

Program on Nosocomial Infection in the Curricula of Medicine, Dentistry, Nursing and Medical Technology in Thailand

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Objectives : To identify defects in the program on NI in curricula of medical, dental, medical technology and nursing schools. Impacts of the results of the study on the changes of the program were also evaluated

Material and Method : Questionnaires study of all 12, 8, 9 medical, dental, medical technology and 20 of 62 nursing schools. Data were collected and analyzed. Defects in the program of NI were identified and recommendation for improving was drafted in a workshop participated by curriculum directors and researchers. Results of the study were feedback to the schools enrolled. Changes of the program were later followed..

Results : Program on NI was present in the curricula of 11 of 12 medical, some dental and medical technology but in none of the nursing schools. Education program varied in methods of teaching, hours and years of students. A few schools modified the program in their curricula by the results of the study and recommendation of a workshop participated in by researchers and program directors.

Conclusion : Program on NI in the curricula of medical, dental, medical technology and nursing schools in Thailand varied in education methods, teaching hours and in student years. The present study results had little impact on changing the program. An evidence-based program on NI in medical, dentistry, medical technology and nursing is urgently needed.

Keywords : Curricula, Nosocomial infection, Medicine, Dentistry, Nursing, Medical technology

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Nosocomial infection has been an important problem affecting both patients and healthcare providers for decades⁽¹⁾. The risk of acquiring nosocomial infection of patients in Thailand was reduced from 11.7% in 1988 to 7.3% in 1992⁽¹⁾. The risks of occupational exposure to infection are high especially in countries where little attention has been given to training its members in reducing the risks⁽²⁾. The risk of acquiring occupational hazards is highest for an inexperienced, tired individual in a new work environment^(3,4). One common hazard for medical house staff, residents and,

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medical students was the exposure to patients blood and body fluids^(5,6). A plan to reduce the risks of exposure to blood and body fluid among employees is mandated by law for employers⁽⁷⁾. Proper education to students in medical sciences can reduce the risks of nosocomial infection among patients and health care workers⁽⁸⁾. Even though knowledge given to students is short-lived^(9,10), successful programmes for medical students have been developed⁽¹¹⁾. Education programmes on reducing risk exposures were not developed specifically for medical students and house staff^(12,13). Co-ordinated programs on nosocomial infection are scarce in the literature ; a reported program is lacking in important scope and practical aspects⁽¹⁴⁾. A comprehensive

course on introduction to infection control was present in the curriculum of School of Dental Medicine, University of Nevada⁽¹⁵⁾ in the first year of College of Dentistry Curriculum-Canadian and International Students⁽¹⁶⁾ and a more detailed seminar in dental curriculum of Tufts University School of Dental Medicine⁽¹⁷⁾. In Thailand, information on education on infection control for students in medicine, nursing, dentistry and medical technology is scarce. A study on infection control in the curricula will reflect the knowledge and experience offered to students. The data collected will help administrators to amend the curricula as appropriate.

Material and Method

A program on nosocomial infection in the curricula of medicine, dentistry, nursing and medical

Table 1. Number of schools enrolled

Schools	No	%
Medical	12	100
Dental	8	100
Medical Technology	9	100
Nursing	20	32.3
Total	49	100

Table 2. Program on nosocomial infection control

Curricula	Present	Absent	Incorporated	Total
Medical	11	1	-	12
Dental	2	-	6	8
Medical Technology	3	-	6	9
Nursing	0	1	19	20
Total	16	2	31	49

Table 3. Teaching on nosocomial infection control

Curricula	Total No.	Years	Theory		Practice	
			No.	Hr.	No.	Hr.
Medical	12	1-6	11	1-8	1	N.S.
Dental	8	2-5	8	1-10	2	3-12
Medical technology	9	3-4	9	1-3	4	1-6
Nursing	20	2-4	13	6-8	16	N.S.
			7	N.S.*		

*N.S. = not specified

technology was collected by a questionnaire to all medical, dental and medical technology schools and 20 of nursing faculties/colleges in Thailand in 2002. Problems of including this programme in the curricula were given by the responsible persons. After data collection and analysis, a workshop participated by programme directors and researchers was held in 2003. Results of the study and suggestions for changes were sent to the schools where the data had been collected. The impact of the study on the amendment of infection control program in the curricula was evaluated one year later.

Descriptive statistics were used in data analysis.

Results

The survey on the program on NI was done in 49 schools (Table 1). All medical, dental and medical technology schools and 20 of 62 nursing faculties/colleges were enrolled. The program on NI was present in 16 schools (Table 2). In 31 schools, topics in NI were incorporated in other programs. Eleven of 12 (91.7%) medical schools had an NI program for medical students. In dental, medical technology schools, an NI program was present in only 2 (25.0%) and 3 (33.3%) respectively. None of the 20 nursing colleges had a separate NI program in their curricula.

The teaching in NI was given in theoretical and practical sessions (Table 3). They varied in terms of student years, number of hours for lectures and practices. For example, in dental curricula, a program on NI was offered to second to fifth year students. The lecture hours ranged from 1 to 10 and practice 3-12.

As shown in Table 4, none of the program directors of medical curricular expressed satisfaction in the NI program. It was more satisfactory in dental, medical technology and nursing curricula. The reasons for satisfaction are to be further explored. After data analysis and the workshop, the results of the study

Table 4. Satisfaction of teaching on nosocomial infection by program directors

Curricula	Satisfied	%	Not satisfied	%	No Opinion	%
Medical	0	0	0	0	12	100
Dental	7	87.5	0	0	1	12.5
Medical technology	6	66.7	2	22.2	1	11.1
Nursing	20	100	0	0	0	0

Table 5. Modification of curricula on NI control after notification of results of the study

Curricula	Total No.	No. responded	No. modified
Medical	12	6	2
Dental	8	4	2
Medical technology	9	6	2
Nursing	20	20	14

were distributed to all schools enrolled with suggestions. The impact of the study is shown in Table 5. One-half of the medical schools responded to the questionnaire and in 2 schools, changes had been made. More response was observed in nursing schools in which 14 of 20 the curricula on NI program were modified.

Discussion

The present study was well responded from medical, dental, medical technology and nursing schools (Table 1). Information was given mostly by deans, sub deans on education affairs and directors of the faculties or colleges. In one medical school (Table 2), no evidence can be traced on the teaching in NI. In 11 of 12 medical schools, program on NI had been established. In the majority of dental, medical technology and all nursing schools, subjects in NI were incorporated into other program, for example, basic clinical skills, surgery etc. In nursing schools, NI program could not be identified in the curricula. A specified program will help in setting a comprehensive education on NI prevention and control⁽¹⁴⁾. Properly trained students in the field of medical sciences can reduce the risk of nosocomial infection in patients and health care givers⁽⁸⁾. The threat of NI is high in every country including Thailand⁽¹⁾. Proper education must be offered to health care professionals by laws⁽⁷⁾.

The program on NI varied a great deal in the same type of schools (Table 3). The number of hours

for lectures in NI in medical curricula ranged from 1 to 8 and was given to 1 to 6 year medical students. Other curricula also had diversified program on NI. There should be studies to identify the need of students in each profession and the right time to educate them^(9,10). Satisfaction in an NI program of each curriculum, as shown in Table 4, was considered subjective. Educators and infection control practitioners should co-operate in collecting data on the need of each specialty and on how to educate them.

In the workshop participated by program directors of curricula and the researchers in 2003, recommendations on education for each curriculum were drafted. (details not included). For example, in principle of NI control, medical graduates must know, be able to practice ; medical technologist graduates ought to know while nurse graduates must know. The drafted guidelines on program of NI were distributed to schools where data had been collected. One year later, it was found that 2 of 6, 2 of 4, 2 of 6 and 14 of 20 medical, dental, medical technology and nursing schools who responded the questionnaire did modify programs on NI in their curricula (Table 5). The most common reason for not being able to change the program was the limit of time available.

Conclusion

A study on the program on NI in medical, dental, medical technology and nursing curricula was done in 2002. A specific program on NI was present in the curricula of 11 of 12 medical schools. The majority of dental, medical technology and nursing curricula did not have a separate NI program but the subject was given to students in other topics. In each type of school, the education program varied regarding methods, time and student years. Some schools modified the program on NI in their curricula after receiving the study results and recommendation.

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การเรียนการสอนโรคติดเชื้อในโรงพยาบาลในหลักสูตรแพทย์ ทันตแพทย์ พยาบาลและเทคนิคการแพทย์

สมหวัง ด้านชัยวิจิตร, สมศักดิ์ จักรไพวงศ์, เอื้อพงศ์ จตุรธำรงค์, อรุณี วชิรพรทิพย์, รัชดา เจริญรังสี, ศิริพร ศรีพลากิจ

วัตถุประสงค์ : ศึกษาหาข้อบกพร่องในการเรียนการสอนโรคติดเชื้อในโรงพยาบาลในหลักสูตรแพทย์, ทันตแพทย์, เทคนิคการแพทย์และพยาบาล และศึกษาผลกระทบของผลการศึกษาต่อการเปลี่ยนแปลงการเรียนการสอนโรคติดเชื้อในโรงพยาบาลในหลักสูตรข้างต้น

วัสดุและวิธีการ : ใช้แบบสอบถามการเรียนการสอนโรคติดเชื้อในโรงพยาบาลของโรงเรียนแพทย์, ทันตแพทย์, เทคนิคการแพทย์ทุกโรงและโรงเรียนพยาบาล 20 ใน 62 แห่ง รวบรวมวิเคราะห์ข้อมูลเพื่อหาจุดบกพร่องและร่างคำแนะนำสำหรับการปรับปรุงหลักสูตรโดยการประชุมเชิงปฏิบัติการประกอบด้วยผู้วิจัยและผู้รับผิดชอบหลักสูตรนำข้อมูลเสนอกรรมการหลักสูตรและติดตามผลการเปลี่ยนแปลงการเรียนการสอนโรคติดเชื้อในโรงพยาบาลในหลักสูตรต่าง ๆ

ผลการศึกษา : ในหลักสูตรแพทย์ 11 ใน 12 แห่ง มีวิชาโรคติดเชื้อในโรงพยาบาลโดยเฉพาะ ส่วนโรงเรียนทันตแพทย์, เทคนิคการแพทย์ มีวิชานี้ในสัดส่วนน้อยกว่าและไม่มีวิชานี้โดยเฉพาะในหลักสูตรพยาบาลศาสตร์ การเรียนการสอนโรคติดเชื้อในโรงพยาบาลแตกต่างกันเกี่ยวกับวิธีสอน ชั่วโมงสอน และชั้นปีการศึกษาที่สอน หลังจากได้ข้อมูลการศึกษาและคำแนะนำจากการประชุมเชิงปฏิบัติการแล้ว มีบางสถาบันปรับปรุงการเรียนการสอนโรคติดเชื้อในโรงพยาบาล

สรุป : การเรียนการสอนโรคติดเชื้อในโรงพยาบาลในหลักสูตรแพทย์, ทันตแพทย์, เทคนิคการแพทย์และพยาบาลในประเทศไทย มีหลากหลายทั้งวิธีการสอน ชั่วโมงสอน และชั้นปีการศึกษาที่สอน สถาบันการศึกษานำผลการศึกษาไปปรับปรุงการเรียนการสอนโรคติดเชื้อในโรงพยาบาลได้น้อย การสร้างหลักสูตรโดยอาศัยข้อมูลจึงมีความจำเป็นอย่างยิ่ง
