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Do we need gender-specific knee prothesis a meta-analysis of randomised controlled trials

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Purpose: Whether gender-specific prosthesis could improve the outcome of total knee replacement (TKR) in women was controversial. The aim of this study was to evaluate the effectiveness of gender-specific knee prostheses through an evaluation of the current literature.

Methods: Medline, Embase and Cochrane Libray were searched for randomized controlled trials (RCT) comparing outcomes of gender-specific prostheses and unisex knee prostheses. Outcomes including knee scores and range of movement were analysed by Review Manager 5.2.0 System (Cochrane Library).

Results: Five trials assessing 794 knees were eligible. No significant difference was found between the two groups in terms of range of motion (ROM), Knee Society score (KSS) and Hospital for Special Surgery score (HSS). But when we analysed the data of ROM from the studies of short-term follow-up (about 2 years or less) specially, we found significant difference between the two groups (RR=1.94, 95%CI 0.27~3.60, P=0.02).

Conclusions: The available evidence indicates that bothgender-specific knee prosthesis and unisex knee prosthesis may get satisfactory outcomes. And gender-specific prosthesis may get better range of motion during short-term follow-up. Limited to the rare number of studies, we need more RCTs of long-term follow-up to identify whether gender-specific prosthesis could provide better effect than unisex prosthesis or not.

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