·综述·

奥塔戈训练项目在老年人中的应用

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【摘 要】 奥塔戈训练项目是一项基于家庭训练的运动项目,现阶段已在国外被广泛研究并逐渐应用于医疗或养老等机构,且受众对象多为老年人群,而国内的此类研究却鲜少涉及。为了应对我国人口老龄化现象,本文就奥塔戈训练项目对老年衰弱、认知行为、社会生活等方面的影响予以综述,为后期我国开展与实施此运动项目奠定理论基础。

【关键词】 老年人;跌倒;奥塔戈训练项目
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Application of Otago exercise program in the elderly

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【Abstract】 Otago exercise program (OEP) is a sports program based on family training, which has been widely studied and gradually applied in medical or pension institutions in foreign countries, targeting mostly the elderly. However, such research in China is rare. In order to cope with population aging in China, this article reviews the influence of the OEP on geriatric infirmity, cognitive behavior and social life, laying a theoretical foundation for its development and implementation in China in the future.

【Key words】 aged; fall; otago exercise program
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近年来在体育与医疗卫生融合大背景的推动下,运动促进健康的观念逐渐深入人心[1],奥塔戈训练项目(Otago exercise program, OEP)就是一项基于家庭训练的运动计划项目,已在国外的医院、社区、养老机构被逐渐应用,而国内的此类研究较少。在中国日益加剧的老龄化背景下,将OEP应用于中国是当今时代的需要,因此本文以“跌倒、奥塔戈训练项目、老年人”为关键词在PubMed和CNKI数据库搜索并梳理了2013年至2023年间的有关文献,并对OEP在老年人群中的应用现状予以综述,为后期我国开展与实施此项目奠定理论基础。

1 OEP概述

OEP最早起源于新西兰的奥塔戈医院,是一种渐进式、个性化、以家庭训练为基础的运动训练项目,起初基于四项临床试验,可为老年人提供力量练习、平衡训练和肌肉耐力练习[2]。OEP作为一种干预跌倒的训练项目,目前已被广泛应用于英国、美国等国家,共包含热身运动、力量训练、平衡训练和步行四个项目,受外界环境干扰小,适用范围广,不仅具备运动处方的运动频率、运动强度、运动时间、运动类型四个要素之外,而且也遵循专一性、渐进性超负荷、休息和恢复、可逆性和个人需求等训练原则。除上述特点外,Davis等[3]还发现OEP比常规护理组有更低的医疗资源成本效益;相较于女性,男性更节省成本且跌倒发生率更低[4],在应用形式上集体训练比个人训练更有益[5]。此外,将OEP与动机访谈、动作观察、数字传输等方法相结合的研究已在逐步展开[6-8],对于OEP的改良也被研究者们所关注,在原始OEP基础上附加多种感觉平衡练习、增强现实、高密度数字视频光盘传送、前庭练习对老年人平衡及功能同样有益[9-11]。

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2 OEP在老年人中的应用

2.1 OEP在老年衰弱中的应用

衰弱可以被理解为当相同年龄的人面临压力时,由于不同器官系统的生理储备和功能的减少而导致的脆弱性增加的状态,不明原因体质量下降、疲乏、握力/行走速度/体力活动下降(跌倒)是衰弱老人的临床表现,其中跌倒是老年人面临的一个主要的、世界性的公共卫生问题。一项研究对428例参与者进行0EP干预且定时监督提醒,结果发现OEP可预防老年人群跌倒的发生,改善老年人的平衡能力和步态,并且推荐OEP作为老年人的早期干预项目[12];而另一研究在尝试将OEP作为多因素干预的其中之一时发现,其在预防跌倒方面并未产生影响[13],当然这也要考虑文化差异等因素的影响。身体功能包括平衡能力、步行能力、肌肉力量等,OEP可以扭转老年认知障碍患者的虚弱状态以及改善其平衡能力、肢体肌力和活动能力已被证实[14]。在肌力提高方面,有研究发现每周参加3次、为期6个月的以小组为基础的OEP能有效改善老年人的腿部肌肉力量[15]。另有研究显示OEP可以防止老年人握力的降低,这一研究也表明OEP对老年人上肢肌肉力量的变化有益[16]。因此,OEP不仅仅只改变老年人下肢的肌力,对上肢的握力也会有效果,握力的增加对于老年人在日常生活中的活动会有很大帮助。

2.2 OEP在认知行为中的应用

认知行为的下降是老年人常见的表现,其往往会引起执行功能、记忆、注意力的减退,甚至影响正常的社会生活参与,而心理疾病往往会影响到老年人的情绪,引发其他身体疾病的产生,导致认知行为的下降。将OEP作为认知行为改变的方式已有研究,如有研究对62例认知功能不全的老年人分别进行了饮食睡眠健康教育和饮食睡眠健康教育联合OEP的干预,采用老年抑郁量表和简式健康状况调查问卷评定心理健康状况,结果显示联合组较对照组有更健康的身心状况[17]。有研究提到OEP是将个人行为改变策略与体力活动相结合的项目,不仅有益于身体功能,且对人的行为、心理改变也有益[18],一项运动具有两大效果也是值得被推广的原因之一。疼痛同样会影响老年人身体功能、心理健康、独立性等问题,而OEP就是通过体育锻炼来减轻疼痛的一种项目,Cederbom等[19]的研究表明以OEP为基础的训练可明显改善疼痛。由此可见,OEP可为老年人疼痛管理提供指导思路,与此同时疼痛的减轻也有效预防了老年人跌倒的发生。处理速度是认知的一部分,可用个人执行认知任务的速度来衡量,在临床、心理或身体功能方面非常重要[20];有研究发现OEP可以预防跌倒并提高处理速度[21],且此研究对处理速度的测评是利用数字符号替换测试,这个测试过程是需要持续的注意力、视觉空间技能、定势转移和工作记忆[22],故可知OEP在改善老年人的认知方面是有益的,这为后期奥塔戈训练计划在改善老年人认知和运动功能方面的应用奠定了基础。

2.3 OEP在老年人社会生活中的应用

随着年龄的增加,身体健康状况等因素往往会导致老年人生活质量降低。Bjerk等[23]的研究发现接受3个月的OEP可使健康状况调查问卷得分显著提高,说明OEP可以提高老年人与健康相关的生活质量。另有研究发现OEP可提高老年人功能能力、社会参与度和自我效能,并且还可降低跌倒风险[24,25]。不难看出,OEP在改善老年人生活质量、自我效能感和社会参与情况方面是有益的。世界卫生组织将赋权定义为在个人和社会过程中,个人对影响其健康的决策和行动有更多的控制权[26],有目的的赋权可减轻养老负担、提高老年人生活质量、使老年人获得尊重和肯定[27]。Sahin等[28]将72例老年人分为对照组和OEP组对其进行虚弱和赋权的研究,并用艾德蒙顿衰弱量表和老年赋权量表进行评分,结果显示OEP对于增强赋权方面具有良好的影响。老年人赋权的增强不仅减少了老年人的社会孤立感,而且为心理疾病的预防起到了很好的作用。寿命长短在某种程度上也能反映生命个体的健康状况,寿命的长短一方面与社会经济状况和医疗条件有关,另一方面与体质、遗传因素、生活习惯、生活条件等个人因素有关,OEP正好满足了“体质、生活习惯”的要求;有研究就对17名物理治疗师进行半结构化访谈,结果显示物理治疗师们对OEP持赞成态度,称OEP与日常活动密切联系,适合在初级保健环境中使用,有助于延长老年人的寿命[29]。

2.4 OEP在其他疾病中的应用

目前已有研究将OEP用于老年恶性血液病患者,并提出相比于居家独立锻炼,患者在物理治疗师

面对面指导下完成率更高[30]。另有研究对类风湿关节炎患者进行了 1 年的 OEP 随访干预,结果表明 OEP 对于类风湿关节炎患者有潜在的经济效益[31]。一项研究对膝骨关节炎患者进行改良版 OEP 干预,结果发现其对膝骨关节炎老年人的步态、平衡有效,但在跌倒复发方面未发现差异[32]。OEP 在脑卒中患者中亦有研究,研究者给予 8 例脑卒中患者每周 3 次、共持续 8 周的 OEP,结果表明 OEP 提高了跌倒效能以及日常生活能力和生活质量得分[33]。由此可见,OEP 适用范围广,在诸多常见老年疾病中可显示出良好的疗效,其在更多疾病中的应用值得被继续探索。

3 小结与展望

综上,OEP 对老年衰弱、认知行为、社会生活方面的改善总体上是有益的,主要体现在老年人功能能力、生活质量的提高,赋权的促进,跌倒风险的降低,心理疾病和疼痛的改善等方面,且老年男性的成本效益低于老年女性,可将其在国内进一步研究并应用。此外,OEP 小组训练可能更有效,针对不同身体状况的老年人群制定不同的 OEP 运动形式、频次、强度和时间可以作为以后的研究方向;随着互联网的普及,可将远程互联网技术与 OEP 相结合以选取最佳的锻炼方式;OEP 是否可以作为多因素干预措施之一,是否可以应用于更多的其他疾病,是否可以与其他更多技术相结合及其疗效评价与追踪还有待进一步研究和探索。

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