

Delfini Group™, LLC

*Evidence-based Clinical Consults,
Medical Education Seminars, Training & Tools*

Delfini Systematic Review Summary

Study Reference: Beck RS, Daughtridge R, Sloane PD. Physician-Patient Communication in the Primary Care Office: A Systematic Review. *JABFP* 2002. 15:25-38. The Journal of the American Board of Family Practice.

Date: 02/12/03 Reviewer: Michael Stuart MD

Type of study: Systematic Review

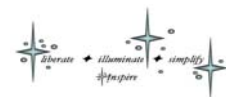
Study Purpose or Hypothesis: To determine those specific verbal and nonverbal physician behaviors between outpatient primary care providers and their patients that are objectively measurable and have been linked in empirical studies to favorable patient outcomes.

Outcomes: Existing primary-care-based research studies to determine which verbal and nonverbal behaviors on the part of the physician during the medical encounter have been linked in empirical studies with favorable patient outcomes. Care outcomes included satisfaction, trust, rapport, comprehension, compliance and adherence, and long-term health effects (e.g., glucose control).

STUDY CHARACTERISTICS—SYSTEMATIC REVIEWS

Clearly stated questions to the literature, determined in advance: Yes

✓ **Documented comprehensive search strategy: Yes.** Relevant studies were sought by searching MEDLINE and PSYCINFO on-line databases for articles published between 1975-2000 using the key words "physician-patient relationship," "provider-patient relationship," "doctor-patient relationship," "verbal communication," "nonverbal communication," and "nonverbal behavior." Bibliographic lists of all selected articles were searched for further references.



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✓	Explicit, documented selection criteria chosen in advance for included studies: Yes. The inclusion criteria included the following: 1. It was an empirical study of office interactions between patients and primary care physicians. Psychiatrist-patient encounters were excluded. 2. Interactions were studied empirically using neutral observers who coded observed encounters, videotapes, or audiotapes. 3. Empirical (quantitative) measures were used to evaluate verbal and nonverbal behaviors. 4. Statistically significant associations were found between one or more discrete measures of communication and one or more care outcomes. Care outcomes included satisfaction, trust, rapport, comprehension, compliance and adherence, and long-term health effects (e.g., glucose control). Outcome criteria for nonverbal studies were expanded to include associations between behaviors and either patient characteristics (e.g., sex, anxiety, health status) or subjective ratings of the interaction (e.g., dominance). 5. Sample size was at least 10 encounters. 6. Study results were published in English.
✓	Explicit method for determining validity: Yes. Studies meeting criteria inclusion criteria were systematically evaluated to determine the sample characteristics (setting, type of visit, patient and physician demographics), the specific verbal and nonverbal behaviors that were being measured, the patient-oriented outcomes for verbal studies and patient-oriented outcomes or patient characteristics for nonverbal studies, the measures of association between each provider behavior variable studied and each outcome or patient characteristic, and the interrater reliability data of each behavioral measure studied, if available. The authors assigned each study a rating indicating its level of methodologic rigor. Two points were awarded to studies in which the measure of interest displayed strong evidence of reliability and the sample size was more than 20. One point was awarded if the study showed some indication of reliability testing and the sample size was more than 20, or if the sample size was smaller but the reliability was strong. Zero points were awarded if variables were poorly defined, reliabilities were unreported, reliabilities were not strong, or the sample size was small. Strong reliability was defined as present when the variables being considered had kappa coefficients greater than 0.6 or Pearson correlation coefficients greater than 0.70.
✓	Explicit method for combining results: Yes. Verbal behaviors were classified into one of three key functions of the interaction: data gathering to understand the patient (gathering information), development of rapport and responding to the patient's emotions (developing a therapeutic relationship), and patient education and behavioral management (decision making and management). For the classification of nonverbal behaviors, a schema which groups nonverbal behaviors primarily by anatomic position into the categories of trunk, arms, legs, head, and proximity or touch was used. Because definitions and classifications of discrete behaviors were not standardized across studies and the number of empirical studies meeting review criteria was small, a meta-analysis was not feasible.
✓	Conclusions are supported by the evidence: Yes

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Reported Results:

The authors reported results from 14 studies of verbal communication and 8 studies of nonverbal communication that met inclusion criteria. Verbal behaviors positively associated with health outcomes included: empathy, reassurance and support, various patient-centered questioning techniques, encounter length, history taking, explanations, both dominant and passive physician styles, positive reinforcement, humor, psychosocial talk, time in health education and information sharing, friendliness, courtesy, orienting the patient during examination, and summarization and clarification.

Nonverbal behaviors positively associated with outcomes included head nodding, forward lean, uncrossed legs and arms, and congruence of mutual gaze.

Table 1: Verbal Behaviors of Clinicians Having Significant Associations with Clinical Outcomes

Verbal Behavior of Physician	Association	Reliability	P Value
Empathy, Reassurance, Support	Satisfaction (+)	94% Interrater Agreement	P<0.005
Courtesy	Satisfaction (-)	94% Interrater Agreement	P<0.005
Anxious, Nervous, Agitated or Angry	Compliance (-)	Alpha:0.60	P<0.005
Appearing Unrelaxed, Showing Tension	Satisfaction (-)	N/A	P<0.01
Antagonistic	Compliance (-)	NA	P<0.01
Friendliness	Satisfaction (+)	Kappa=0.76	P<0.005
Sharing of Information	Comprehension (+)	94% Interrater Agreement	P<0.05
Directive Style	Satisfaction (-)	Kappa=0.76	P<0.05
Listening Behavior	Satisfaction (+)	94% Interrater Agreement	P<0.01
Orienting the Patient During Physical (nature/findings) and At Conclusion Visit	Satisfaction (+) Compliance (+)	N/A	P<0.05
Expression of Personal Opinions	Satisfaction (-)	N/A	P<0.05

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Table 2: Non-Verbal Behaviors of Clinicians Having Significant Associations with Clinical Outcomes

Non-Verbal Behavior of Physician	Association	Reliability	P Value
Head Nodding	Rapport (+)	r=.9	P<0.05
Leaning Forward	Rapport (+); Satisfaction (+) Understanding (+)	r=.87; Interrater Agreement >90%	P<0.005
Uncrossed Legs	Rapport (+)	Pearson= 0.66- 1.0	P<0.05
Uncrossed Arms	Rapport (+)	r=0.46	P<0.005
Mutual Gaze	Rapport (+)	Pearson=0.66-1.0	P<0.06

Authors' Conclusions:

This article reviews to what extent published evidence exists linking specific verbal and non-verbal behaviors and the verbal and non-verbal behaviors that clinicians should focus on.

Reviewer's Conclusions:

This systematic review provides the best available evidence available regarding specific behaviors' (evaluated and coded by a neutral observer) statistically significant associations with patient outcomes. This data is observational and does not provide evidence of effectiveness that could be available from RCTs.

Clinical Implications: Clinicians should be made aware of this evidence and encouraged to apply verbal and non-verbal behaviors such as providing valid, relevant information, using good listening skills, empathy, warmth, respect and positive talk in their interactions with patients.