

standard criteria. The experimental design, sample, intervention, assessment, statistical method and other data were extracted from each study, the quality of randomized controlled trial design and non-randomized controlled trial design studies were evaluated by using the Cochrane risk of bias assessment tool 2.0 and the ROBINS-I item, respectively. Results: A total of 27 articles were included in this review, of which 81% ( $n=22$ ) were effective interventions. All interventions were conducted in preschool/kindergarten. The results of interventions were not different in gender and age. The “child-centered” intervention model, which was intervened 30~40 min per time, twice a week, 8~16 weeks intervention (effective intervention ratio), leading by physical education teachers, coaches and experts was the most effective intervention protocol. TGMD-2 assessment tools were most widely used in these studies. Only 19% of these studies were follow-up study. Conclusion: The fundamental movement skills intervention in foreign children has a positive effect on the development of individual fundamental movement skills. Based on foreign researches, it is suggested that the Chinese scholars and educators should formulate reasonable and innovative intervention methods according to the characteristics of Chinese children, and establish suitable fundamental movement skills assessment tools.

**Key words:** motor development; fundamental movement skill; preschool children; intervention trials; systematic review

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overactivation. As a metabolite during tumor aerobic glycolysis, lactate is involved in regulating the growth of tumor simultaneously, which contributing to cancer cachexia ultimately. Exercise has extensive positive effects on anti-tumor, however, the increase of lactate level, muscle protein catabolism, adipose tissue browning and liver Cori cycle over-activating are contradictory with the defense of cancer cachexia from exercise. Exercise-induced physiological stress is substantially different from the pathological manifestations of cancer cachexia, which can inhibit tumorigenesis by breaking the tumor abnormal metabolism. In this review, the cell signal regulation of aerobic glycolysis and the contradictions in exercise anti-tumor are discussed. It is speculated that the response of exercise stress in tumor cells varies from it in normal cells, exercise-induced physiological stress is the possible mechanism for exercise anti-tumor.

**Key words:** cancer; cachexia; cori cycle; muscle wasting; white adipose browning; exercise

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