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## · 生物医学教学 ·

## PBL 教学法在肾科临床见习中的应用

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**摘要 目的:**探讨以问题为基础的教学法(Problem Based learning,PBL)在肾科临床见习教学中的应用价值。**方法:**首都医科大学宣武医院 63 名参加内科学肾脏病临床见习的七年制学生随机分成对照组和观察组,对照组采用传统的基于授课的教学法进行教学,观察组用 PBL 教学法进行教学,比较 2 组学习成绩的差异;向学生发放问卷调查,调查学生对 2 种教学方法的认可程度。**结果:**2 组学生的填空题、选择题及简答题成绩比较无显著性差异( $P>0.05$ );观察组病例分析题成绩好于对照组( $P=0.001$ );培养临床思维、激发学习兴趣方面和自主学习能力方面 PBL 教学法优于传统教学法( $P<0.01$ )。**结论:**PBL 教学法有助于学生临床思维和临床技能的培养,从而使教学质量得到提高。

**关键词:**PBL;临床见习;肾脏病学

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## Application of PBL in Clinical Practice of Nephrology

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**ABSTRACT Objective:** To investigate the application value of Problem Based learning (PBL) teaching mode in nephrology department practice teaching. **Methods:** 63 students in kidney disease clinical practice were randomly divided into control group and observation group in Xuanwu Hospital of Capital University of Medical Science. The control group were taught by using traditional teaching method, while the observation group were taught by using PBL. The differences of performance were compared between 2 groups. Questionnaire survey was given to the students to investigation the acceptance for teaching methods. **Results:** The scores of filling in the blanks, multiple-choice and short-answer showed that there was no significant difference between 2 groups ( $P>0.05$ ). The result of case analysis in observation group were better than those in control group ( $P=0.001$ ). Cultivation of clinical thinking, strong interesting and challenging and autonomous learning ability in PBL were better than those in traditional teaching method ( $P<0.01$ ). **Conclusions:** PBL were beneficial to students' clinical thought and technique training, and it could improve teaching quality.

**Key words:** PBL; Clinical practice; Nephrology science

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## 前言

临床见习是医学生从基础理论学习转向临床实践的过度阶段,是通往临床实践的桥梁,在医学生的临床教学中起着举足轻重的作用。传统的见习课教学方法是以老师为中心,结合临床病例进行讲授,缺乏教师与学生的互动,学生在课程中被动接受大量临床知识,难以消化吸收<sup>[1,2]</sup>。肾科的临床教学是内科教学的重要组成部分,也是教学难点。由于肾脏疾病病种复杂,肾脏病理深奥难懂,肾脏病相关检查手段多样,基于以上特点,我们在肾科见习学习中引入以问题为基础的教学方法,取得了较好的效果。

## 1 材料和方法

## 1.1 研究对象

2007 级七年制本科生参加 2010 年内科学肾脏病临床见习课程 63 人,年龄 22-23 岁,男 29 名,女 34 名。应用抽签方法随机分成对照组和观察组,其中对照组 30 名,观察组 33 名,2 组性别、年龄和学习成绩无统计学差异( $P>0.05$ )。

## 1.2 研究方法

对照组由 2 位教师采用传统的基于授课的学习(lecture-based learning,LBL)教学法进行教学,观察组用 PBL 教学法进行教学。首先对教师进行 PBL 教学进行培训,使之了解 PBL 的教学方式、内容和重点。参照国家统编教材《内科学》第七版肾脏系统疾病的相关内容认真备课,准备教案,设计课程结构及内容,充分评估学习中可能出现的问题,从而能够有效地引导学生讨论,分析和总结学生讨论内容。见习结束后进行统一理论考试,理论考试根据教学大纲的要求,实行统一命题、考试、阅卷,考试题型为填空、选择、简答与病例分析。由同

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一教师进行阅卷,比较2组的成绩的差异;向学生发放问卷调查,调查学生对2种教学方法的认可程度。

### 1.3 统计学方法

应用SPSS17.0统计分析软件,计量资料以均数 $\pm$ 标准差表示,采用独立样本t检验,率的比较应用 $\chi^2$ 检验, $P<0.05$ 差异有显著性。

## 2 结果

### 2.1 观察组与对照组成绩的比较

2组学生的填空题、选择题及简答题成绩比较无显著性差异( $P>0.05$ );观察组病例分析题成绩大于对照组( $P=0.001$ ),具体见表1。

表1 观察组与对照组成绩的比较

Table 1 Comparison of the theory between the observation group and the control group

| Groups            | N  | filling in the blanks | multiple-choice  | short-answer     | case analysis    |
|-------------------|----|-----------------------|------------------|------------------|------------------|
| Control group     | 30 | 17.44 $\pm$ 1.60      | 17.31 $\pm$ 1.27 | 26.58 $\pm$ 1.28 | 22.92 $\pm$ 1.75 |
| Observation group | 33 | 17.60 $\pm$ 1.35      | 17.47 $\pm$ 1.38 | 26.15 $\pm$ 1.93 | 25.81 $\pm$ 1.56 |
| t                 |    | 0.430                 | 0.458            | 1.029            | 6.873            |
| P                 |    | 0.669                 | 0.649            | 0.307            | 0.001            |

### 2.2 LBL和PBL组学生对教学法认可程度的比较

PBL组学生认为该教学法可以有助于培养临床思维、趣味

性强、激发自主学习能力的比例显著大于LBL组( $P<0.01$ ),具体见表2。

表2 LBL和PBL组学生对教学法认可程度的比较

Table 2 Comparison of acceptance of teaching method between LBL and PBL groups

| Item                                               | Positive rate of LBL<br>(%,n=30) | Positive rate of PBL<br>(%,n=33) | $\chi^2$ | P     |
|----------------------------------------------------|----------------------------------|----------------------------------|----------|-------|
| Contribute to the cultivation of clinical thinking | 50.00                            | 87.88                            | 10.70    | 0.002 |
| Strong interesting and challenging                 | 36.67                            | 90.91                            | 20.34    | 0.001 |
| To stimulate autonomous learning ability           | 46.66                            | 84.85                            | 10.30    | 0.003 |
| Knowledge-based systems review                     | 63.33                            | 69.69                            | 0.29     | 0.606 |
| Widen train of thought                             | 43.33                            | 90.91                            | 16.41    | 0.001 |
| Lay the foundation for the production practice     | 93.33                            | 96.97                            | 0.45     | 0.601 |
| Promote cooperation among students                 | 16.67                            | 90.91                            | 35.08    | 0.001 |

## 3 讨论

近年来,我国传统医学教育模式—基于授课的学习(lecture-based learning,LBL)正在接受严峻的挑战,作为先进教学模式的代表“以问题为中心的学习”(problem-based learning,PBL)正在中国悄然兴起,逐渐成为一种科学的、成熟的教学模式,也成为我国医学教育改革的一种趋势<sup>[2,3]</sup>。PBL在很多方面与基于教授为传统的医学教学模式(LBL)有很大差别<sup>[4,5]</sup>。它更加强调以人为本,以学生为主体,以问题为中心展开学习,尤其强调激发学生的主观能动性,强调培养学生自主学习的能力,注重学生的综合素质培养<sup>[6-8]</sup>。它是“以问题为中心”的深层次的学习方法<sup>[9,10]</sup>。

见习课程是医学生从基础医学迈向临床实践的第一步,是临床实践开始的重要阶段。肾科教学是内科学教学中的难点,见习课程中主要涉的内容是肾小球疾病及慢性肾衰竭,由于病种复杂、临床变现多样,肾脏病理与临床表现不一致,学生很难理解肾脏病的临床特点,缺乏临床思维,理论与实践脱节,教学

效果不尽人意,教学难度较大<sup>[11,12]</sup>。本研究显示应用PBL进行教学使学生对学习更加感兴趣,学习效果更好。体现学生综合能力的病例分析成绩明显大于LBL组,说明PBL组同学已经初步建立正确的临床思维,与国内一些研究结果一致<sup>[13,14]</sup>。PBL模式有助于培养学生团队合作精神<sup>[15,16]</sup>,在学习过程中,既强调个人魅力的彰显,又要求与同学老师的交流、配合,与LBL相比,在人文教育方面,PBL有独特的优势<sup>[17]</sup>。

PBL对辅导教师的要求很高,一方面应有本专业及相关学科的丰富知识,另一方面应具备教育心理学、行为科学、逻辑学的知识及敏锐的思维分析能力、演绎推理能力,才能胜任PBL教学任务<sup>[18,19]</sup>。通过PBL课程,教师可以全面了解每位同学的学习状态,包括个人的学习能力、语言表达能力、总结归纳能力、临床思维能力等。同时,教师也需要适应这一教学模式的变化,进行角色转换,根据教学大纲要求,精心设置课程构架及问题,并有效引导学生进行讨论,最后总结和分析学生讨论的问题,进一步提高教学质量。

PBL教学法在应用过程中还存在一些问题,比如PBL在

实施教学任务时过于强调临床解决问题的能力,缺乏教师的系统讲授,学生不能掌握完整的医学基本理论,在基础知识系统学习方面稍有欠缺<sup>[9]</sup>。另外,学生课前查阅大量资料,很难平衡基础知识学习与临床知识之间的关系,不能真正掌握所学知识,与PBL的宗旨不符,这都有待于进一步研究。

总之,PBL教学法可以提高学生的学习兴趣,培养科学的临床思维,提高学习成绩,在应用过程中要与LBL相结合,不断改进,扬长避短,断提高医疗教学质量。

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