

# EFFECTIVENESS OF TRAINING CLINICIANS' COMMUNICATION SKILLS ON PATIENTS' CLINICAL OUTCOMES: A SYSTEMATIC REVIEW

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## ABSTRACT

**Objective:** The aim of this systematic review was to investigate the literature on the effectiveness of communication skills training for clinicians on patients' clinical outcomes in primary care and rehabilitation settings.

**Methods:** We systematically reviewed the literature for randomized controlled trials investigating the effectiveness of communication skills training for clinicians on patients' satisfaction with care and on pain and disability in primary care and rehabilitation settings. The search strategy was conducted using AMED, PsycINFO, MEDLINE, CINAHL, EMBASE, PEDro, and Cochrane Central Register of Controlled Trials through June 2015. Methodological quality of included trials was assessed by 2 independent investigators using the PEDro scale, and consensus was used to resolve disagreements. Data were extracted, and meta-analyses were performed.

**Results:** Nineteen randomized controlled trials were included. Of these, 16 investigated communication training for clinicians that emphasized patient participation (eg, shared decision-making approaches). Communication training had small effects on patients' satisfaction with care when compared to control (4.1 points on a 100-point scale, 95% confidence interval [CI], 1.1-7.0). Communication training also had small effects on pain and disability with pooled results showing weighted mean differences of -3.8 points (95% CI, -6.5 to -1.1) and -3.6 (95% CI, -5.4 to -1.7), respectively.

**Conclusions:** Studies show that communication training for clinicians produces small effects in improving patients' satisfaction with care or reducing pain and disability in primary care and rehabilitation settings. (*J Manipulative Physiol Ther* 2015;38:601-616)

**Key Indexing Terms:** *Communication; Professional-Patient Relations; Review Literature as Topic*

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Approaches used by clinicians to communicate with patients during clinical encounters are essential to exchange information and increase clarity, resulting in greater adherence with rehabilitation programs.<sup>1,2</sup> A complex pathway has suggested that training clinicians' communication skills on, for instance, shared decision making<sup>3</sup> could optimize their approaches and lately impact on improvements of patients' clinical outcomes.<sup>4</sup> In approaches such as shared decision making, clinicians value patients' participation as well as their needs and preferences during clinical encounters.<sup>2</sup> Therefore, clinicians' communication skills training could be imperative in the process of managing and altering clinicians' behaviors and to improve patients' outcomes in primary care and rehabilitation settings.<sup>5</sup>

The current knowledge on the relationship between clinicians' communication skills and improvements in patients' outcomes suggests the importance of communication training.<sup>6-9</sup> For instance, communication skills used by clinicians during their interaction with patients are

associated with better symptom resolution, functional and physiologic status, emotional health, and patients' satisfaction with care.<sup>6-9</sup> Higher levels of therapeutic alliance, meaning more positive patient-clinician interaction, associate with greater improvements in clinical outcomes such as decreased pain and disability in chronic conditions.<sup>10</sup> However, variables that are thought to be mediators in the process toward patients' clinical outcomes, including clinicians' communication skills, are complex, and whether training clinicians' communication skills in approaches such as shared decision making is effective to improve these patients' outcomes is still unclear.

Previous systematic reviews in oncology<sup>11,12</sup> and in allied health<sup>4</sup> have reported inconclusive evidence of the effectiveness of clinicians' communication skill training on patients' distress and satisfaction with care. Inconclusive evidence from these reviews<sup>4,11,12</sup> was limited by the inclusion of low-quality studies (ie, nonrandomized controlled trials). No comprehensive review of high-quality studies (ie, randomized controlled trials) has investigated the effectiveness of clinicians' communication training on patients' satisfaction with care, pain, and disability in primary care and rehabilitation settings. Patients' satisfaction with care, pain, and disability are common clinical outcomes in primary care and rehabilitation settings,<sup>13</sup> and their investigation may impact on the use and design of future approaches used by clinicians during patient-clinician interactions. Summarizing the evidence from high-quality studies in a systematic way is timing. Such an investigation may contribute to the understanding of the complex pathway between clinicians' communication skills and patients' outcomes.

The aim of this review was to investigate whether communication skills training for clinicians is effective on patients' clinical outcomes of patients' satisfaction with care, pain, and disability in primary care and rehabilitation settings.

## METHODS

### Identification of Studies

The search strategy was conducted using AMED, PsycINFO, MEDLINE, CINAHL, EMBASE, PEDro, and Cochrane Central Register of Controlled Trials. The full search strategy conducted on November 2012 and updated on June 2015 is presented in [Appendix A](#).

Several criteria were used to select eligible studies. We included randomized controlled trials that investigated the effect of any communication training (eg, patient-centered and shared decision-making approaches) for primary care and/or rehabilitation clinicians (eg, chiropractors, physiotherapists, osteopaths, doctors, residents, nurses, occupational therapists, and speech pathologists) compared to control (ie, no intervention or minimal communication intervention) on patients' satisfaction with care, pain intensity, and disability. Trials of mental illness were excluded because the nature of care for mental illness differs from conventional consultations.

Searches were not restricted for language. Screening of titles, abstracts, and full text identified in the search was undertaken by 2 investigators (VCO and RFF) using the eligibility criteria outlined above. Any disagreement was resolved by consensus.

### Assessment of Methodological Quality

Methodological quality of included trials was assessed by 2 independent investigators (VCO and RZP) using the PEDro scale (score ranging from 0 to 10),<sup>14</sup> and consensus was used to resolve disagreements.

### Data Analysis

Descriptive data were extracted on clinicians and patients (ie, total sample, source of participants, age, gender, and treatment comparisons). Means and SDs were extracted for patients' satisfaction with care, pain, and disability. Where necessary, outcome scores (ie, mean and SDs) were transformed to common 100-point scales to compare trials. SDs were not provided in 6 trials, and values were either calculated based on the confidence intervals<sup>15-17</sup> or inputted from the average SD of other included trials<sup>18-20</sup> according to the Cochrane Collaboration recommendations.<sup>21</sup>

Outcome data were extracted for short-term follow-up (<6 months after randomization). When multiple follow-up data were reported within the time point defined in our review, the follow-up closer to the end of intervention was used.

Data were pooled in meta-analyses and described as weighted mean differences with 95% confidence intervals. Between-trial heterogeneity was assessed using  $I^2$  statistics, and random-effects models were used where appropriate (ie, an  $I^2$  of  $\geq 50\%$ ).<sup>21</sup> To judge the magnitude of communication training effects (differences between training and control groups at follow-up), we used definitions of the American College of Physicians and the American Pain Society,<sup>22</sup> as follows: small to moderate effects (<20 points on a 100-point scale) and large effects (>20 points). A funnel plot of SE by difference in means was used to investigate publication bias where appropriate and Comprehensive Meta-Analysis software version 2.2.04 (Biostat, Englewood, NJ) was used to conduct all analyses.

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system was used to summarize the overall quality of the evidence.<sup>23</sup> The 4 levels of the GRADE system range from high-quality evidence, where further research is very unlikely to change the estimate of prevalence, to very low-quality evidence, where the estimate of prevalence is very uncertain.<sup>23</sup> Scoring the quality of evidence for each outcome using GRADE started at high-quality evidence, which was downgraded by 1 point if one of the following criteria was present: (i) methodological quality score of less than 5 points of 10, (ii) inconsistency of estimates among trials, (iii) indirectness of participants selected by no reliable methods (eg, findings on imaging), (iv) imprecision for

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