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· 生物医学教学 ·

以教学问题为基础的学习结合以授课为基础的学习教学法在呼吸系统教学中的应用 *

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摘要 目的:研究以问题为基础的学习(PBL)结合以授课为基础的学习(LBL)教学法在呼吸系统教学中的应用效果。方法:以2016年1月-2017年12月于西安交通大学第一附属医院呼吸与危重症医学科实习的实习生84例为研究对象。将其以随机数字表法分成研究组(n=42)和对照组(n=42)。对照组予以传统LBL教学法进行教学,研究组则采用PBL结合LBL教学法进行教学。分别比较两组实习生各项考试成绩、对教学模式的评价情况以及对教学方式的满意度。结果:研究组实习生专业基础理论知识、病例处理能力成绩均高于对照组($P<0.05$),而两组基本操作技能相比差异无统计学意义($P>0.05$)。研究组实习生对教学模式的学习兴趣、知识理解、自主学习、课堂气氛、表达能力、人际交往的评分均高于对照组($P<0.05$)。研究组实习生对教学方式满意度为92.86%(39/42),高于对照组的76.19%(32/42),差异有统计学意义($P<0.05$)。结论:PBL结合LBL教学法应用于呼吸系统教学效果明显,有利于提高实习生考试成绩以及满意度。

关键词: 呼吸系统教学;以问题为基础的学习教学法;以授课为基础的学习教学法;应用效果;满意度

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Application of PBL Combined with LBL Teaching Method in Respiratory System Teaching*

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ABSTRACT Objective: To study the application effect of problem-oriented learning (PBL) combined with lecture-based learning (LBL) teaching method in respiratory system teaching. **Methods:** 84 interns who worked at the Department of Respiratory and Critical Medicine of the First Affiliated Hospital of Xi'an Jiao Tong University from January 2016 to December 2017 were selected as the research subjects. They were divided into study group and control group according to random number table method. The control group was taught by the traditional LBL teaching method, while the study group was taught by PBL combined with LBL teaching method. The test results, the evaluation of the teaching method and the satisfaction of the teaching method of interns in the two groups were compared. **Results:** The scores of professional basic theoretical knowledge and case handling ability of interns in the study group were higher than those in the control group ($P<0.05$), but there was no significant difference in the basic operation skills of the two groups ($P>0.05$). The score of learning interest, knowledge understanding, self-learning, classroom atmosphere, expression ability and interpersonal communication of interns in the study group were higher than the control group ($P<0.05$). The satisfaction rate of the study group was 92.86% (39/42), which was higher than that of 76.19% (32/42) in the control group, and the difference was statistically significant ($P<0.05$). **Conclusion:** PBL combined with LBL teaching method is effective in respiratory system teaching, and it is conducive to improving the examination results and satisfaction of interns.

Key words: Respiratory system teaching; Problem-based learning teaching method; Lecture-based learning teaching method; Application effect; Satisfaction

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前言

呼吸内科在教学系统中属于一门理论性强、实践性高以及应用性高的学科,一直以来都是临床外科学的重难点^[1,2]。为了更好地辅助呼吸系统教学过程,寻找一种有效的呼吸系

统教学方式显得尤为重要,对提高呼吸系统医学教学质量具有极其重要的意义。既往,临床上主要采用传统的以授课为基础的学习(Lecture-based learning, LBL)教学法对实习生进行教学,但该教学法仅局限于课本上的理论知识,无法有效的培养实习生的临床实践能力,从而导致实习生的临床动手能力不断

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降低^[3-5]。以问题为基础的学习(Problem based learning, PBL)教学法是由美国的 Barrows 教授首先提出,主要是指以患者疾病问题为基础,以学生为中心,以老师为引导的一种教学模式,在提高学生解决问题能力以及自主学习能力方面具有明显的效果^[6-8]。鉴于此,本文通过研究 PBL 结合 LBL 教学法在呼吸系统教学中的应用效果,旨在为临床呼吸系统教学提供一种有效的教学方案,从而达到提高教学质量的目的。现作以下报道。

1 资料与方法

1.1 一般资料

以 2016 年 1 月-2017 年 12 月于西安交通大学第一附属医院呼吸与危重症医学科实习的实习生 84 例为研究对象。纳入标准:(1)所有实习生均已接受系统性呼吸科基本理论学习;(2)所有实习生对临床常见呼吸科疾病均有一定的认知。排除标准:(1)依从性较差者;(2)正参与其他研究者。将其以随机数字表法分成研究组和对照组。其中研究组 42 例,男 26 例,女 16 例,年龄 21-29 岁,平均(25.24± 2.19)岁;在校理论成绩平均分为(82.40± 6.19)分。对照组男 27 例,女 15 例,年龄 22-27 岁,平均(24.17± 2.20)岁;在校理论成绩平均分为(81.31± 6.21)分。两组上述各项基本资料比较,($P>0.05$),表明组间具有可比性。

1.2 研究方法

对照组予以传统 LBL 教学法进行教学,具体内容如下:以内科学呼吸系统疾病为主要教学内容,由带教老师向实习生讲授呼吸系统疾病的发病因素、临床特征、检查手段、鉴别诊断、治疗方案以及并发症等相关知识。研究组则采用 PBL 结合 LBL 教学法进行教学,具体方式如下:(1)基础知识讲授:由带教老师详细讲解呼吸系统疾病的流行病学特征、临床表现、治疗原则以及并发症等基础知识。(2)提出问题:根据临床内科教学大纲的要求,并与“内科学”教材内容相结合,对病例相关资料进行广泛查阅,并按照课程的进度在每节课前 7 d 挑选一个

病例,综合病例情况以及学生的能力设置相应问题。(3)课前准备:要求实习生根据带教老师所提供的资料,通过各种学习工具进行相关知识的查阅,并与学生的自身知识储备相结合,总结出自己的解决问题思路,同时与其他实习生进行充分的讨论、分析。(4)总结阶段:由带教老师对学生的讨论内容予以补充和修正,同时介绍相关新进展,并对学生的表现进行合理的评估。

1.3 观察指标

分别比较两组实习生各项考试成绩、对教学模式的评价情况以及对教学方式的满意度。其中考试成绩主要是参照《内科学》^[9]“三基”的考试要求,两组实习生考核相同的题目,内容包括 50 分的专业基础理论知识、30 分的病例处理能力(包括选取临床病例、诊断患者疾病、检查体格、制定治疗方案、书写病理以及阅片)以及 20 分的基本操作技能(包括吸痰、胸腔穿刺术等)。实习生对教学模式的评价采用调查问卷的方式进行,主要内容包括学习兴趣、知识理解、自主学习、课堂气氛、表达能力、人际交往等,每个项目总分 10 分,得分越高表示实习生对教学模式评价越好。满意度采用自制的满意度调查量表进行判定,总分 100 分,主要包括满意 81-100 分、一般 61-80 分、不满意 0-60 分三个选项^[10],满意度 = 满意人数 / 总人数 × 100%。

1.4 统计学方法

以 SPSS20.0 软件监测分析本研究数据,计数资料采用[n(%)]表示,予以 χ^2 检验,计量资料采用($\bar{x} \pm s$)表示,予以 t 检验。检验标准设置为 $\alpha=0.05$ 。

2 结果

2.1 两组实习生各项考试成绩对比

研究组实习生专业基础理论知识、病例处理能力成绩均高于对照组,差异有统计学意义($P<0.05$),两组基本操作技能相比,差异无统计学意义($P>0.05$),见表 1。

表 1 两组实习生各项考试成绩对比(分, $\bar{x} \pm s$)

Table 1 Comparison of test results of interns between the two groups (points, $\bar{x} \pm s$)

Groups	n	Professional basic theoretical knowledge	Case handling capacity	Basic operational skills
Study group	42	45.39± 2.35	24.57± 1.41	16.25± 1.48
Control group	42	41.48± 3.34	21.77± 1.58	15.74± 1.72
t	-	6.205	8.569	1.457
P	-	0.000	0.000	0.149

2.2 两组实习生对教学模式的评价情况对比

研究组实习生对教学模式的学习兴趣、知识理解、自主学

习、课堂气氛、表达能力、人际交往的评分均高于对照组,差异均有统计学意义($P<0.05$),见表 2。

表 2 两组实习生对教学模式的评价情况对比(分, $\bar{x} \pm s$)

Table 2 Comparison of evaluation of teaching mode of interns between two groups (points, $\bar{x} \pm s$)

Groups	n	Learning interest	Knowledge understanding	Self-learning	Classroom atmosphere	Expressive ability	Interpersonal communication
Study group	42	9.48± 0.32	9.17± 0.57	9.64± 0.21	9.35± 0.21	9.21± 0.51	9.53± 0.23
Control group	42	7.11± 0.47	6.92± 0.56	7.20± 0.52	7.56± 0.68	7.43± 0.49	6.44± 0.82
t	-	27.013	18.248	28.197	16.300	16.311	23.514
P	-	0.000	0.000	0.000	0.000	0.000	0.000

2.3 两组实习生对教学方式的满意度对比

对照组的 76.19%(32/42), 差异有统计学意义($P < 0.05$), 见表 3。

研究组实习生对教学方式满意度为 92.86%(39/42), 高于对

表 3 两组实习生对教学方式的满意度对比[n(%)]

Table 3 Comparison of satisfaction with teaching methods of interns between two groups[n(%)]

Groups	n	Satisfaction	Normal	Dissatisfied
Study group	42	39(92.86)	2(4.76)	1(2.38)
Control group	42	32(76.19)	6(14.29)	4(9.52)
χ^2	-	4.459	2.211	1.914
P	-	0.035	0.137	0.167

3 讨论

传统的 LBL 教学主要是以学科为基础, 以老师为中心, 以课堂讲授为主要形式的一种教学方式, 这种教学方式是老师于授课过程中将相关知识直接灌输给学生, 学生始终处于被动接受的地位^[11-13]。作为长期以来的一种主流教学模式, LBL 教学可在有限的时间内传播知识, 并帮助学生进行深刻记忆。然而该教学模式的缺陷也是显而易见^[14-16], 首先在课堂上师生间的互动以及交流不多, 且学生处于被动听课状态、机械记忆, 教师忽视对学生知识应用能力以及创新思维能力的培养。其次学生以死记硬背、通过考试为目的, 难以发挥其学习的主观能动性, 因此很可能被培养成“高分低能”的学生。因此, 如何改变传统教学模式, 有效培养学生分析、解决问题的能力显得尤为重要。而 PBL 相比其他教学方式, 更加侧重对学生实践能力的培养, 且在教学过程中学生处于主动地位, 增加了师生之间的交流, 有效激发学生的学习积极性^[17-19]。

本结果发现, 研究组实习生专业基础理论知识、病例处理能力成绩均高于对照组, 说明了 PBL 结合 LBL 教学法应用于呼吸系统教学中效果明显, 有利于提高实习生的考试成绩。分析原因, 我们认为 PBL 教学通过引入病例的方式, 对学生提出相关问题, 并由学生围绕问题展开知识构建的学习, 从而有效调动了学生的学习积极性, 并培养了学生分析和解决问题的能力^[20-22]。而 LBL 教学重视医学科学的逻辑性以及认识的层次性, 教师主要是通过自身的理论与临床知识进行教学, 加强学生对自主学习能力的培养^[23-25]。通过对两种教学法进行有机结合, 可有效克服彼此的缺陷, 从而达到提高教学效果的目的。此外, 研究组实习生对教学模式的学习兴趣、知识理解、自主学习、课堂气氛、表达能力、人际交往的评分均高于对照组, 说明实习生比较认可 PBL 结合 LBL 教学法。因为该教学方式通过对呼吸系统患者的发病特点、临床表现、诊断鉴别、治疗手段以及预后等方面设置相关讨论主题, 从而让实习生直接参与疾病的整个诊疗过程中, 有效提高了实习生的学习兴趣以及思维能力, 加深了对理论知识的理解与长期记忆, 且在一定程度上增强了临床实践能力与临床沟通能力, 进一步达到掌握相关知识的目的^[26-28]。与此同时, 该教学法充分调动了实习生的积极性, 并通过知识的学习以及相互交流、讨论, 纠正和完善实习生临床技能的不足之处, 从而提高实习生的实际操作能力。另外, PBL 结合 LBL 教学法应用于呼吸系统教学中可显著提高实习生的满意度, 该教学方式重视提升实习生临床思维能力、动手

操作能力以及诊疗能力, 从而有效提高了学习效率, 培养了实习生的学习能力、创新能力以及实践能力, 因而更易得到实习生的认可^[29,30]。

综上所述, PBL 结合 LBL 教学法通过结合两种教学方式的优点, 有利于提高教学效果, 可显著提高实习生的考试成绩, 同时增加实习生的认可度, 推广应用价值较高。

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