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老年住院患者营养不良状况分析 *

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摘要 目的:利用简易营养评价精法(short-form mini-nutritional assessment, MNA-SF)评价住院老年患者营养状况,并探讨老年患者营养状况与躯体功能的关系。**方法:**选取我院老年病及内科收治的年龄 ≥ 65 岁的住院患者共 104 例,使用 MNA-SF 评价患者的营养状况,根据患者年龄、性别、慢性病等情况入组营养不良患者 36 例,营养良好患者 68 例,比较两组患者的饮食习惯、躯体功能,并对营养评分与握力、步速进行相关性分析。**结果:**与营养良好组相比,营养不良组进食肉食次数较少(16% vs 48%, $P=0.012$),握力[(11.67 $\pm$ 9.89)kg vs (20.46 $\pm$ 9.89)kg, $P<0.001$]及步速(0.46 $\pm$ 0.641m/s vs 1.16 $\pm$ 0.65m/s, $P<0.001$)均显著降低。老年住院患者 MNA-SF 得分与握力及步速呈显著正相关($r=0.562$, $P<0.001$)和($r=0.600$, $P<0.001$)。**结论:**住院老年患者的营养状况与进食肉食次数、握力和步速相关。

关键词:老年人;营养不良;简易营养评价精法

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Investigation of the Nutritional Status of Elderly Inpatients*

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ABSTRACT Objective: To investigate the nutritional status of elderly inpatients by using short-form mini-nutritional assessment (MNA-SF), and to explore the effects of nutritional status and its association with physical function in older inpatients. **Methods:** This study included data collected from 104 elderly patients in Geriatrics and Internal Medicine aged 65 years or older. MNA-SF was used to evaluate the nutritional status of the inpatients. The elderly inpatients were divided into two groups via MNA-SF, whereas in consideration of age, gender and chronic conditions. Thirty-six inpatients with malnutrition (case group) were enrolled, the control group contained sixty-eight inpatients without malnutrition. The above two groups were matching with age, gender and chronic conditions. Eating habits as well as physical functions were compared between the two groups, and the correlation between nutrition score and physical function (grip strength and walking speed) was analyzed. **Results:** Compared with the well-nourished group, participants in the malnutrition group ate less meat(16% vs 48%, $P=0.012$). The grip strength [(11.67 $\pm$ 9.89)kg vs (20.46 $\pm$ 9.89)kg, $P<0.001$] and the walking speed [(0.46 $\pm$ 0.64)m/s vs (1.16 $\pm$ 0.65)m/s, $P<0.001$] of the malnourished group were lower than those of the well-nourished group. Further correlation analysis showed that the MNA-SF score in older patients was positively correlated with grip strength ($r=0.562$, $P<0.001$) and walking speed ($r=0.600$, $P<0.001$). **Conclusion:** The nutritional status of older inpatients is related to the number of times of eating meat. The nutritional status affects the physical function in older inpatient.

Key words: Elderly; Malnutrition; Short-form mini-nutritional assessment

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前言

营养不良是老年人常见的临床综合征,研究显示老年人营养不良患病率为 2.8%-24%^[1-4],住院老年患者营养不良患病率高达 12%-44%^[5-7]。机体营养不良常与痴呆、抑郁等慢性病相关,可导致老年人免疫功能下降,增加住院老年人感染的发生,

影响老年住院患者疾病的转归,延长住院时间,并且增加老年人失能、跌倒等不良事件的发生,影响患者的生存质量。但目前关于营养状况与躯体功能的关系研究较少。本研究使用简单营养评价精法(short-form mini-nutritional assessment, MNA-SF)对住院老年患者进行营养状况调查,分析营养状况与躯体功能的关系,以期为提高老年人健康水平及改善疾病转归提供参考依据。

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1 对象与方法

1.1 研究对象

选取我院老年病及内科收治的年龄 ≥ 65 岁的住院患者共104例,其中男性54例,女性50例,年龄(65-95)岁,平均年龄(75.64 $\pm$ 6.48)岁。将患者根据年龄、性别、慢性病等情况进行匹配,根据MNA-SF得分,得分 ≥ 11 分为营养良好组, <11 分为营养不良组,营养不良组(病例组)36例,营养良好组(对照组)68例。排除标准:不愿参加本研究患者、意识不清患者、不能正常交流、无法配合完成基本测量患者。

1.2 研究方法与内容

1.2.1 基本资料 包括患者的性别、年龄、合并慢性病、饮食习惯、入院病情。入院病情分为因急性病发作入院和因慢性病有症状,短期强化治疗或调整治疗入院2种情况。

1.2.2 营养状况的评估 由经过培训的专业人员统一使用MNA-SF对住院老年患者进行营养状况的评估,MNA-SF由6个问题组成,内容包括(近3个月体重丢失情况、体重指数(Body mass index, BMI)水平、近3个月是否有应激或急性疾病、活动能力、神经精神疾病、近3个月有无食欲减退、消化不良、咀嚼吞咽困难等原因引起),总分14分。根据MNA-SF得分,得分 ≥ 11 分为营养良好, <11 分为营养不良^[8]。

1.2.3 躯体功能(握力、步速)的测量 握力的测量应用电子握力

器,测量时患者采取坐位,双足自然置于地面,屈膝屈髋 90° ,肩内收中立位,屈肘 90° ,上臂与胸部平贴,前臂处于中立位。伸腕 0° - 30° ,并保持 0° - 15° 尺偏。测量优势手的握力,记录最大值,测量2次,取两次的最大值记为患者握力。在宽阔的地方,嘱患者以日常行走速度行走20米,记录其所用时间(精确到秒),根据计算公式(速度=路程/时间)计算出患者的步速。

1.3 统计学分析

数据采用SPSS13.0软件进行统计学分析,符合正态分布且方差齐的计量资料以 $\bar{x} \pm s$ 表示,组间比较采用两独立样本t检验,组间率的比较采用 χ^2 检验;相关性分析采用Pearson相关分析,以 $P < 0.05$ 为差异有统计学意义, $P < 0.01$ 为差异有显著的统计学意义。

2 结果

2.1 两组一般资料的比较

营养不良组36例,包括女性19例,男性17例,平均年龄(77.08 $\pm$ 7.48),因急性病发作入院的有22例,占61.11%。营养良好组68例,包括男性37例,女性31例,平均年龄(74.88 $\pm$ 5.80)岁,因急性病发作入院的有25例,占36.76%。两组入院病情比较差异有统计学意义(见表1),两组合并慢性病情况比较无统计学差异(见表2)。

表1 两组间一般资料的比较

Table 1 The comparison of general data between the two groups

Groups	Gender(male/female)	Age(year)	Admission condition (number of cases of acute illness, %)
Malnourished group (n=36)	17/19	77.08 $\pm$ 7.48	22(61.11)
Well-nourished group (n=68)	37/31	74.88 $\pm$ 5.80	25(36.76)
χ^2 /t value	0.487	1.537	5.6333
P value	0.485	0.130	0.018

表2 两组慢性病的情况比较

Table 2 The comparison of chronic diseases between two groups

Groups	Hypertension (n, %)	Diabetes (n, %)	Coronary heart disease (n, %)	Hyperlipidemia (n, %)	Cerebrovascular disease (n, %)	COPD (n, %)	CKD(n, %)
Malnourished group(n=36)	23(63.89)	11(30.55)	15(41.66)	6(16.66)	16(44.44)	18(50.00)	5(13.89)
Well-nourished group(n=68)	41(60.29)	23(33.82)	24(35.29)	10(14.71)	20(29.41)	21(30.88)	15(22.06)
χ^2 value	0.129	0.114	0.408	0.070	2.350	3.671	3.418
P value	0.72	0.735	0.523	0.792	0.125	0.055	0.064

2.2 两组饮食习惯的比较

营养不良组进食肉类食物较营养良好组较少,差异有统计学意义($P < 0.05$)。两组进食蔬菜、水果的情况比较差异无统计学意义($P < 0.05$),见表3。

2.3 两组躯体功能的比较

老年住院患者营养不良组的BMI明显低于营养良好组[

(22.38 $\pm$ 3.68)kg/m² vs (25.63 $\pm$ 3.68)kg/m², $P < 0.001$],握力及步速亦均明显低于营养良好组($P < 0.05$,见表4)。

2.4 相关性分析

老年住院患者MNA-SF得分与握力($r = 0.562$, $P < 0.001$)及步速($r = 0.600$, $P < 0.001$)均呈显著正相关(见图1)。

表 3 两组饮食习惯的比较

Table 3 Comparison of the dietary habits between two groups

Groups	Meat intake			Vegetables intake		Fruit intake	
	Not (n, %)	Rarely (n, %)	Normal(n, %)	Occasionally (n, %)	Everyday (n, %)	Occasionally (n, %)	Everyday(n, %)
Malnourished group(n=36)	0(0)	20(55.56)	16(44.44)	0(0)	36(100)	15(41.67)	21(58.33)
Well-nourished group(n=68)	1(1.47)	19(27.94)	48(70.59)	1(1.47)	67(98.53)	25(36.76)	43(63.24)
Z value	2.506			0.535		0.077	
P value	0.012			0.465		0.782	

表 4 两组躯体功能的比较

Table 4 Comparison of the physical function between two groups

Groups	Grip strength(kg)	Walking speed(m/s)
Malnourished group (n=36)	11.67± 9.89	0.46± 0.64
Well-nourished group (n=68)	20.46± 9.89	1.16± 0.65
χ^2/t value	4.657	5.095
P value	<0.001	<0.001

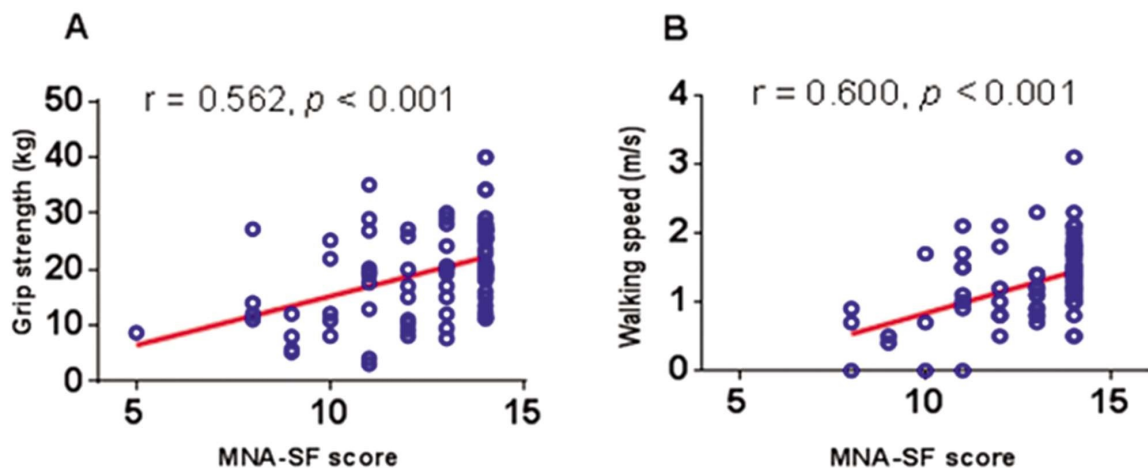


图 1 老年住院患者 MNASF 得分与握力、步速的相关性

Fig.1 Analysis of the correlation between MNASF score and grip strength, walking speed

3 讨论

老年人营养不良的发生不仅与死亡率有关,更是影响预后的重要因素^[9-11]。有研究显示社区老年人营养不良患病率为 0.7%-8%,营养不良风险患病率为 20%-40%^[12-15]。一项对于 28 个不同省份 448 个不同社区的 6450 名社区老年人进行营养状况调查显示我国社区老年人营养不良患病率为 12.6%^[16]。李缨等利用简易营养评价法 (Mini Nutritional Assessment, MNA)对 9338 名北京社区老年人进行营养评估,发现北京社区老年人营养不良患病率为 0.2%,营养不良危险患病率为 32.3%,营养不良及营养不良危险发生的与年龄、性别、日常生活能力、文化程度、慢性病、认知功能及抑郁有关^[17]。武汉社区老年人营养不良和营养不良风险的患病率分别为 8%和 36.4%,年龄、婚姻

状况、受教育程度、经济收入、功能状态、患慢性病总数量与营养状况有关^[17,18]。针对 22007 例西班牙社区老年人进行营养评估的研究显示 4.3%老年人患有营养不良,25.4%老年人患有营养不良风险,且营养状况与年龄、性别及居住地区有关^[14]。不同研究之间患病率的差异可能与地区差异、地区的经济水平、入选社区老年人的方式等有关^[19]。

住院老年人的营养不良发生率比社区老年人更高,有研究显示住院患者营养不良患病率高达 46%,营养不良风险为 41.2%,抑郁与营养不良有关,抑郁程度越重,更容易发生营养不良,且年龄、牙齿状况、疾病状态是影响老年人营养状况的重要因素^[20]。本研究在匹配了年龄、性别及慢性病状况后发现入院患者老年人的营养状况与入院时的入院病情有关。但老年住院患者入院病情与营养状况之间的因果关系尚不清楚,也可能

是两者相互影响,相互促进。本研究结果显示住院老年人营养状况与进食肉食数量有关,与进食蔬菜、水果情况无关。由于老年人合并慢性疾病较多,对于蛋白质的需要相对有增加,而老年人相对摄入肉食类食物较少,消化吸收功能较差,容易发生营养不良。部分老年人因为对于摄入胆固醇及肉类食物的严格限制,也容易发生营养不良。

衰弱是指老年人机体储备功能减弱,导致易损性增加的综合征,能预测死亡等不良预后^[21-23]。多项研究显示老年人衰弱与营养状态有关^[3,9,24-26],有研究表明老年住院患者营养不良及MNA-SF得分与衰弱之间有分级相关性,营养不良可能是衰弱的重要危险因素^[27-29]。本研究结果显示老年营养不良者的握力及步速水平均明显低于营养良好者,且MNA-SF得分与握力及步速均呈正相关。营养状态对衰弱有显著的影响^[30],比如活动量的减少,炎症状态,合成代谢的抵抗,缺乏维生素D会导致肌肉力量的下降或者衰弱^[31]。

本研究存在一定的局限性,首先样本例数偏少,其次我们选取的是住院患者,不能完全代表普通老年人的营养状况,我们将进一步扩大住院患者样本量,并选取社区老年人(非住院患者)进行相关研究。再者对于蛋白质、蔬菜及水果等饮食习惯的评估,我们采取的是定性评估,不是定量测量,将来我们需具体评估每位老人膳食结构及碳水化合物、蛋白质、膳食纤维摄入量^[32],可结合白蛋白、前白蛋白、血红蛋白等血液指标评估营养状况^[33]。

总之,营养不良会引起老年人机体免疫功能下降,尤其是住院老年人发生营养不良较多,造成的后果严重。因此,应该早期加强老年人营养不良及营养不良风险的检测,及早进行营养治疗,改善老年人营养状况,促进老年人疾病的康复,减少并发症的发生及降低死亡率。

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