·临床研究·

中期照护模式对老年中重度慢性阻塞性肺疾病患者的康复治疗效果

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【摘 要】 目的 探讨中期照护(IC)模式对老年中、重度慢性阻塞性肺疾病(COPD)患者的康复疗效。**方法** 选取2015年1月至2017年6月在北京老年医院因COPD急性发作住院经治疗病情好转且资料完整的中、重度COPD患者共124例,应用随机数字表法分为IC组及对照组各62例。IC组在一般临床治疗的基础上采用IC模式;对照组仅采用一般内科治疗。比较治疗前后及治疗15、30、60 d后两组BODE指数(体质量指数、气流阻塞程度、呼吸困难及运动能力)评分、健康相关生存质量评分(HRQL)、血气分析等指标,记录跌倒评分、急性发作次数和再住院次数。采用SPSS 20.0进行统计分析,计量资料以均数±标准差表示,组间比较采用t检验,计数资料用百分率表示,组间比较用χ^2检验。**结果** 两组治疗前各指标比较差异均无统计学意义($P>0.05$);与治疗前自身相比,2组治疗后15 d,第1秒用力呼气容积/用力肺活量(FEV1/FVC,FEV1%)、6分钟步行试验(6MWT)、体质量指数(BMI)、圣乔治呼吸问卷(SGRQ)、改良的英国医学研究委员会呼吸困难量表(mMRC)评分、BODE评分、PaO_2、$PaCO_2$、跌倒评分差异无统计学意义($P>0.05$);治疗后30、60 d,以上指标改善显著($P<0.05$)。治疗后15、30及60 d两组比较,IC组FEV1%、6MWT、BMI、SGRQ、PaO_2、$PaCO_2$均有显著改善($P<0.05$),mMRC评分降低不明显($P>0.05$);治疗后15 d两组BODE指数评分差异无统计学意义($P>0.05$),治疗后30 d及60 d差异显著($P<0.05$)。治疗后30 d两组跌倒风险评分、急性发作次数、再住院次数均无显著改善($P>0.05$);治疗后60 d则明显降低($P<0.05$)。**结论** 采用IC模式管理老年中重度COPD患者可显著降低患者的BODE评分,提高PaO_2,降低$PaCO_2$,降低跌倒风险、急性发作次数及再住院次数。

【关键词】 老年人;慢性阻塞性肺疾病;中期照护;呼吸康复;BODE评分
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Efficacy of intermediate care mode on rehabilitation of elderly patients with moderate or severe chronic obstructive pulmonary disease

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【Abstract】 Objective To determine the therapeutic effect of intermediate care (IC) mode on rehabilitation of the elderly patients with moderate or severe chronic obstructive pulmonary diseases (COPD). **Methods** A total of 124 elderly patients with whole clinical data, suffering from acute exacerbation of COPD and then gotten improved after hospitalization in Beijing Geriatric Hospital during January 2015 and June 2017 were recruited in this study. They were randomly divided into IC group and control group ($n=62$ for each group). The patients of the IC group adopted IC mode on the basis of general clinical treatment, while those of the control group was treated only with general internal medicine. Their BODE index [body mass index (BMI), measure of airflow obstruction, dyspnea score and exercise capacity], health related quality of life (HRQL), results of blood gas analysis were compared before and in 15, 30 and 60 d after the treatment. The fall scores, times of acute exacerbation of COPD, and re-hospitalization were recorded. SPSS statistics 20.0 was used for data analysis. The measurement data were expressed as mean ± standard deviation, and Student's t test was employed for the comparison between groups. Enumeration data were expressed as percentage, and inter-group comparison was carried out with Chi-square test. **Results** There were no statistical differences in all indicators between the 2 groups before treatment ($P>0.05$). Compared with the following indicators before treatment, no obvious differences were seen between the 2 groups in 15 d after the treatment, including forced expiratory volume in one second/forced vital capacity (FEV1/FVC, FEV1%), 6-minute walking test (6MWT),

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BMI, Saint George's Respiratory Questionnaire (SGRQ), modified British Medical Research Committee respiratory distress scale (mMRC) score, BODE score, partial pressure of oxygen (PaO_2), partial pressure of carbon dioxide ($PaCO_2$), and fall score ($P>0.05$). But the above indicators were significantly improved in 30 and 60 d after treatment ($P<0.05$). After treatment, the improvement of FEV1%, 6MWT, BMI, SGRQ, PaO_2 and $PaCO_2$ in the IC group was significant in 30 and 60 d ($P<0.05$), and the decrease of mMRC score was not obvious ($P>0.05$). There was no notable difference in BODE index between the 2 groups in 15 d ($P>0.05$), but the differences were significant in 30 and 60 d after treatment ($P<0.05$). After 30 days' treatment, there was no significant improvement in the risk score, times of acute exacerbation and re-hospitalization in the 2 groups ($P>0.05$), but the 3 indicators were significantly reduced after 60 days' treatment ($P<0.05$). **Conclusion** IC mode can significantly reduce the BODE index, improve PaO_2 and decrease $PaCO_2$, lower the incidence of falls, times of acute exacerbation and re-hospitalization in the elderly patients with moderate and severe COPD.

【Key words】 aged; chronic obstructive pulmonary disease; intermediate care; respiratory rehabilitation; BODE score

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中期照护(intermediate care,IC)是帮助急性期后患者达到最佳舒适状态、最大限度恢复患者生活自主能力的整合性医疗服务[1],是衔接急性期与长期照护的有效措施[2]。慢性阻塞性肺疾病(chronic obstructive pulmonary diseases,COPD)因吸烟、空气污染及其他因素导致发病率居高不下,患者常因反复急性发作多次住院,影响患者的身体健康。IC为急性后期COPD患者的治疗与康复提供了一个有效的治疗方式。本文拟探讨IC对老年中、重度COPD患者稳定病情、提高生活质量、降低急性发作次数等方面的疗效。

1 对象与方法

1.1 研究对象

选取2015年1月至2017年6月在我院因COPD急性发作住院治疗病情好转且资料完整的中、重度COPD患者124例,随机数字表法分为IC组和对照组,每组62例。COPD诊断参考2014年中华医学会呼吸病学分会慢性阻塞性肺疾病急性加重(acute exacerbation of chronic obstructive pulmonary disease,AECOPD)诊治中国专家共识(2014年修订版)[3],其中男性104例,女性20例,年龄65~80(72.0±4.1)岁。吸烟者107例(男性101例、女性6例,其中已戒烟1年以上者32例),合并高血压、冠心病者68例,2型糖尿病者30例,慢性喘息性支气管炎者76例,肝功能不全患者18例,陈旧肺结核者7例,尘肺患者26例。排除标准:(1)严重肢体功能障碍;(2)严重心血管疾病、不稳定心绞痛、未能有效控制的充血性心力衰竭;(3)运动性晕厥者;(4)严重肝肾功能异常、认知障碍和精神异常者;(5)肺结核痰结核菌培养阳性者等。本研究方案经过医院医学伦理委员会论证批准,所有患者均签署知情同意书。

1.2 方法

IC组患者在我院中期照护病房进行。所有患者在完善相关检查、进行充分评估后根据病情不同采用IC管理,该模式采用多学科合作治疗模式,即在临床常规治疗的基础上,对所有治疗组患者除采用健康教育、肺康复训练、运动训练外,结合护理、康复、营养、药学、精神心理等综合支持治疗。具体包括呼吸体操、呼吸方式训练、肺功能锻炼器、上下肢体运动训练等。每个项目锻炼时间为15~20 min。每次总康复时间为90~120 min。每周训练3次。

对照组所有患者经治疗病情好转后给予健康宣传教育、临床用药指导,随后出院。建立随访档案,包括患者的一般资料、随访电话、再次就诊时间以及急性发作等,观察记录时间为60 d。

1.3 监测指标及评分

应用圣乔治呼吸问卷(Saint George's Respiratory Questionnaire,SGRQ)评分[4]对患者进行健康相关生活质量评定;采用GOLD2013推荐的体质量指数、气流阻塞程度、呼吸困难及运动能力指数(body mass index, airflow obstruction, dyspnea and exercise capacity,BODE)评分[5]进行评估,其中体质量指数(body mass index,BMI)评估营养状况;气流阻塞程度应用日本CHEST公司生产的肺功能检测系统进行测定;呼吸困难测定应用改良的英国医学研究委员会(Modified Medical Research Council,mMRC)量表测定[5];运动耐力测定应用6分钟步行试验(6-minute walking test,6MWT)测定;跌倒评分评估采用跌倒风险评定工具(falls risk assessment,FRA)[6],统计30 d和60 d急性发作次数和住院次数。

1.4 统计学处理

采用SPSS 20.0统计软件对数据进行分析。计量资料用均数±标准差($\bar{x}\pm s$)表示,组间比较采用t检验;计数资料用百分率表示,组间比较采用χ^2检

验。$P<0.05$ 为差异有统计学意义。

2 结 果

2.1 2组患者基线资料比较

治疗前,2组患者年龄、性别及其他基线资料比较,差异均无统计学意义($P>0.05$;表1),具有可比性。

表1 2组患者基线资料比较

Table 1 Comparison of baseline data between two groups

($n=62$)

Item	IC group	Control group	P value
Age(years, $\bar{x}\pm s$)	73.1±2.4	72.6±3.2	0.687
Gender(male/female, n)	53/9	52/10	0.932
Body mass(kg, $\bar{x}\pm s$)	69.1±4.6	70.3±4.8	0.865
Height(cm, $\bar{x}\pm s$)	174.1±5.2	172.8±6.2	0.758

IC: intermediate care

2.2 2组患者临床效果评价

2组治疗前各指标比较,差异均无统计学意义($P>0.05$);与治疗前相比,2组治疗后15 d,第1秒用力呼气容积/用力肺活量(forced expiratory volume in one second/forced vital capacity, FEV1/FVC, FEV1%)、6MWT、BMI、SGRQ、mMRC、BODE评分、动脉血氧分压(partial pressure of oxygen, PaO_2)、动脉血二氧化碳分压(partial pressure of carbon dioxide, $PaCO_2$)、跌倒评分差异不显著($P>0.05$);治疗后30 d及60 d,以上指标有显著改善($P<0.05$)。治疗后15、30、60 d两组间比较,IC组FEV1%、6MWT、BMI、SGRQ、PaO_2、$PaCO_2$改善显著($P<0.05$),mMRC评分降低不明显($P>0.05$);治疗后15 d,BODE评分两组差异不显著($P>0.05$),治疗后30 d及60 d差异显著($P<0.05$)。治疗后30 d两组跌倒风险评分、急性发作次数、再住院次数均无显著改善($P>0.05$);治疗后60 d则显著降低($P<0.05$;表2,3)。

3 讨 论

COPD是患病率和死亡率均较高的慢性呼吸系统疾病;全球范围内,COPD居死亡原因的第四位。我国最新调查数据显示,COPD居中国疾病负担的首位[7]。因此,如何加强对COPD患者治疗与管理,降低发病率和急性发作频率,提高其生活质量和运动耐力,是防治过程中面临的重要问题之一。

英国卫生署以官方健康照护政策提出IC,其目的在于帮助患者由疾病期过渡至恢复期,预防在家接受长期照护的患者由于慢性功能缺损或病情加重而入院,在提升患者生活质量、节约医疗资源的同时,改善老年患者的心理状态、身体功能和提高患者

表2 2组治疗前后各指标比较

Table 2 Comparison of indices before and after treatment between two groups ($n=62$, $\bar{x}\pm s$)

Item	IC group				Control group			
	0 d	15 d	30 d	60 d	0 d	15 d	30 d	60 d
6MWT(m)	268±35	362±41	428±28*	456±35*	248±37	295±42#	325±33*#	358±35*#
BMI(kg/m^2)	19.0±4.5	19.0±2.9	21.0±2.2*	22.0±4.2*	19.0±3.8	19.0±5.1#	20.0±3.7*#	21.0±2.8*#
mMRC(score)	3.0±1.5	3.0±1.3	2.0±1.5*	2.0±1.1*	3.0±1.7	3.0±1.8	3.0±1.2*	3.0±1.1*
FEV1%	33.3±8.9	37.5±11.9	42.1±10.4*	53.1±8.4*	33.7±5.7	34.1±12.8#	38.8±9.5*#	45.8±9.8*#
BODE(score)	8.0±1.5	6.0±1.8	4.0±1.8*	3.0±1.8*	8.0±2.1	7.0±2.5	6.0±1.5*#	5.0±2.6*#
SGRQ(score)	89.0±12.2	75.0±10.5	65.0±7.5*	60.0±7.5*	87.0±9.7	83.0±8.5#	77.0±7.7*#	70.0±7.9*#
PaO_2(mmHg)	59.3±7.9	68.1±5.8	71.3±8.3*	74.3±8.3*	58.8±8.0	61.3±7.9	65.0±5.7*#	67.0±4.5*#
$PaCO_2$(mmHg)	69.3±6.5	53.3±7.0	48.3±5.4*	46.3±4.7*	69.8±8.1	63.3±6.9	60.3±7.8*#	56.3±6.2*#
Fall times	6.0±1.8	5.5±1.3	4.3± 1.7*	1.4±0.8*	5.8±2.1	5.6±2.8	5.3±3.5*#	3.5±1.2*#

IC: intermediate care; 6MWT: 6-minutes walking test; BMI: body mass index; mMRC: Modified Medical Research Council; FEV1%: forced expiratory volume in one second/forced vital capacity; BODE: body mass index, airflow obstruction, dyspnea and exercise capacity; SGRQ: Saint George's Respiratory Questionnaire; PaO_2: partial pressure of oxygen; $PaCO_2$: partial pressure of carbon dioxide. Compared with before treatment, *$P<0.05$; compared with control group, #$P<0.05$. 1 mmHg=0.133 kPa

表3 2组治疗后30 d及60 d急性发作次数、再住院次数比较

Table 3 Comparison of acute episodes and re-hospitalization on 30 d and 60 d after treatment between two groups

($n=62$, times, $\bar{x}\pm s$)

Item	IC group		Control group	
	30 d	60 d	30 d	60 d
Acute episodes	3.4±1.6	6.3±3.7	6.5±3.6	10.1±2.8*
Re-hospitalization	2.8±2.5	4.2±2.8	4.6±1.8	8.3±3.6*

IC: intermediate care. Compared with control group, *$P<0.05$

生活质量,减少急性发作次数和住院次数,降低平均住院日[10-12]。

我院自2013年成立中期照护病房,参考英国、澳大利亚等国家的IC管理模式,并成立多学科管理团队,对中重度COPD患者急性期后进行IC管理,特别是在健康宣传教育、肺康复训练、肢体功能训练、营养支持、精神心理支持、临床用药指导等方面进行了大量的工作,取得了明显的临床效果。本研究采用随机对照研究观察IC模式对老年中重度COPD患者的康复治疗效果。经过60 d的干预后,IC组在改善肺功能、提高运动耐力、提高生活质量、改善PaO_2、$PaCO_2$、降低跌倒评分、降低急性发作次数、再住院次数等方面均有明显改善。

目前,IC在国内已经逐渐开展,但真正实施过程中还有许多问题需要解决,包括IC的模式、时间、照护内容及患者管理等都需要进一步研究,并且不同的疾病需要不同的照护周期。传统IC时间为2~6周,但是COPD患者由于病情长、易反复及影响因素多等,建议适当延长照护时间。我们认为照护时间不应少于12周,这与英国对IC时间的研究结果大致相同。在本研究中,治疗组患者在60 d时虽然均已取得了明显的康复治疗效果,但是仍有一部分患者仍未达到理想的康复治疗标准,仍有较明显的康复空间。相信在经过较长时间的照护管理后,生活质量及身体状况会进一步提高,相关数据我们仍在收集中。另外,在照护过程中如何制定合理有效的康复计划以及提高患者进行康复治疗的依从性也是我们在IC管理中需要探讨的问题。

由于本组患者均为老年患者,除了中重度COPD疾病外,大都合并多种疾病,因此,充分发挥多学科团队中各个专业的优势,为患者提供全方位的治疗服务是IC成功的关键。本研究配备了具有丰富治疗和康复经验的呼吸科医师、呼吸治疗师、康复医师,还专门为团队配备了营养医师、临床药师、精神心理医师和社会工作者,为患者解决医疗-康复-生活各方面的问题,取得了满意的临床效果,也得到了患者的认可。在本观察研究中,治疗组有9例患者由于经济状况、家庭子女赡养、治疗费用等问题而有意退出观察,但是由于团队中的社会工作者和精神心理医师多次的谈话、疏解,并帮助患者调解上述问题,最终使得这9例患者成功坚持锻炼并取得了较好的康复效果。

总之,IC模式对中重度COPD患者具有积极的康复治疗作用,可以有效地稳定患者病情,改善患者的运动能力和运动耐力,降低患者急性发作次数和住院频率,提高患者生活质量。

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