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膳食质量与心脑血管疾病的研究进展

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摘　要

膳食与各类疾病关联已被广泛认可。而它作为可控危险因素，是心脑血管疾病管理中不可缺少的重要环节。有研究发现，改善膳食质量可能降低心脑血管疾病所带来的疾病负担。因此，本综述总结近年来膳食质量与心脑血管疾病的研究进展，为主动防制心脑血管疾病提供根据。

关键词

膳食评估，膳食质量，心脑血管疾病

Progress in Dietary Quality and Cardiovascular and Cerebrovascular Diseases

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Abstract

Diet association with various diseases has been widely recognized. As a controllable risk factor, it is an indispensable and important link in the management of cardiovascular and cerebrovascular diseases. Some studies have found that improving dietary quality may reduce the disease burden caused by cardiovascular and cerebrovascular diseases. Therefore, this review summarizes the research progress of dietary quality and cardiovascular and cerebrovascular diseases in recent years, and provides a basis for the active prevention of cardiovascular and cerebrovascular diseases.

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Keywords

Dietary Assessment, Dietary Quality, Cardiovascular and Cerebrovascular Diseases

1. 引言

心脑血管疾病(Cerebrovascular and Cardiovascular Disease, CCVD)是心血管疾病(Cardiovascular Diseases, CVD)和脑血管疾病的统称，是全球死亡及导致残疾的主要原因[1] [2]，也是阻碍社会经济发展的重大公共卫生问题[3]。两者发病、发展有高度相似性，其代谢异常、不良生活习惯等均为共同危险因素[1]。有研究报道，不健康的生活方式是心脑血管疾病的可调控因素[4]，其饮食治疗在预防、治疗及预后方面起着重要作用[4] [5]。而随着人类生活习惯的多样性及逐渐转移，疾病风险暴露越来越普遍[6]，这种关联越来越显著[7] [8]。因此，近年来饮食与疾病相关研究已成为热点。膳食质量作为综合评价膳食的指标在饮食治疗中非常关键。本文对膳食质量与心脑血管疾病的关联进行总结，从而为心脑血管疾病的防治提供参考。

2. 膳食质量

2.1. 膳食质量概念

膳食质量是营养价值、平衡、多样性等方面对食物进行综合描述。膳食质量定义在 20 世纪 50 年代末由 Antonia Trichopoulou 等人首次以"地中海饮食评分"的形式提出[9]。随后因饮食的复杂性、地域及人群等特点，创建了适合不同人群及地区的一系列全面评估膳食质量的方法。

2.2. 膳食质量评估

膳食质量评估是衡量个人坚持膳食指南和建议的程度。定义膳食质量的常用方法有：1) 基于膳食建议的先验指标，是基于遵守各国家饮食建议而制定的饮食质量指数。例如，目前应用最广泛的健康饮食指数(Healthy Eating Index, HEI)，得分越高，表示越遵守饮食指南，饮食质量越高[10] [11]。2) 基于与慢性疾病风险相关的食物或饮食模式的先验指标，是基于表明饮食摄入或饮食模式与慢性疾病风险之间关联的流行病学研究所制定的指标。例如，地中海饮食模式，是地中海地区国家消费的一种传统饮食模式，与较低的慢性病风险有关[12] [13]。3) 探索性数据驱动的方法，是一种后验的方法被用来确定特定人群的饮食模式[14]。主要依赖于统计方法，包括主成分分析和共同因素分析，或聚类分析等[15]。

目前通过这些评估方法，研究已经涵盖了食物组之间的相互作用和协同作用，并阐述了饮食和慢性疾病之间的关系。

3. 膳食质量与心脑血管疾病的关系

3.1. 膳食质量与心血管疾病

大量研究表明，通过各种指标评估，较高的饮食质量与较低的 CVD 事件或死亡率的相对风险相关[16] [17] [18]。在 2020 年对前瞻性队列研究的系统回顾和荟萃分析中[19]，HEI 评估质量时，最高的饮食质量

与 CVD 或 CVD 事件死亡率的相对风险(RR = 0.80，95% CI：0.78~0.82；$P < 0.05$)降低 20%相关。另外美国在 12,443 名有动脉粥样硬化风险患者的研究中[18]，最高五分之一的参与者发生 CVD 的风险降低 16% (HR = 0.84，95% CI：0.76~0.93；$P < 0.001$)。

具有里程碑意义的研究[20]，PREDIMED 一级预防试验表明，具有一个地中海饮食与特级初榨橄榄油(HR = 0.69，95% CI：0.53~0.91；$P < 0.05$)或坚果(HR = 0.72，95% CI：0.54~0.95；$P < 0.05$)的人群经过平均 4.8 年的随访后，相比教育低脂饮食组降低复合 CVD 结果的风险(急性心肌梗死、中风或死于心血管原因)。

3.2. 膳食质量与脑血管疾病

目前关于膳食质量与脑血管疾病研究相对有限，但健康饮食在脑卒中的二级预防中具有重要意义[5]。而且来自日本的一项研究中[21]，较高的食物指南得分(膳食质量较好)与较低的总死亡率相关，特别是脑血管疾病风险(OR = 0.89，95% CI：0.82~0.95；$P = 0.002$)。

3.3. 膳食质量与心脑血管疾病代谢性危险因素

代谢性危险因素作为心脑血管疾病的共同病因，其疾病发病发展中起着驱动作用。而膳食作为人类生活必需品，代谢中的作用也不可忽视。Alexander Medina-Remón 等人在综述中归纳到 4 种健康饮食(地中海、停止高血压饮食等)对高血压、2 型糖尿病、肥胖及神经退行性病变均有潜在益处[22]。另一项关于 60~80 岁受试者的饮食质量与体成分相关研究结果示[23]，饮食质量与内脏脂肪、体重指数、体质百分比、总体脂、躯干体质呈负相关($P < 0.004$)。

在 NHS (护士健康研究)和 NHS II 纵向队列中进行的横断面研究中，应用停止高血压的饮食方法评估膳食探讨健康女性心脏代谢之间关联发现，坚持健康的饮食与许多心脏代谢和内分泌生物标志物的良好浓度有关，并这些关系部分是由 BMI 调节[24]。另外一项应用中国饮食平衡指数来评估糖尿病前期个体饮食质量研究示[25]，不良的饮食质量与糖尿病前期风险增加显著相关(OR 1.45，95% CI：1.29~1.63，$P < 0.05$)。同时在 269 名高脂血症患者中探讨先验指标与心脏代谢危险因素关联的研究发现[26]，较高的饮食质量评分与较高的 TC、LDL-C 和 ApoB 浓度呈正相关($P < 0.05$)。

以上研究表明，不健康膳食往往与代谢紊乱有关。

4. 膳食质量在指导心脑血管病人膳食管理中的应用及展望

综述所述，随着我国居民生活水平提高，膳食质量得到普遍改善，但与不健康饮食有关疾病的危险因素仍持续暴露，不断增加疾病及经济负担，这个更加突出膳食管理在公共卫生中的关键性。目前膳食质量评估已在心脑血管疾病领域广泛应用，但是仍然存在有待完善之处。首先，膳食质量评估复杂、计算方式不够精简，快速评估膳食困难。其次，膳食调查中可能存在摄入量测量偏倚等，在对心脑血管疾病风险预测方面的应用上存在一定局限性。因此，今后需要克服困难，建立更加精准评分标准，综合分析膳食与疾病的关联，为精准防控心脑血管疾病提供参考。

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