ORIGINAL RESEARCH

Effects on Acupuncturist Blinding: Different Diameters of Double-blind Acupuncture Needles

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ABSTRACT

Context • It's difficult to conduct experiments using a double-blind design in controlled clinical trials of acupuncture. To resolve this problem with blinding, we designed double-blind needles (DBNs) with stuffing to mimic the resistance felt during insertion of a regular acupuncture needle. Results of the past studies using 0.16 mm diameter DBNs found that the resistance felt by the acupuncturists during insertion successfully blinded them.

Objective • The study intended to compare the effects on an acupuncturist's blinding when the practitioner used penetrating DBNs with 0.14, 0.16, 0.18, and 0.20 mm diameters.

Design • We conducted a double-blind randomized trial.

Setting • The study took place at the Japan School of Acupuncture, Moxibustion. and Physiotherapy in Tokyo, Japan.

Participants • The participant was one licensed acupuncturist who performed 320 needle insertions during acupuncture for 20 healthy students, who were familiar with acupuncture and who attended the Japan School of Acupuncture, Moxibustion, and Physiotherapy.

Methods • The acupuncturist was informed she would administer a penetrating or non-penetrating needle; however, only penetrating needles were used. She inserted the four sizes of needles in both of each student's dorsal forearms using an alternating twirling technique. This procedure was repeated once more on another day, with at least one day between sessions.

Primary Outcome Measures • After the acupuncturist removed each needle, we asked her to guess: (1) the type of needle inserted, (2) her level of confidence in the guess, and (3) the clues that contributed to her guess. A chi-squared test was used to determine whether the ratio of correctly or incorrectly identified needles met an expected probability of 0.5 for each needle diameter.

Results • Of the 320 needle insertions, the acupuncturist correctly identified 54% of 0.14 mm, 45% of 0.16 mm, 46% of 0.18 mm, and 50% of 0.20 mm needle insertions. The correct and incorrect ratios of identified needles were fitted with a probability of 0.5, with no significant differences in the acupuncturist's confidence ($P = .16$). In 99% of the tests, the cue that contributed to the acupuncturist's guess was the feeling of the needle insertion.

Conclusion • These findings indicate that the differences in the diameters of DBNs from 0.14 to 0.20 mm didn't significantly affect the acupuncturist's blinding. (*Altern Ther Health Med.* 2021;27(5):62-66).

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INTRODUCTION

The double-blind, randomized controlled trial is the most rigorous scientific method used to test medical hypotheses,[1] but it's difficult to conduct experiments using a double-blind design in controlled clinical trials of acupuncture.[2] This is because in acupuncture the needle insertional force transmits a sense of resistance to the