various contraceptive methods; provided 1 session in clinical situation.
Results: 2 media differed; knowledge gain was greater with a slide-and-sound presentation versus physician's oral presentation.

Steiner et al (2003) and Steiner et al (2006): Each compared 3 educational tools to communicate similar information about various contraceptive methods; held 1 session in community settings; instruments differed by trial.
Results for Steiner et al (2003): Table with effectiveness categories led to more correct answers versus table based on numbers (see figures) or versus table with categories and numbers [OR 2.58 (95% CI 1.50 to 4.42); OR 2.03 (95% CI 1.13 to 3.64)].
Results for Steiner et al (2006): Charts compared had categories of effectiveness, effectiveness stratified by typical or consistent users, and a continuum of effectiveness. Study arms were similar in their understanding of pregnancy risk.

Kraft et al (2007): HIV and STD risk reduction; 3 sessions for intervention and 1 for control in a community situation.
Results: Study arms were similar for psychosocial outcomes.

Omu et al (1989): Addressed sterilization as well as other contraceptive methods; 4 sessions for intervention and 1 for control in a clinical setting.
Results: Women in the expanded program were more likely to choose sterilization or to use a modern contraceptive method.

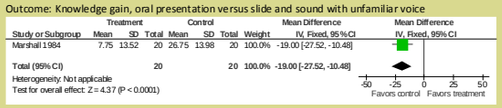
Few randomized controlled trials addressed communicating contraceptive effectiveness. However, some methods appeared to work better than others.

Strategies were not always tested in clinical settings or measured for their effect on contraceptive choice.

Follow-up would have helped assess knowledge retention over time.

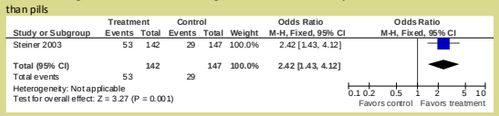
Comparison: Personalized audiovisual education materials versus non-personalized materials

Outcome: Knowledge gain, oral presentation versus slide and sound with unfamiliar voice

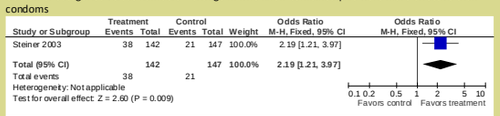


Comparison: Communicating pregnancy risk with tables (categories, numbers, categories and numbers)

Outcome: Categories versus numbers – change in who knew hormone injections were more effective than pills

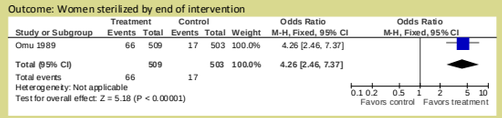


Outcome: Categories versus numbers – change in who knew combined pills were more effective than condoms

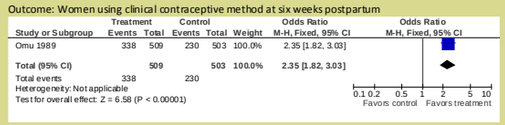


Comparison: Expanded counseling and education program versus standard family planning information

Outcome: Women sterilized by end of intervention



Outcome: Women using clinical contraceptive method at six weeks postpartum



Implied Theoretical Basis of Interventions

Evidence of theory

No trial had an explicit theoretical base, but each used concepts from common theories or models.

All principles, models, and theories proposed are considered to be implied by the researchers:

- **4 interventions focused on risk perception or risk communication. Content addressed perceived susceptibility and perceived severity from the Health Belief Model.**
- **1 mentioned perceived benefits from the Health Belief Model.**
- **1 intervention addressed positive expectations, norms, and self-efficacy from Social Cognitive Theory.**

3 trials were primarily method-driven; the studies tested tools or media; 1 also addressed program planning principles.

Informed choice provided conceptual structure for 3 studies, but was not the intervention basis.

All trials incorporated concepts or constructs from social influence and interpersonal communication.

Study	Specified concept	Implied construct or principle	Implied theory or model
Marshall et al, 1984	effectiveness and efficiency	program planning principles	---
	patient-provider communication	patient-provider communication	Model of social influence and interpersonal communication
Omu et al, 1989	risk communication	perceived susceptibility and perceived severity	Health Belief Model
	perceived benefits	perceived benefits	Health Belief Model
		mutuality	Model of social influence and interpersonal communication
	informed and free choice	judicial and ethical principles	---
Steiner et al, 2003	risk communication	perceived susceptibility	Health Belief Model
		mutuality	Model of social influence and interpersonal communication
	informed and free choice	judicial and ethical principles	---
Steiner et al, 2006	risk communication	perceived susceptibility	Health Belief Model
		mutuality	Model of social influence and interpersonal communication
	autonomy, free choice	judicial and ethical principles	---
Kraft et al, 2007	risk perception	perceived susceptibility	Health Belief Model
	positive expectations	perceived benefit	Health Belief Model
	positive expectations	outcome expectations	Social Cognitive Theory
	self-efficacy	self-efficacy	Social Cognitive Theory
	norms	environment (social)	Social Cognitive Theory
	interpersonal communications	interdependence	Model of social influence and interpersonal communication

Conclusions and Next Steps

Health care providers routinely communicate contraceptive information to their patients. We have limited evidence about what helps consumers choose an appropriate contraceptive method.

Limitations: We searched for trials with a particular focus and examined theory use in that small group. Studies had to measure knowledge, attitude, or choice. We did not address improving contraceptive use, for which the behavioral issues are more complex.

Recommendations: Strategies for communicating information should be tested in clinical settings, and measured for effect on contraceptive choice. Knowledge retention over time could be assessed.

To expand the knowledge base of what works in contraceptive counseling, randomized trials could intentionally use and test theories or models.

New review: Theory-based Interventions for Contraception

Examines the effect of theory-based interventions on contraceptive use; includes 26 trials with explicit theories or models; comparison was a different theory-based intervention or a non-theory based intervention.

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Family Health International

American Public Health Association,
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