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实施临床路径对 2 型糖尿病患者影响的研究

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摘要 目的:探讨实施临床路径后对 2 型糖尿病患者的影响。**方法:**选择某三甲医院 2011 年前未实施临床路径和 2011 年实施临床路径后诊断为 2 型糖尿病的患者,观察比较实施临床路径前后 2 型糖尿病患者的平均住院日、再住院率、住院费用、药费、耗材费、检查费以及 2 型糖尿病治愈、好转、死亡等效果等指标有无差异。**结果:**实施临床路径前后 2 型糖尿病患者的平均住院日、再住院率、住院费用、药费、耗材费、检查费以及 2 型糖尿病治愈、好转、死亡等效果相比较有明显差异($P<0.01$)。**结论:**2 型糖尿病人治疗中实施临床路径可显著缩短平均住院日,降低平均住院费、药费、耗材费及检查费用,再住院率明显降低,实施临床路径后 2 型糖尿病治愈、好转、死亡等效果比实施临床路径前明显改善。临床路径的开展和应用,使患者在最合适的时机得到最合理的检测、诊断和治疗,大大优化医疗资源,改善治疗结局,具有临床应用价值,值得临床推广和应用。

关键词:2 型糖尿病;临床路径;影响

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The Research of Influence on Patients that Perform Clinical Pathway with Type 2 Diabetes

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ABSTRACT Objective: To investigate the effect of the clinical pathway on patients with type 2 diabetes mellitus. **Methods:** The patients with type 2 diabetes patients without implemented the clinical pathway before and performed the clinical pathway in 2011 were chosen, then the difference in average day in hospital, hospital admission rates again, hospital cost, expenses for medicine, material fee, examination fee and type 2 diabetes cure rate, improvement, death were detected. **Results:** After perform the clinical pathway on patients with type 2 diabetes, the average day in hospital, hospital admission rates again, hospital cost, expenses for medicine, material fee, examination fee and type 2 diabetes cure rate, improvement, death effects had obvious difference ($P<0.01$). **Conclusion:** Perform clinical pathway on patients with type 2 diabetes can significantly shorten the average day in hospital, reduce the average hospitalization expenses, expenses for medicine, material fee and checking expenses, and the hospitalization rate was reduced significantly. The development and application of clinical pathway can optimize medical resources, improve the treatment outcome, with a great clinical application value.

Key words: Type 2 diabetes; Clinical pathway; Influence

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前言

随着我国经济的发展和人们生活水平的不断提高,老百姓的生活方式和饮食结构发生了巨大的变化,同时出现了糖尿病等慢性病的发病率明显增长的趋势。糖尿病(Diabetes)是由遗传因素、免疫功能紊乱、微生物感染及其毒素、自由基毒素、精神因素等等各种致病因子作用于机体导致胰岛功能减退、胰岛素抵抗等而引发的糖、蛋白质、脂肪、水和电解质等一系列代谢紊乱综合征,是一种全身性、慢性终身性疾病^[1]。据权威数据统计,在中国总糖尿病患病率(包括既往诊断的糖尿病和既往未诊断的糖尿病)9.7%(其中男性为 10.6%、女性为 8.8%),糖尿病

前期患病率分别为 15.5%(男性为 16.1%、女性为 14.9%)^[2]。据此推算,我国有 9240 万成年人有糖尿病(男性 5020 万、女性 4220 万),1.482 亿成年人处于糖尿病前期(男性 7610 万、女性 7210 万)^[2]。随着糖尿病病程的进展和病情的加重,糖尿病并发症的种类也逐渐增多,这样病人所需要的检查项目、药品种类和费用都会随着这些情况而增高,这无疑也加剧了糖尿病治疗费用的上涨。我国糖尿病直接医疗成本,1993 年为 22.16 亿元;2002 年和 2003 年平均上升了 156.83 亿元,分别占 GDP 的 0.07%和 0.143%^[3]。因此,近年来国内外医疗机构开始寻求如何较少医疗费用的同时,能够保证医疗质量提高方面的管理方法和对策。其中,临床路径管理作为一种新兴的临床诊疗规范化管理方式,在国内外开始广泛的实施,在医疗成本降低,提高医疗服务质量方面已取得了较好的成效^[3-9]。本研究对我院实施临床路径后 2 型糖尿病患者住院天数、住院费用等方面带来的影响进行了分析。

1 材料与方法

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1.1 一般资料

选择某三甲医院实施临床路径前诊断为 2 型糖尿病的患者共 868 例,选择 2011 年实施临床路径后诊断为 2 型糖尿病的患者 474 例,所有入选对象均符合 1999 年世界卫生组织(WHO)及《2007 年版中国糖尿病防治指南》(中华医学会糖尿病分会,2007 年)2 型糖尿病诊断标准,均无急性并发症及严重的心、肝、肾疾病和感染;无合并其他影响糖代谢的疾病,如库欣综合征、甲状腺功能亢进症、肢端肥大症等^[9-10]。本研究采用的临床路径为卫生部颁布的 2009 版 2 型糖尿病临床路径。

1.2 评估指标

包括住院天数、再住院率、住院费用、药费、耗材费、检查费以及 2 型糖尿病治愈、好转、死亡等效果。

1.3 统计方法

数据以均数 $\pm$ 标准差($\bar{x} \pm s$)表示,用 SYSTAT 统计软件进行处理,组间差异比较,符合正态分布的采用独立样本 t 检验;不符合正态分布的采用非参数检验。计数资料采用卡方检验比较组间差异^[9-10]。

2 结果

2.1 效率指标分析

从表 1 可以看出,经 F 检验,实施路径前和实施路径后 2 型糖尿病患者住院天数间的差异较显著($P < 0.0001$)临床路径实

施后 2 型糖尿病患者平均住院天数比实施临床路径前明显降低,平均降低为 2.4 ± 1.9 天。说明实施临床路径后 2 型糖尿病患者的住院天数明显降低。

表 1 2 型糖尿病住院天数比较

Table 1 Comparison of the hospitalization of patients with type 2 diabetes

Group	Cases	Days in hospital
Before pathway	867	14.3 ± 6.1
After pathway	474	11.9 ± 4.2
F		-7.71
P		0.000

2.2 效果指标分析

对实施路径前和路径后 2 型糖尿病患者治愈、好转、死亡等效果进行了统计学分析(表 2)。结果表明,实施路径前后以上各指标间的差异显著($P < 0.0001$),实施临床路径后 2 型糖尿病治愈率(4.6%)比路径前提高 4.29%;好转率(95.35%)比实施临床路径前(99.65%)下降 4.30%;死亡率均为 0%。表明实施临床路径后 2 型糖尿病治愈、好转、死亡等效果比实施临床路径前有明显改善。

表 2 2 型糖尿病治愈、好转、死亡等效果指标比较

Table 2 Comparison of the cure, the improvement and the rate of death of patients with type 2 diabetes

Effect index	Reach the standard	Improvement	Death	Total
Before pathway	3 (0.35%)	864(99.65%)	0(0%)	867(100%)
After pathway	22 (4.64%)	452(95.35%)	0(0%)	474(100%)
Total	25 (1.86%)	1316(98.13%)	0(0%)	1341(100%)
χ^2		30.91		
P		0.000		

χ^2 检验结果显示,实施路径前和实施路径后 2 型糖尿病患者再住院指标之间有明显差异($P < 0.0001$),且实施临床路径后 2

型糖尿病再住院率(1.26%)比实施临床路径前(33.56%)明显降低,平均降低 32.3%,表 3。

表 3 2 型糖尿病再住院效果指标比较

Table 3 Comparison of the indexes in the re-hospitalization of patients with type 2 diabetes

Effect index	Re-hospitalization	Not re-hospitalization	Total
Before pathway	291(33.56%)	576(66.43%)	867(100%)
After pathway	6(1.26%)	468(98.73%)	474(100%)
Total	297(22.14%)	1044(77.85%)	1341(100%)
χ^2		185.41	
P		0.000	

2.3 费用指标分析

从非参数检验分析可知,实施路径前和实施路径后 2 型糖尿病患者住院费、药费、耗材费和检查费用之间有明显差异($P < 0.0001$),表 4。

3 讨论

根据国际糖尿病联合会(IDF)公布的最新数据,全球糖尿病患者人数已经达到惊人的数目 2.85 亿,如果按照当前的增长率,2030 年糖尿病患者总人数将超过 4.35 亿^[1]。我国自 1980 年开展第一次糖尿病流行病学调查至今,糖尿病患病率已由当时的不足 1%增加到目前的 10%左右,成为继肿瘤、心血管病之后的第三大严重威胁人们健康的慢性疾病^[1]。目前,国内年龄大

表 4 2 型糖尿病费用指标比较

Table 4 The treatment cost for the patients with type 2 diabetes

Year	Cases	Hospital cost (¥)	Medical fee(¥)	Material fee (¥)	Examination fee(¥)
Before pathway	867	11454 ± 5665	2975 ± 3525	565 ± 1953	6510 ± 1791
After pathway	474	8220 ± 4136	1612 ± 1715	522 ± 1964	5252 ± 1397
Z		-14.3	-9.27	-7.81	-13.92
P		0.000	0.000	0.000	0.000

* 注:Z 代表非参数检验中的 Z 值。

*Note: Z represents the Z value in the nonparametric test.

于 20 岁的人群中,糖尿病和糖尿病前期患病率分别为 9.7%和 15.5%,我国已成为世界上糖尿病患者最多的国家^[1]。因此,建立一套针对糖尿病患者的既能规范糖尿病诊疗又能提高医疗效率的方案,对最终减少糖尿病患者的医疗支出具有重大的临床意义^[8-14]。临床路径是指对服务对象的健康状况负责的所有人员,包括临床专家、护理专家、药学专家、心理学专家、营养师、检验人员以及行政管理人员等,联合为某一特定的诊断、处置(治疗)而制订的一套最佳的、标准的服务与管理模式^[15]。Kampan(2006)在泰国研究临床路径对控制 2 型糖尿病患者出现低血糖管理效率。实施临床路径后,患者平均住院天数从 6.38 天减少 3.94 天,降低 38%。认为临床路径的实施和建议明显的减少住院 2 型糖尿病患者中低血糖出现率和再住院率。他的研究结果进一步证实,糖尿病强化教育不仅对急性患者医疗状况,而且长期保持健康和控制糖尿病方面产生了明显的影响^[16]。文献资料显示,在糖尿病住院费用的构成中,约 55%是药费^[17],国外的研究显示,实施临床路径后糖尿病患者的药费和非必要的毛细血管血糖检测费等明显的下降^[18]。如,Kangas(1996)报道 1989 年在芬兰糖尿病患者的药物治疗费占芬兰卫生保健总费用的 5.8%,比非糖尿病患者的保健费多三倍,其中包括住院费(81%),药费(9%),门诊费(8%)和自我护理器材费(2%)^[19]。根据加拿大糖尿病协会的统计,在加拿大已被确诊糖尿病的患者人数从 2000 年的 130 万增加到 2010 年的 250 万,预测到 2020 年患者人数会达到 370 万人。糖尿病的经济负担 2010 年达到了 12.2 亿美元,比 2000 年的 5.9 亿美元增加一倍,它们预测到了 2020 年糖尿病的经济负担再涨 4.7 亿美元,达到 16.9 亿美元^[20]。Jonsson 等(2000)的研究显示,在瑞典年轻和中年糖尿病患者的医疗开支压力非常大,其中住院费占总费用的 50%^[21]。本研究结果表明,在我院 2 型糖尿病患者治疗中实施临床路径可显著缩短平均住院日,降低平均住院费、药费、耗材费及检查费用,再住院率明显降低,实施临床路径后 2 型糖尿病治愈、好转、死亡等效果比实施临床路径前明显改善。因此,临床路径的开展和应用,可使患者在最合适的时机得到最合理的检测、诊断和治疗,大大优化医疗资源,改善治疗结局,具有临床应用价值,值得临床推广和应用。

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