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| Resumo | Athymic mice are unable to produce T-cells and are then characterized as immunodeficient. This characteristic makes these animals ideal for tumor biology and xenograft research. New non-pharmacological therapeutics are required owing to the exponential increase in global oncology costs over the last 10 years and the high cancer mortality rate. In this sense, physical exercise is regarded as a relevant component of cancer treatment. However, the scientific community lacks information regarding the effect of manipulating training variables on cancer in humans, and experiments with athymic mice. Therefore, this systematic review aimed to address the exercise protocols used in tumor-related experiments using athymic mice. The PubMed, Web of Science, and Scopus databases were searched without restrictions on published data. A combination of key terms such as athymic mice, nude mice, physical activity, physical exercise, and training was used. The database search retrieved 852 studies (PubMed, 245; Web of Science, 390; and Scopus, 217). After title, abstract, and full-text screening, 10 articles were eligible. Based on the included studies, this report highlights the considerable divergences in the training variables adopted for this animal model. No studies have reported the determination of a physiological marker for intensity individualization. Future studies are recommended to explore whether invasive procedures can result in pathogenic infections in athymic mice. Moreover, time-consuming tests cannot be applied to experiments with specific characteristics such as tumor implantation. In summary, non-invasive, low-cost, and time-saving approaches can suppress these limitations and improve the welfare of these animals during experiments. |
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