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SITUATION OF CLINICAL TEACHING-LEARNING IN HAIPHONG UNIVERSITY OF MEDICINE AND PHARMACY AND RESULTS OF PILOT APPLICATION OF INTERVENTIONS

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THESIS INTRODUCTION

1. Background:

Clinical learning-teaching usually accounts for a large proportion of the medical doctor's training programs in general and has made a great contribution to the training of attitude, clinical practical skills for medical students. On the other hand, clinical teaching-learning is performed in a special environment (hospital), on special object (patients), clinical teaching should be incorporated with knowledge teaching-learning, attitudes and skills. In recent years, the number of medical students has increased too rapidly, while the number of practice hospitals and ward beds have not increased significantly. This is one of the very important reasons that affect the quality of clinical teaching-learning.

Previously, in the framework of the Vietnam- Netherlands cooperation project in eight medical universities of Vietnam, Hai Phong University of Medicine and Pharmacy has built training units, consultancy on clinical teaching. Following the results of the Vietnam-Netherlands project and the support of the project "Health Human Resources Development Program" of Hai Phong University of Medicine and Pharmacy continue to apply some models of teaching- active learning in medical training. New forms of clinical teaching-learning have reaffirmed that the school always attaches great importance to training, especially clinical teaching-learning.

However, what is the situation of clinical teaching-learnig ? What factors affect clinical teaching-learning? What to do to be more effective in clinical teaching-learning? Are the essential questions which are currently issued in the medical universities. In our country, so far there have been some studies on this topic, but mostly stopped at the description of the situation ... In order to improve the teaching-learning in hospitals, it is necessary to have research Find causes and solutions to improve the quality of practical teaching-learning in hospitals. So we conducted this study aiming at:

- Describe the current situation of clinical teaching-learning in full-time general practitioner students at Hai Phong University of Medicine and Pharmacy in 2014 and some influencing factors.

- Evaluating the results of the application of a number of pilot clinical teaching-learning measurement to full-time general practitioner students

Hopefully, the results will contribute to improving the quality of clinical teaching-learning at Hai Phong University of Medicine and Pharmacy as well as other universities in Vietnam.

2. The urgency of the thesis: In our previous studies at Hai Phong University of Medicine and Pharmacy, there were manny disadvantages in clinical teaching-learning: the number of students has been increasing; clinical practice has restrictedly; Sometimes the patient refuses to be asked by students; Lack of clinical teachers in both quantity and quality; Limitation in supervision and clinical teaching-learning... In our understanding, there have not been any studies that fully describe the status and factors affecting clinical teaching-learning, especially interventions to improve the quality of clinical teaching. Therefore, the topic "Clinical teaching-learning situation at Hai Phong University of Medicine and Pharmacy and the results of trial application of some interventions" is very urgent.

3. New contributions of the thesis:

This is the first research in the country to study the status of clinical teaching-learning at a Medical University. The study has provided data on the status of clinical teaching-learning. The most commonly used clinical teaching-learning methods are through daily briefings, bedside study, ward round; case-based, evidence-based, problem-based clinical studies are less applicable. The skills acquired during the clinical course are relatively moderate. Most students are interested in clinical study methods. The most commonly used clinical evaluation method is the oral medical record presentation combined with lecture hall oral examination; clinical station examinations are less applied.

The study also points out a number of factors that influence situation of clinical teaching-learning: the number of overcrowded students is a significant influence on clinical teaching and learning. The number of clinical trainers is insufficient. Facilities, equipment, clinical teaching materials are not commensurate with the number of students. Due to the influence of social factors, students have less opportunity to practice as before.

In the term of the study, some interventions have been implemented on students and lecturers, initially achieved certain results on some clinical skills (communication skills with patient, taking medical history skill, taking previous history skills, writing medical records skills, clinical examination skill) to improve the quality of clinical teaching-learning.

4. Thesis structure: Thesis consists of 138 pages, in which 02 pages are to set issues; 29 page overview; subjects and methods of research 13 pages; study results of 55 pages; 35 pages; conclusion 02 pages; new contributions of the thesis: 1 page; 01 page recommendation. There are 39 tables, 7 figure, 117 references in which 58 documents in Vietnamese and 59 documents in English.

Chapter 1: OVERVIEW

1.1. Role and some characteristics of clinical teaching-learning: Clinical teaching-learning emphasizes the application of knowledge to the implementation of skills, helping students learn how to provide safe and qualified services for patients. Clinical teaching-learning helps achieve the goals of: gaining attitude, behavior, through which to train morality and shaping the personality of medical staff. Have the knowledge and skills to care for the sick. Practice the clinical thinking, working way of health staff, methodology, form the potential for self-study, research and capacity building.

Clinical teaching-learning environment is a special environment: teaching-learning in hospitals, clinics where the main task here is to care for the patient....So many more relationships between teachers and students will encourage students to behave more flexibly in order to facilitate learning.

Flexible teaching-learning organization: students work individually or in small groups with different learning contents and ... Teachers and students must become organizers, have the initiative and dynamism. Teachers must mobilize the learner to participate in the organization of the study (such as classroom management, notice of contents, places to go to school, preparation of

assignments, contact with teachers to schedule learning ...). Thus, the clinical teaching-learning process is a self-study process of students organized and supported by teachers.

1.2. Some current issues of clinical teaching-learning

- Doctor-patient relations are changing: patients are more demanding, health workers have more direct responsibility, and conditions are harder to achieve, clinical practice is increasing. More difficult, the solution to disassembly is not strong enough.
- The delicate and specialized alignment is not conducive to universal practice.
- Distraction of many important goals: Less teaching-attitudes, ethics, teaching-learning how to behave humanly and care for patients are overlooked. Less-practiced hands-on learning that is geared toward "potential." Less teaching organization, management, regulations, rules, working style; In combination with teaching-learning community medicine skills, communication skills, counseling, health education, public health issues, etc.
- Clinical teaching-learning methods are less effective: the tendency to confuse clinical practicing teaching-learning with theoretical teaching-learning is quite common, students do not know how to practice clinically. Teaching-learning methods for problem-solving, teaching-based learning ... are not popular. Medicine is evolving rapidly, the needs of patients require treatment and other care before but have not taught students to change the mind and behavior in time. The organization and support for clinical practice to become proactive and effective has not really been paid attention.

1.3. Some clinical teaching-learning methods:

1.3.1. Small group teaching-learning: In small group teaching-learning, students are divided into small groups for a limited time, each self-help group accomplishes learning tasks on the basis of assignment and collaboration. The results of the group are then presented and evaluated in advance of the class. The number of students in a group is usually between 4 and 6 students. The tasks of the groups may be the same or each group receives a different task, which is a part of a common theme. Group-based teaching-learning is often used to drill down, manipulate, practice, consolidate a learned topic, but also learn a new topic. Teaching-learning group helps to promote the positive, active, creative, the confidence of students from which to enhance the learning outcomes. However, small teaching-learning group takes time. Group work is not always the result. If organized and poorly implemented, it will often result in the opposite of what is intended.

1.32. Problem-Based Medicine: Teaching-Learning on Problem- Based began in 1965 in MC Health Sciences, Master Hamilton Canada, and the Department of Medicine at Case Western Reverve University in the United States. Currently, over 60 medical schools around the world apply totally or partly the problem-based teaching-learning curriculum and many others are in the process of implementing problem-based teaching-learning. Problem-based teaching-learning is a teaching-learning process that begins with a problem (which occurs in reality or simulates the reality), based on the problem to detect the information needed to understand and solve that problem. Problem-based teaching-learning is a method

that has a number of advantages, in particular the promotion of student learning, and helps students learn the right things for future professional practice. Another way is to help them become "architects of self-education."

1.3.3. Case-study Teaching-learning: Case study is a teaching-learning method in which learners self-study a practical situation and solve problems of a given situation, form of work mostly working group. Case study is a case-control approach that is commonly used in medicine, including community medicine and clinical medicine. Case study is a teaching-learning method to think, think for a situation or a patient to get the right decision. Overcoming the actual situation in the learning process, learners are not allowed to make decisions themselves, so when they go to work, they will be confused and can not make the most reasonable decisions for the patients.

Condition of case-study teaching-learning: students have learned about the content, background knowledge and decision-making principles for case studies. Case studies may involve the student making a decision or a discussion group to make a final decision. Small group is best because everyone can give their opinion. Case studies require a lot of time, which is appropriate for the application but is not suitable for imparting new knowledge systematically

1.3.4. Teaching-learning by role play: Casting is the method by which learners play a role in a particular scenario. At the medical base, there may be doctors, patients, teachers, students. It is the best teaching-learning method for attitudes toward patients, but due to the current social environment students are less likely to study. Role play is an active teaching-learning method which creates favorable conditions for students to show their strengths and weaknesses in order to repair, overcome or promote more. Through acting as a student applying the theory, the principle has been learned in a dynamic, diverse. At the same time, role plays also create conditions for students to discuss proactive issues due to the fact of proposing solutions to overcome difficulties and shortcomings due to lack of patients, lack of time contacting, it helps with patients, training students while they are learning has become familiar with the role of the physician to undertake later.

1.3.5. Bedside teaching-learning: is the most important teaching-learning method in medical education. According to Willia Osler, "Studying the manifestations of disease without a book is like taking a boat in a sea without charters, while studying books without a patient is never going to sea."

Bedside teaching-learning methods include:

- Short courses: ward round. Four things to do when teaching short cases:

+ Should have a stable schedule of ward round and unplanned ward round (when new patients, new changes, complications ...)

+ Go fast and hurry, short shift is the majority (1-5 minutes). Can only choose 1 long shift (10-30 minutes), or arrange to teach long shifts at other times.

+ Learners must be assigned clearly and clearly. Participants must report promptly, addressing issues.

+ The teacher asks, answers, presents the sample, assigns new tasks. The focus of short-term teaching: The new thing comes to the argument of diagnosis and management, tracking. Quick model on how to examine, tips ...

- Long-term training: Three things to pay attention when teaching long shifts:

+ During the lesson, only one choir (10-30 minutes), is important, the main objective is the main problem to learn, representative, typical, general ...
+ Students prepare very well, must report well
Longer time, but urgently take advantage and respect everything in front of the patient. Quickly turn to no patient stage (clinical discussion or clinical simulation ...)
Bedside teaching-learning concludes taking history, medical examination and treatment, planning and presentation, and presentation to the group and lecturer. Instructors will instruct each student during the session. Today, bedside teaching-learning using "Microskills" is used widely in American Medical Universities and other countries for clinical teaching-learning.
1.3.6. Teaching-learning by the checklist: Teaching-learning by the checklist is an active teaching-learning method that helps students become more interested in and active in the practice of medical skills. Thus, most of the procedures performed in clinical, laboratory and community settings can be documented and presented in tabular form. The steps set out in the checklist require that the student as well as the instructor comply with it. Therefore, the practical skills that have reached a high consistency can be built into a checklist for teaching-learning. Due to the nature of the strict implementation, the checklist is not appropriate when the teacher wants to teach purely theoretical knowledge as well as when the teacher wants to train the student about the thinking skills, make decision.
1.4. Clinical teaching-learning situation:
Teaching-learning in clinical practice is an especially important part of medical education. In practice, however, the teaching-learning of clinical skills is being overlooked in some medical schools around the world; Some studies have shown that medical education, especially clinical teaching-learning, is becoming increasingly difficult, with higher patient requirements, and medical teachers face the pressure of caring for many patients and their work. Clinical practice is limited in terms of time, students also have fewer clinical opportunities than before. Research by Tran Thi Thanh Huong, Le Thu Hoa, Nguyen Thu Thuy, Pham Thi Minh Duc showed that the number of students taught with clinical studies with traditional method accounted for 76.8%, traditional method combined 8, 6%, positive method is 17%. In Ho Chi Minh City, a survey of 360 graduated students and doctors working in the district and commune showed the result that 95% of them have difficulty when explaining to patients and their relatives about some diseases with poor prognosis; 76.4% never had endotracheal intubation, nor was it directed on the model; 17.4% had performed simple skills such as pleural screening, peritoneal dialysis. The shortcomings of teaching-learning in clinical medicine and practical skills not only occur in some schools but can be seen in most medical schools.
An opinion survey of North American students revealed that a few were instructed to ask and examine the two patients, while others had never been fully supervised by a trainer for a patient. McManus I. C, Richards P, Winder BC conducted a cohort study on students at Marry University School of Medicine in London showing that study habits are the determining factor for their clinical knowledge. The Research results by Guishu Zhong and Xia Xiong on 206 students at Lusho Medical University show that a number of factors related to

clinical teaching-learning include the experience of the instructor, lack of material, learning materials in some practice hospitals, students lack the opportunity to practice in medical surgery.

1.5. Some clinical learner-centered teaching-learning models in the world

1.5.1. The "OMP" model using the "Microskills" which was first introduced in 1992 by Neher J.O, Gordon K.C, Meyer B and Stevens N in the American Journal of Family Medicine include 5 steps:

Step 1: Get a commitment
Step 2: Probe for supporting evidence
Step 3: Teach general rules.
Step 4: Reinforce what was done well.
Step 5: Correct errors.

The clinical learner-centered teaching-learning model uses the typical "Microskills" model as follows: "Students meet patients, ask patients, examine and plan their treatment, then present them to the doctor. or teacher. " Apply the typical "5 steps" in clinical teaching. The strongpoint of this model is short, requiring less time to implement, so it is more feasible and easier to implement

1.5.2. The "SNAPPS" model: described by Wolpaw and partners is a learner-centered teaching model. This model consists of 6 steps:

- Summarize anamnesis the medical history
- Differential diagnosis to 2-3 possibilities
- Analyze the differences by comparing and contrasting the possibilities.
- Lecturer support by asking questions about uncertainties, difficulties, oralternative approaches.
- Develop a plan for managing patients' medical issues.
- Select a case-related issue for self-directed learning

1.5.3. Model "MiPLAN": This model encourages teachers to plan a contact (M) with the learner before beginning to share clinical experience and educational activities. While the lecturer is performing the bedside teaching-learning, the student presents the case to the patient, the model suggests five behaviors for the treating doctor ("i": Introduction, in the moment, inspection, interruptions, independent thought). It also provides a clinical teaching-learning process after the presentation of the case ("PLAN": patient care, answering questions, study plan, next steps).

1.5.4. Model "Aunt Minnie": This model consists of 4 steps:

- The student presented the main points still disturbed and given a false diagnosis
- Students begin to present the case and the instructor assesses the patient
- Lecturer discusses case with students
- Instructors review and sign the medical records.

1.5.5. Model "Activated Demonstration": This model consists of 6 steps:

- Assessment of relevant knowledge of students
- Determine what students should learn from the skill show
- Guide students to participate in the demonstration process skills
- Demonstration of clinical skills
- Discuss points of study with students
- Set up a program for future study.

1.5.6. Two-minute Observation: in this model, the instructor must first prepare the student for contact with the patient and then examine the contact between the

student and the patient. After a short time of observation, the instructor gives positive feedback and specific learning problems. This model is especially effective for teaching-learning of questioning skill, examining skill for medical students, students of Medicine as well as for teaching-learning of communication skill for all kinds of students.

1.5.7. "See One, Do One, Teach One" model: This model is known for teaching-learning process skills that require the teacher to perform the process then observe the pupil conduct the process and finally give feedbacks. For an effective precess teaching-learning, the instructors have to do it step by step. If students can follow the process correctly, they have successfully implemented each step. Students guide the main process to other students effectively.

Thus, in the world there are quite a lot of clinical learner-centered teaching-learning models. Within the framework of this thesis, the research team have selected a number of interventions for general practitioners and teachers, including the "OMP" model, with the aim of improving the quality of clinical teaching-learning.

Chapter 2: OBJECTIVES AND RESEARCH METHODS

2.1. Object, location and time of study

2.1.1. Research subjects

- General Practitioner students (years 3,4,5 and 6) of Hai Phong University of Medicine and Pharmacy
- Clinical instructors include full-time and part-time lecturers of Hai Phong University of Medicine and Pharmacy
- Managers of Haiphong University of Medicine and Pharmacy: Head, Deputy Head of Training Department, people who are in charge of teaching and learning management of students (year 3,4,5,6)

2.1.2. Time and place of study:

The study was conducted from 2014 to 2016 at Hai Phong University of Medicine and Pharmacy.

2.2. Research Methods:

2.2.1. Study design: Cross-sectional descriptive study, combining quatitative research and qualitative research. The use of a control intervention was compared with the control group and compared with the control group

2.2.2. Sample size

2.2.2.1. Sample size describing cross-sectional clinical teaching-learning situation:

+ Sample size for student group: n = 562 students.

+ Sample size for group of trainers: Select all full-time lecturers who are participating in clinical teaching-learning. Part-time lecturers must have at least 5 years of clinical teaching-learning experience.

2.2.2.2. Sample size for interventional study

- Sample size for student group in intervention study:

$$n = Z^2_{(\alpha\alpha\beta)} \frac{p_1(1-p_1)+p_2(1-p_2)}{(p_1-p_2)^2}$$

From there it was calculated as n = 68. In fact, the study was done with 93 students

- The formula for calculating the efficiency index:

Efficiency index = **(| p2 – p1 | /p1)100%.**

Sample size for the group of trainers in the intervention study: all clinical lecturers
- Number of observations: 93 students of the intervention group
- Number of group discussions and further interviews conducted: 7 group discussions and 20 further interviews were conducted.

2.2.3. Sampling method:

- Sample selection for descriptive research: random sample by drawing. Actually, the sample has 562 students.
- Sampling for intervention studies:

+ For lecturers: All full-time and part-time lecturers in the clinical department participate in research

+ For students: select 4th year students, randomly selected in class units. Intervention group: two classes of GP students year 4. Control group: two classes of GP students year 4.

- Selecting further interviews: further interviews will be conducted with the heads of the clinical departments, the head, the deputy head of the training department, the head teachers of the above classes. There were 20 further interviews conducted.
- Select discussion group: lecturers, students. Total: 07 group discussions
- Select the object for observational practice: student group intervention

2.2.4. Content and research variables

2.2.4.1. Objective 1: **Describe the current situation of clinical teaching-learning at Hai Phong University of Medicine and Pharmacy**

- Students'opinion on the use of clinical teaching-learning methods
- Level of students'interest in clinical teaching-learning methods
- The level of achievement of some skills during the clinical course of the student
– Students'opinion on the use of some methods of assessment and evaluation of students in clinical teaching-learning process
- Students'opinion on the level of interest in some methods of evaluation and evaluation of students in the clinical teaching-learning process
- Students'opinions on some teaching-learning activities in the clinical disciplines
- Students'opinion on the use of teaching-learning methods
- The number of students attending the lecture with bedside teaching.
- The number of students participating in the hand-over, patient records commenting
- Number of full-time and part-time lecturers
- Qualifications of clinical trainers
- Working experience of clinical trainers
- Quality and capability of clinical trainers
- Facilities and equipment clinical teaching and learning
- Number of patients and model of disease to meet clinical teaching and learning needs
- The cooperation of patients, patient's family
- Agreement of hospital staffs
- Comparison between lecturers who have worked for less than 5 years and 5 years or more
- Comparison between full-time lecturers and part-time lecturers
- Evaluation activities of clinical teaching-learning

- Other comments
- Some factors affecting clinical teaching-learning
- Some suggestions for improving the quality of clinical teaching-learning.

2.2.4.2. Objective 2:

Contents of the pre-intervention evaluation: Compare average score of some skills of intervention group before and affter intervention 9 weeks, 2 years and with control group.

2.2.5. Data collection techniques:

2.2.5.1. Quantitative research

- Interview students and faculty members based on the questionnaire

2.2.5.2. Qualitative research: group discussion of lecturers, students, managers based on questionnaires. Further interviews based on deep interview.

2.2.5.3. Procedures, techniques and tools to improve the quality of clinical teaching -learning

*** Intervention process**

- Step 1. The research describes the status of clinical teaching-learning and some influencing factors. This section is the basis for identifying some interventions to improve the quality of clinical teaching-learning.
- Step 2. Ask for opinions, suggest some interventions. Some interventions are listed and removal of measures that are not feasible at Hai Phong University of Medicine and Pharmacy (based on funding capacity, relevance, moral rules). - Ask for some interventions to improve the quality of clinical teaching.

- Step 3. Implementation of intervention for lecturers, students Content and forms of intervention to improve the quality of clinical teaching and learning at Haiphong University of Medicine and Pharmacy were conducted on the basis of interventions that sought expert opinion and were led the school approves

Interventional techniques and tools: We have used a number of interventions to improve the quality of clinical teaching-learning, as follows:

Some interventional methods:

- For lecturers: Training clinical trainers on clinical teaching-learning method. Providing materials on a number of clinical leaner-centered teaching-learning methods, focusing mainly on the OMP bedside teaching-learning model
- For students: training students

+ Training students on communication skills with patients and patient's family; anamnesis questioning; medical history questioning skill, clinical examination skills.
+ Train the students on bed-side teaching model "OMP" using "Microskills" and some learner-centered teaching-learning methods (active teaching-learning)
+ Training of some students on clinical practice
+ Providing clinical handbook 1 when students go to clinical 9 weeks in the Department of Pediatrics, Pediatrics in the 4th;
+ Providing clinical handbook 2 when students go to clinical 9 weeks at the Department of Pediatrics, Pediatrics in year 6
+ Hand out clinical handbook and guide students to use when going to clinic. The design of student's clinical manuals includes the following contents: Rules and regulations when students go to clinical practice clinics; Target students to achieve when clinical; Student goals should be achieved for clinical practice for each skill (refer to the Blue Book of Health (2012), Knowledge-Attitude-Skills to

be achieved upon graduation from general practitioner (Medical Publishing House).
+ At the end of each week: every students submit 1 medical record to department
- To avoid cross-effects between control and intervention groups, the team conducted interventions on all clinical trainers. For trainers: organize one training course, divided into 3 groups, each training one week. For students: organize 2 training courses, the first one - before the students enter year 4; Stage 2 - Before the student enters year 6; Each training session was divided into 3 training groups, each training one week. During the first 9 weeks of monitoring once a week. Follow up once a month.
2.2.6. Evaluation criteria: Based on the checklist:
+ 0 points: do not do
+ 1 point: Wrong, incomplete
+ 2 points: master the skill
+% Skill gained = total score achieved / total score x 100%
+ GPA = Overall Score / Total Score x100. The minimum score of 50 on a 100-point scale is set for each skill.
- Qualitative analysis: Interviews, group discussions recorded and "taped" sound recording, synthesized and analyzed by content.

2.2.7. Data processing: Data collected, analyzed using SPSS 22.0 software. Research indicators are calculated in terms of frequency, percentage and mean. For qualitative research classified and grouped by students, lecturers
2.2.8. Ethics in research: This research has been approved by the Research Council of the proposal of Hai Phong University of Medicine and Pharmacy.

Chapter 3: RESEARCH RESULTS

3.1. Facts and factors affecting clinical teaching-learning

Table 3.6: Using level of some of the clinical teaching-learning methods

Clinical Teaching-learning methods	Hardly n (%)	Rarely n (%)	Some times n (%)	Usually n (%)
Teaching-learning in-the- No patient-lecture hall	25 (4,5)	73 (13,1)	277 (49,6)	184 (32,9)
Teaching-learning at the patient's bed	3 (0,5)	14 (2,5)	174 (31,1)	369 (65,9)
Bedside Teaching-learning combined with discussion in the lecture hall	11 (2,0)	40 (7,1)	128 (22,8)	382 (68,1)
Teaching-learning through the ward round	6 (1,1)	52 (9,3)	216 (38,6)	286 (51,1)
Teaching-learning through hand over session	3 (0,5)	4 (0,7)	84 (15,0)	469 (83,7)
Teaching-learning through consultation, performing the procedure and through surgery	90 (16)	202 (35,9)	210 (37,4)	60 (10,7)
Teaching-learning lessons through the hospital duty	42 (7,5)	139 (24,8)	254 (45,4)	125 (22,4)
Teaching-learning in the lecture hall with patients	139 (24,9)	145 (26,0)	183 (32,8)	91 (16,3)
Teaching-learning by asumed clinical modeled-case	83 (14,8)	166 (29,6)	250 (44,6)	62 (11,0)
Teaching-learning on medical equipment	65 (11,6)	188 (33,5)	224 (39,9)	84 (15,0)
Teaching-learning by case-study mind	52 (9,4)	165 (29,7)	233 (42,0)	105 (18,9)
Clinical teaching-learning based on medical data	103 (18,5)	137 (24,6)	191 (34,3)	126 (22,6)

Remarks: bedside teaching-learning method, through hand-over, bedside teaching-learning combined with in-class discussion with frequency of more than 50%.

3.1.1.4. Level of achievement in skills

Table 3.8: Skills of year 3 students attained during clinical teaching-learning (n = 162)

Clinical skills	Poor n (%)	Moderat e n(%)	Fair n (%)	Good n (%)
Communicate with the patient	5(3,1)	92(56,8)	51(31,5)	14(8,6)
Exploit medical record, anamnesis	6(3,7)	90(55,6)	66(40,7)	0(0)
Examination	27(16,7)	82(50,6)	50(30,9)	3(1,9)
Make medical record	8(4,9)	81(50)	70(43,2)	3(1,9)
Put the theory into practice	10(6,2)	87(53,7)	63(38,9)	2(1,2)
Problem solving, decision making	7(4,3)	90(55,6)	65(40,1)	0(0)
Team work	10(6,2)	88(54,3)	57(35,2)	7(4,3)
Clinical self-study	70(43,2)	78(48,1)	7(4,3)	7(4,3)
Evidence-based learning	10(6,2)	98(60,5)	47(29)	7(4,3)
Perform common techniques	25(15,4)	89(54,6)	45(27,8)	3(1,9)
Health consultance and Education	15(9,3)	79(49,1)	59(36,1)	9(5,6)

Remarks: Most year 3 students have achieved the skills in clinical teaching-learning at a moderate level.

Table 3.9: Skills year 4 students achieved during clinical teaching-learning (n = 140)

Clinical skills	Poor n (%)	Moderate n (%)	Fair n (%)	Good n(%)
Communicate with the patient	5(3,6)	82(58,8)	45(32)	8(5,7)
Exploit medical record, anamnesis	2(1,5)	79(56,2)	59(42,3)	0(0)
Examination	4(2,9)	61(43,6)	73(52,1)	2(1,4)
Make health record	4(2,9)	82(58,6)	51(36,4)	3(2,1)
Put the theory into practice	7(5)	81(57,9)	50(35,7)	2(1,4)
Problem solving, decision making	5(3,6)	85(60,7)	50(35,7)	0(0)
Team work	6(4,3)	82(58,6)	49(35)	3(2,1)
Clinical self-study	62(44,3)	65(46,4)	8(5,7)	5(3,6)
Evidence-based teaching-learning	5(3,6)	67(47,9)	63(45)	5(3,6)
Perform common techniques	23(16,4)	71(50,7)	43(30,7)	3(2,1)
Health consultance and Education	12(8,8)	73(52,1)	48(34)	7(4,6)

Remarks: Most of year 4 students have achieved skills in clinical teaching-learning at moderate and good levels, with low levels of good and weak.

Table 3.10: Skills year 5 students achieved during clinical teaching-learning (n=121).

Clinical skills	poor n(%)	Moderate n(%)	Fair n(%)	Good n (%)
Communicate with the patient	4(3,3)	81(66,9)	29(24)	7(5,8)
Exploit medical record, anamnesis	3(2,5)	56(46,3)	61(50,4)	1(0,8)
Examination	2(1,7)	51(42,1)	65(53,7)	3(2,5)
Make health record	1(0,8)	60(49,6)	55(45,5)	5(4,1)
Put the theory into practice	7(5,8)	61(50,4)	49(40,5)	4(3,3)
Problem solving, decision making	5(4,1)	70(57,9)	46(38)	0(0)
Team work	3(2,5)	44(37,0)	66(55,5)	6(5)
Clinical self-study	68(56,2)	39(32,2)	6(5)	8(6,6)
Evidence-based teaching-learning	5(4,1)	55(45,5)	59(48,8)	2(1,7)
Perform common techniques	10(8,3)	66(54,5)	41(33,9)	4(3,3)
Health consultance and Education	5(4,1)	53(43,8)	61(50,4)	2(1,7)

Remark: Y5 Students achieves moderate levels of clinical skills at a high level, clinical self-study skills are weak, accounting for 56.2%.

Table 3.11: Skills year 6 students achieved during clinical teaching-learning (n= 139).

Clinical skills	Poor n (%)	Moderat e n(%)	Fair n(%)	Good n (%)
Communicate with the patient	2(1,4)	99(71,2)	30(21,6)	7(5)
Exploit medical record, anamnesis	1(0,7)	58(41,1)	76(53,9)	4(2,8)
Examination	3(2,2)	54(39,1)	69(50)	12(8,7)
Make health record	3(2,2)	67(48,6)	56(40,6)	12(8,7)
Put the theory into practice	5(3,6)	66(48,2)	61(44,5)	7(3,6)
Problem solving, decision making	4(2,9)	76(54,7)	58(41,7)	1(0,7)
Team work	9(6,5)	42(30,2)	72(51,8)	16(11,5)
Clinical self-study	48(34,8)	74(53,6)	7(5,1)	9(6,5)
Evidence-based teaching-learning	6(4,3)	57(41,3)	72(52,2)	3(2,2)
Perform common techniques	3(2,3)	71(34,5)	50(37,6)	9(6,8)
Health consultance and Education	4(2,9)	61(44,2)	63(45,7)	10(7,2)

Remarks: Y6 students achieves skills in clinical learning-teaching at moderate level are remarkably high. Skills at level of Poor and Good achieved by students are in very low levels.

3.1.2. Some influencing factors clinical Teaching-learning.

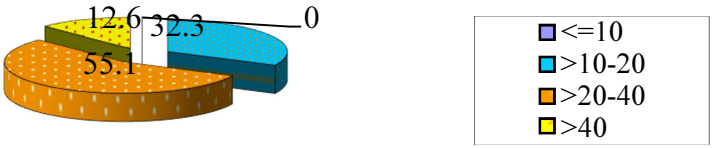

Figure 3.1: Number of students participating in bed-side lecture
Remarks: The number of students attending the bedside lecture of 20-40 is the highest.

Group discussion results:

"The number of students in an overcrowded group makes it very difficult for clinical practice. Usually between 10 and 15 students / clinical group is ideal, but the actual number of students is too large from 30 to 50 students / group. "(Group Discussion Group).

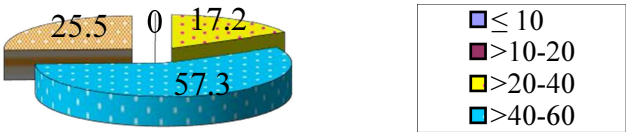

Figure 3.2: Number of students participating in hand-over, medical record discussion

Remarks: The number of students participating in hand-over medical records discussion is from more than 40 to 60 students accounted for the highest rate. No class is less than 20 students.

Result of further interview of lecturer:

"Too many students at one time in a faculty. Department of Infectious diseases of the Viet Tiep hospital usually have hand-over, medical record discussion for all kinds of students, so such classes are usually filled with up to hundreds of students "(N.T.G, clinical trainer).

Table 3.17: Number of full-time GP students and clinical lecturers

Year	full-time general practitioner students	Precentage of students increased compared with 2010	Clinical lecturers	Precentage of lecturers increased compared with 2010	Ratio lecturer/ Students
2010	2064	100	109	100	1/19
2011	2177	106	113	104	1/19,3
2012	2409	117	133	122	1/19,8
2013	2595	126	139	128	1/18,7
2014	2737	132	147	135	1/18,6

Remarks: Table 3.19 shows that the ratio lecturer/ student is close to 1/20.

Results of further interviews:

"The number of students is very large, the teachers are few so the students practice less" (N.T.H, Clinical teacher). "Ten years ago, the Paediatrics department had 10 lecturers with 50 In-state Students and 100 full-time general practitioner students, but now the number of students are up to more than 500 students, not including postgraduate students. But the number of teachers is still only 10 people "(GVV, GVLS)." (NTG, clinical teacher).

3.2. Results of intervention on some clinical skills of general practitioner students at Hai Phong University of Medicine and Pharmacy

3.2.1: Communication skill with patient

Table 3.20: Comparison of students' communication skill scores before, after intervention for 9 weeks and in comparison with control groups.

Students' communication skill score	before intervention	after 9 weeks	Difference (score)	p
Intervention group(n=93)	41,06±9,75	47,12±12,93	6,06	<0,001
Control group (n=94)	40,12±10,23	43,01±11,34	2,89	>0,05
p	>0,05	<0,05		

Comment: After 9 weeks of intervention, the mean score (PBB) of communication skills of intervention group increased 6.06 (p <0.001), the control group increased only 2.89 points.

Table 3.21: Comparison of students' communication skill, 2 years before and after the intervention and compared with the control group

students' communication skill score	before intervention	after 2 years	Difference (score)	p
Intervention group(n=93)	41,06± 9,75	60,07±11,18	19,01	<0,001
Control group (n=94)	40,12± 10,23	48,76±13,07	8,64	<0,001
p	>0,05	<0,001		

Remarks: After 9 weeks of intervention, the communication skills of the intervention group increased 19.01 points, the control group increased only 8.64 points.

Table 3.22: Comparison students' communication skill scores 9 weeks and 2 years after intervention

Students' communication skill score	9 weeks after intervention	after 2 years intervention	Difference (score)	p
Intervention group (n=93)	47,12±12,93	60,07±11,18	12,95	<0,001
Control group (n=94)	43,01±11,34	48,67±13,07	5,66	<0,01
Difference (score)	4,11	11,31		
p	<0,05	<0,001		

Comment: The difference between the 9 weeks and 2 years after intervention in the intervention group was 12.95 points, while that in the control group was only 5.66 points, the difference was statistically significant.

3.2.2 : Taking medical history skill

Table 3.23: Comparison of the students' scores of **taking medical history skill** pre and post-intervention in 9 weeks, compared with the control group.

Score of taking medical history skill	before intervention	9 weeks after intervention	Difference (score)	p
Intervention group (n=93)	50,46±10,14	55,07 ± 9,42	4,61	<0,01
Control group (n=94)	49,78±11,06	52,05 ±10,43	2,27	>0,05
p	> 0,05	< 0,05		

Comment: After 9 weeks of intervention, the average score of communication skills in the intervention group increased 4.61 points, the control group increased only 2.27 points, the difference was statistically significant.

Table 3.24: Comparison of the students' score of taking medical history skill 2 years before and after the intervention and compared with the control group

Score of taking medical history skill	Before intervention	after 2 years	Difference (score)	p
Intervention group(n=93)	50,46±10,14	73,57±12,08	23,11	< 0,001
Control group (n=94)	49,78±11,06	64,62±13,61	14,84	< 0,001
p	> 0,05	< 0,001		

Comment: After 2 years of intervention, the average score of communication skills of the intervention group increased 23.11 points, the control group increased only 14.84 points, the difference was statistically significant.

Table 3.25: Comparison of the score of taking medical history skill of the students after 9 weeks and 2 years of intervention.

Score of taking medical history skill	9 weeks after intervention	2 years after intervention	Difference	p
Intervention group(n=93)	55,07 ±9,42	73,57±12,08	18,05	<0,001
Control group (n=94)	52,05±10,43	64,62±13,61	12,57	< 0,01
Diference	3,02	8,95		
p	< 0,05	<0,001		

Comment: The difference after 9 weeks, 2 years in the intervention group increased 18.05 points, the control group increased only 12.57 points, the difference is statistically significant

3.2.3 : Taking previous history skill

Table 3.26: Comparison of the score of taking previous history skill after 9 weeks of intervention and compared with the control group.

Score of taking previous history skill	before intervention	after 9 weeks	Difference	p
Intervention group(n=93)	50,96±10,16	56,45±13,05	5,49	<0,01
Control group (n=94)	51,17± 9,23	53,01±12,01	1,84	>0,05
p	> 0,05	> 0,05		

Comment: After the 9-week intervention, the medium score of anamnesis-questioning skill for of the intervention group increased 5.49 points, the control group increased only 1.84 points, the difference was statistically significant.

Table 3.27: Comparison of the students' medium score of taking previous history skill, two years before and after the intervention compared with the control group

Score of taking previous history skill	before intervention	after 2 year	Difference	p
Intervention group (n=93)	50,96±10,16	68,05±11,07	16,88	
Control group (n=94)	51,17± 9,23	60,17±10,03	9,21	<0,001
p	> 0,05	< 0,001		

Remark: After 2 years of intervention, the medium score of anamnesis-questioning skill of the intervention group increased by 16.88, the control group increased only 9.21 points, the difference was statistically significant.

Table 3.28: Comparison of the students' score of taking previous history skill after 9-week intervention and 2-year intervention

Score of taking previous history skill	After 9 weeks intervention	After 2 years intervention	Difference	p
Intervention group (n=93)	56,45±13,05	68,05±11,07	11,6	< 0,001
Control group (n=94)	53,01 ±12,01	60,17±10,03	7,16	< 0,01
Difference	3,44	7,88		
p	> 0,05	<0,001		

Comment: The difference in score after 9 weeks, after two years of intervention in the intervention group increased 11.6 points, in the control group is only 7.16 points, the difference is statistically significant.

3.2.4 : Writing medical record skill

Table 3.29: Comparison of students' scores of writing medical record skill 9 weeks before, after intervention in comparison with the control group

Score of writing medical record skill	before intervention	after 9 weeks	Difference	p
Intervention group (n=93)	49,85±9,05	55,01 ±12,73	5,16	< 0,01
Control group (n=94)	48,76±8,23	51,04 ±11,65	2,28	> 0,05
p	> 0,05	< 0,05		

Comment: After 9-week intervention, the medium score of the intervention group increased by 5.16 points (p <0.01), while the control group increased only 2.28 points.

Table 3.30: Comparison of students' scores of writing medical record skill 2 years before, after intervention in comparison with the control group

Score of writing medical record skill	before intervention	after 2 year	Difference	p
Intervention group(n=93)	49,85±9,05	76,09±10,18	26,24	< 0,001
Control group (n=94)	48,76±8,23	65,07±13,16	16,31	< 0,001
p	> 0,05	< 0,001		

Comment: After 2-years intervention, the average score in the intervention group increased by 26.24 points, the control group increased only by 16.31 points, the difference was statistically significant.

Table 3.31: Comparison of students' scores of writing medical record skill 9 weeks and 2 years after intervention in comparison with the control group

Score of writing medical record skill	After 9 weeks intervention	After 2 years intervention	Difference	p
Intervention group (n=93)	55,01±12,73	76,09±10,18	21,08	< 0,001
Control group (n=94)	51,04±11,65	65,07±13,16	14,03	< 0,001
Difference	3,97	11,02		
p	<0,05	<0,001		

Comment: The difference in scores after 9 weeks and after 2 years of intervention in the intervention group increased 21.08 points, in the control group increased only 14.03 points, p <0.05.

3.2.5 : Clinical examination skill

Table 3.34: Comparison of the percentage of students who performed the clinical examination 2 years before and after intervention compared with the control group

Clinical examination skill	Control group n=94		Intervention group n=93		Difference (%) (b,d)	p (b,d)
	Before intervention (%) (a)	After intervention (%) (b)	Before intervention (%)(c)	After intervention (%)(d)		
Wash hands before and after the examination	15,2	45,2	16,7	60,1	14,9	< 0,05
Show openness, respect, privacy, humility with patients	35,1	56,9	34,6	75,5	7,60	< 0,01
Explain to the patient the next clinical examination	30,2	52,5	31,5	69,2	13,7	< 0,05
Indicate clearly, promptly examine the proper area according to the main clinical problem. Focus on key signs	36,5	61,2	33,4	78,4	17,2	< 0,01
Perform a systematic and comprehensive area examination, examine the whole body only when necessary	37,2	58,1	36,5	76,2	18,1	< 0,01
Use proper techniques	36,7	57,5	36,7	80,8	13,3	< 0,001
Limit changing position many times, avoid contacting dirty area, avoid turning round	32,6	58,6	33,1	77,1	8,6	< 0,05
Reasonable conclusions from clinical examination	34,5	59,3	33,9	77,3	18,0	< 0,01
Show understanding after examination	33,6	58,7	34,2	76,7	18,0	< 0,05

Remark: The percentage of students who performed the clinical examination after intervention in the intervention group was higher than before the ntervention and compared with the control group, the difference was statistically significant. p (a, c)> 0.05; p (c, d) <0.001; p (a, b) <0.05.

Chapter 4: DISCUSSIONS

4.1. About the status and some factors affect clinical teaching-learning

4.1.1. About the situation of clinical teaching-learning

4.1.1.1 Discuss the application of clinical teaching-learning methods

Table 3.6 shows that students use the teaching-learning method through hand over, bedside learning, bedside teaching-learning combined with regular classroom discussions. The results of our study are consistent with the results of Nguyen Duc Linh, Nguyen Thi Thanh Quyen, Ho Thi Le and CS. The study by Tran Thi Thanh Huong, Le Thu Hoa, Nguyen Thu Thuy, Pham Thi Minh Duc showed that the number of students studied with traditional methods (hand over session, ward round, perform the clinical medical record then listen to the lecture) is 76,8%, the traditional method combined with active method was 8.6%, positive method was 17%. In fact, depending on the object students are learning: symptoms, pathology or treatment should the method be applied flexibly. For the group of students who study symptomology, should the bedside teaching-learning be the most appropriate and effective; The students who are studying in the medical school can study in the lecture hall without patients, learn through meetings, consultation is very effective without necessarily learning at the bed as the students learn the symptoms. Sometimes, in practice hospitals, the number of diseases is inadequate, then teaching and learning through case-study method, problem-solving exercises, problem solving is very effective and necessary when students study pathology or treatment. On the other hand, there are issues that teachers can not teach students in front of patients. Therefore, the application of clinical teaching-learning method should be flexible and depending on the type of students, depending on the subject and the learning objectives.

4.1.1.2. Discuss the level of skill acquisition by student's self-assessment

Tables 3.8, 3.9, 3.10, and 3.11 show that most students in all four groups have achieved the average level of clinical skills but year 5, year 6 students achieve farily high level of clinical skills compared with ones in year 3 and year 4. The research results of Nguyen Duc Linh, Nguyen Thi Thanh Quyen, Ho Thi Le and colleagues show that the highest rate of students performing the clinical skills are medical skills, examination and communication. Less practiced skills are decision making, problem solving, and techniques. The results of the study showed that the

communication skills and student achievement were quite good at 27.6%, 6.4% lower than those of Nguyen Thi Anh Thu on the subject of bachelor's degree. This clinical skill is achieved from 35.9% to 56.6% depending on the skill. This can be explained by the different subjects, different training programs should apply to students in clinical practice also different. Student discussion group commented, "Even though we are the final year's students, we find that communication skills with patients are not really good. Many patients mind letting students ask about the disease and have medical examination. At that time, we are very embarrassed. For the skill of taking previous story, medical history we also do not ask patients carefully, fully, on medical history we usually only ask the disease that the patient had before, rarely asked about other anamnesis, the histories of us are also incomplete, we rarely explain the purpose of the conversation and inform about the information documentation in the medical records".

4.1.2. Some factors affecting clinical teaching-learning

Based on quantitative and qualitative research results, we find that there are a number of factors that affect clinical teaching and learning, including the large number of students, the lack of facilities, Patient's hospital, hospital staff, socio-cultural factors. Figure 3.1 shows the number of students enrolled in clinical beds at 20 to 40 students. Figure 3.2 shows that the number of students attending hand-over, medical record discussion classes is more than from 40 to 60 students, accounting for 57.3%, more than 60 students (25.5%). No class is less than 20 students. Our results match the results of Nguyen Duc Linh, Nguyen Thi Thanh Quyen, Ho Thi Le and et al. "We see some classrooms that do not have enough seats. The teacher is very enthusiastic but the number of students is too crowded "(Student Group discussion Y6). Table 3.17 refers only to regular polytechnics, the teacher / student ratio is nearly 1/20. Research by Kari Sand-Jecklin and colleagues on 319 nursing students at three LMA, SMA, SMW schools showed similar results.

In most further interviews for lecturers and group discussions, the matter of number of students was consistently ranked first among the factors that influence clinical teaching-learning. The results of further interviews and group discussions showed that "clinical teaching-learning is very difficult ,in The Emergency Department of Haiphong Children's Hospital, sometimes students

stand crowdedly causing pressure on not only lecturers but also hospital staff "(NTT, Clinical teacher). "When the teacher instructs us to examine, perform the procedure at the bedside, because the number of students is too large in a group, so sometimes we do not observe all steps he made" (Group discussion Y3 students)

4.2. Results of intervention on some clinical skills of general practitioner students at Hai Phong University of Medicine and Pharmacy

In fact, clinical teaching-learning is not disease-oriented teaching-learning but it is patient-orientated teaching-learning. Therefore, the positive, active of students is very important. Table 3.20, 3.21, 3.23, 3.24, 3.26, 3.27, 3.29, 3.30 showed that pre-intervention the average score of communication skills, medical history questioning , anamenis were very low, under average level with $p > 0.05$. After 9 week intervention, the average of these skills in the intervention group increased by 6.06; 4.61 5.49; 5.16 points; while the non-intervention group only increased by 2.89; 2.27; 1.84; 2.28 points, the difference is statistically significant. After 2 years of intervention, the above skills in the intervention group increased by 19.01; 23.11; 16.88; 26.24 points; while non-intervention group increased by 8.64; 14.84; 9.21; 16.31 points, the difference is statistically significant. A study by Josephine L.Dorsch et al. Reported a median pre-intervention score of about 1 to 3 years; After the intervention, 4 points on a 5 scale with $p < 0.05$. Furney et al. Conducted a randomized clinical trial of 120 interns and students, and the intervention group improved scores on almost all subjects versus the control group with $p < 0.05$. Clinical examination scores for the mean change between the intervention and control groups were 0.21, the difference was statistically significant. Another study by Elizabeth Eckstrom and colleagues, involving 68 faculty members with the "Microskills" model, the research showed the improvement in clinical examining skills after intervention. This is an evidence that positive teaching-learning is useful for clinical teaching-learning. Furney and colleagues argue that “OMP” is a widely used model for improving clinical teaching-larning skills, which seem to be optimal for teaching-learning as clinical trainers are too busy with work. Specialized at the hospital. According to Sarah Parrott, D.O and colleagues, using the "Microskills" subtype increases positive feedback from the instructor and is more useful than the traditional clinical

teaching-learning model in concluding and evaluating learners and the students' planning. Comparative study of traditional model and "OMP", Irby and his colleagues claimed that the OMP model changed the clinical teaching-learning from common-skill-learning to specific case-study. Another study by Elizabeth Eckstrom and her colleagues conducted a microskills assessment in the OMP model, including the student assessments and lecturer self-assessments. The students assessment indicated average score in the intervention group were 3.46 higher than the control group at 3.31. This can explain the positive teaching-learning model that enhances the activeness and excitement of students, demonstrating good progress and change through their clinical practice, cognitive and behavioral activities. Accordingly, students who actively learn are more experienced and more satisfied when going to clinical practice and obviously they also achieved better results. Therefore, active teaching-learning is very necessary and useful. Our results show that some of the basic clinical skills of students in the intervention group have improved. Clinical teaching-learning today not only provides the knowledge to diagnose and treat the disease but also teaches communication skills, clinical thinking, problem solving skills, decision making. According to William H Welch, "Medical education has not finished in medical school: it's just the beginning," an active clinical methodology that actively accompanies medical students during their careers.

Limitations of the topic: This topic only evaluates the actual situation of clinical teaching-learning on the subject of full-time general practitioner students, only a number of interventions on the lecturers, general practitioner students , evaluating the results of some interventions on some basic clinical skills of general practitioner students such as communication skills with patients and family members, Medical history questioning skill, anamnesis questioning skill, Medical record documenting skill and clinical examination skills. However, this is the first time that interventional studies have been conducted on students and lecturers at the Medical University. Despite these limitations, we believe this study is a premise to the implementation of future interventions in medical education, particularly in clinical teaching-learning.

CONCLUSIONS

1. Current situation and factors affecting the clinical teaching-learning of full-time general practitioner students at Hai Phong University of Medicine and Pharmacy.

- Current situation the clinical teaching-learning:

+ Method of bedside teaching-learning; bedside teaching-learning combined with discussion; teaching-learning through the ward round; teaching-learning through the hand-over are frequently applied in every student groups from 65.9% to 83.7%.

The teaching- learning method in the lecture room with no patients was used at a regular rate of 32.9%. Some other methods are used with lower frequency

+ Students are interested and very interested in most clinical learning methods. Particilarly, the method of teaching-learning in the lecture hall with no patients does not interest the majority of students.

+ For the communication with the patient, taking medical history skill, taking previous history skill, writing medical record, most of students only reached the average rank, very few students achieved a good level.

+ Communication skill with patients, taking medical history, taking previous history and writing medical record skills, clinical examination skill of the majority of students are mainly in average level, very few students achieve good level

+ The clinical evaluation method most commonly used is the combination of medical record writing, oral questions; assessment of examination skills. Other methods are less applicable.

- Some factors affecting the clinical education of students: the number of students is too large, the number of clinical teachers is insufficient. Many clinical trainers have not been trained clinical teaching-learning methods, especially the part-time teachers. The facilities, clinical materials in the practice hospitals are insufficient and incomplete

2. Intervention results on some clinical skills of general practitioner students at Hai Phong University of Medicine and Pharmacy

- Before intervention, the average score of the four communication skills: communication skill with patient, taking medical history skill, taking previous history skill, writing medical record skill and the rate of students performing the clinical examination of the two group (intervention and control group) are very low and no difference between the 2 groups was found.

- After 9 weeks of intervention, the average score of 4 skills of the intervention group and the percentage of students performing the clinical examination skills increased significantly compared with pre-intervention and the control group.

- After 2 years of intervention, the average score of 4 skills of the intervention group and the percentage of students performing the clinical examination skill increased significantly compared with pre- intervention, 9 weeks after the intervention and control group.

RECOMMENDATIONS

- Strengthening the teaching-learning of clinical skills and guiding students to practice active clinical methods before going to practice in hospitals.

- It is necessary to further diversify the clinical teaching-learning methods. It is recommended to actively implement the learner-centered teaching-learning model in order to enhance the quality of clinical teaching-learning

LIST OF ARTICLES RELATED TO THESIS

1. Pham Thi Hanh, Nguyen Ngoc Sang, Thai Lan Anh, Pham Van Han (2017). The situation of clinical learning and assessment of general medical students at Hai Phong university of medicine and pharmacy. ournal of Practical Medicine, vol. 1859-1663, no. 6 (1046), 2017, page. 202-206.

2. Pham Thi Hanh, Nguyen Ngoc Sang, Thai Lan Anh, Pham Van Han (2017). Some factors involving in clinical practice of general medical students at Hai Phong university of medicine and pharmacy. Journal of Practical Medicine, vol. 1859-1663, no. 6 (1046), 2017, page. 48-52.