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ORIGINAL RESEARCH

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DEVELOPING TEACHING LEARNING FOR INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI): A QUALITATIVE STUDY IN ACEH INDONESIA

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ABSTRACT

Background: Integrated Management of Childhood Illness (IMCI) is an integrated guideline in dealing with infants and sick children at the community health center. However, many students cannot apply this guideline because they are not being exposed.

Objective: This study aims to explore the perspectives of nurse educators and clinical instructors regarding the effectiveness of teaching learning process of IMCI in diploma nursing students.

Methods: This was a qualitative study with interpretive approach. There were nine informants selected using purposive sampling, which consisted of nurse educators and clinical instructors. Data collection was conducted in December 2016 - February 2017 using focus group discussions and in-depth interviews. Data were analyzed using Colaizzi process.

Result: There were four themes emerged from data, namely 1) Competency of IMCI for Diploma Nursing Students, 2) Deepening of IMCI Material, 3) Learning methods of IMCI in the class and clinic should be active and structured, 4) Student confidence in the application of IMCI in clinical setting.

Conclusion: The learning process of IMCI will have an impact on the improvement of knowledge, skills and attitude in the application of IMCI in the clinical setting.

Keywords: teaching learning, IMCI, qualitative, Aceh

INTRODUCTION

Integrated Management of Childhood Illness (IMCI) is an integrated approach and guidance for health workers in handling sick and healthy children who come to health facilities.¹⁻³ MTBS facilitates health workers to examine, classify and provide care in accordance with the conditions or diseases experienced by children.¹ This approach has long been introduced by WHO and has been adopted and implemented by various countries in the world. Implementation of IMCI can be done in various ways in preparing health workers such as in-service training, distance learning and pre-service learning.¹

Pre-service learning of IMCI is a process of introducing the application of IMCI in clinics and communities into paramedics and medical education before plunging into direct health care services.⁴ WHO recommends that the IMCI strategy should be incorporated into the curriculum of all health workers, especially medical doctors and nurses. Pre-service learning of IMCI also prepares nursing staff in order to be able to apply IMCI at work.⁵

The importance of pre-service learning of IMCI is to support and improve students' learning ability of nursing students and enhance their confidence to apply IMCI. The pre-service learning provides a strong root of knowledge for the establishment of student competence along with the continuous learning process from time to time in the school.⁶ Pre-service learning of IMCI will provide intense interaction with knowledge and skills related to IMCI. In addition, the school environment stimulates the growth of professionalism because of the guidance and learning process of lecturers, fellow students and

the existing scholars. Academic institutions also increase students' involvement constantly with health personnel as well as including health equipment. Pre-service learning of IMCI is also dynamic; curriculum and study guide can direct students quickly to be exposed to the knowledge and skills of IMCI. Academic climate allows students to interact with various positive habits to form a positive attitude towards IMCI.^{6,7}

Some countries have tried to start pre-service IMCI education. These countries include Tanzania, Egypt, Sudan, India, Cambodia, Vietnam, China, Mongolia, South Africa and Fiji since 1997.⁸ A survey conducted by WHO on the implementation of pre-service training of MTBS on October 2007 to 36 countries (19 African, 8 American, 3 Western Pacific Region, 3 European, 3 Eastern Mediterranean Region and 1 Southeast Asia) found that 75% of countries incorporated IMCI into curriculum, and 77% of countries introduced it to medical and paramedics schools. The schools that included IMCI in the curriculum stated that the implementation of IMCI was 36% easy and 64% difficult. It was 66% of techniques used in applying IMCI were using oral, written and practice of IMCI and 36% using follow-up after graduated. The learning approach consisted of mixed learning (66%), block (28%), and staggered (6%). However, 78% of countries claimed that teaching IMCI is associated with lessons such as pulmonology, gastroenterology, and hematology.^{4,5}

The pre-service learning of IMCI in Indonesia is now being implemented, but needs to be developed to improve the use

of IMCI management at the Community Health Service (Puskesmas in bahasa). Pre-service learning of IMCI will improve the health system's investment in providing better quality health services, and improve the skills of health workers in applying IMCI due to long learning experience, low training costs, and more secure sustainable programs, thus preventing the drop out of IMCI implementers due to displacement or work exchange.⁹

A condition that often occurs with the students is the gap between what they learn in academic and direct practice. In addition, many childcare textbooks from developed countries were used as a reference, so the learning process becomes unbalanced and does not fit the focus and the existing cases. The abundance of modern skills and examinations in textbooks causes students to ignore the common things, skills and attitudes needed in their country. Moreover, the lesson about childcare is more for the hospital setting, compared to the lesson in the community health center as well as family, thus students rarely give advices to mothers about childcare.¹⁰

In fact, many students are not exposed to IMCI information so they cannot apply it in the work environment. Students are also not prepared to perform IMCI practices or general matters relating to the care of sick children in accordance with existing resources. These conditions make students unprepared to apply IMCI to the health services. Therefore, it is necessary to design the learning process of IMCI in the effective and structured academic stage in accordance with clinical practice situation.¹⁰

The learning method of IMCI should be optimized and its material must be well identified in order to synergize with the existing courses.^{11,12} Every subject related to IMCI needs to be clarified the depth of the material, learning method and achievement. This is to avoid overlap in the learning process and to deeply understand the materials. At the end of learning process, learning achievement can be reached as expected, and students will be competent in implementing IMCI.^{11,12}

Therefore, this study aims to identify the effectiveness of teaching learning process of IMCI in nursing students through a qualitative study.

METHODS

Study Design

This was a qualitative study with interpretive approach to explore the perspectives of lecturers about the materials of IMCI learning for diploma nursing students.

Sample

Nine respondents were selected using purposive sampling, which consisted of two lecturers of pediatric nursing, two lecturers of maternity nursing, two lecturers of adult nursing, one member of nursing science group, and two clinical instructors

Data collection

Data were collected using focus group discussion and in-depth interview.

Data analysis

Data were analyzed using Colaizzi process with Open Code Software. Category, sub-category, unit meaning, and

theme were identified as the results of this study. To ensure the trustworthiness, member check was done to each participant to ensure all data were captured. Peer debriefing was also used with three experts in qualitative study to identify the themes. Member checking is returning to the participants following data analysis and peer checking or debriefing is using a panel of experts or an experienced colleague to reanalyze some of the data as ways of ensuring that the researcher has analyzed the data correctly.¹³

RESULTS

Table 1 shows that more than half of participants aged 46-59 years (55.6%). All participants were females (100%), working as lecturers and clinical instructors and having work experience more than 5 years (77.8%), and the majority of them had educational background of Diploma III Nursing + Bachelor of Public Health + Master of Public Health (44.4%)

Table 1 Characteristics of participants

Characteristics of respondents	Total
Age (year)	
21-45	4
45-59	5
Gender	
Male	0
Female	9
Job	
Lecturer	7
Clinical Instructor	2
Lecturer of pediatric nursing	2
Lecturer of maternity nursing	2
Lecturer of Adult nursing	2
Clinical instructor in Community health center	2
Chairman of Association of Vocational Education Institution of Indonesia Nursing	1
Teaching experience (year)	
< 5	2
≥ 5	7
Educational background	
Diploma III Nursing + Bachelor of Public Health + Master of Public Health	4
Diploma III Nursing + Bachelor of Nursing + Master of Nursing	3
Diploma III Nursing + Bachelor of Nursing +Ners	1
Diploma III Midwife	1

There were four themes emerged from data, namely 1) Competency of IMCI for Diploma Nursing Students, 2) Deepening of IMCI Material, 3) Learning methods of IMCI in the class and clinic should be active and structured, 4) Student confidence in the application of IMCI in clinical setting.

Competency of IMCI for diploma nursing students

The competency of IMCI for Diploma III Nursing students is important because it becomes the basis for working in health services, especially in the Community Health Center. This can be seen from the following statements:

P7: The importance of IMCI for students is first to provide guidance to students in collecting data, identifying the disease, then can determine the classification and diagnosis such as pneumonia, so they will not hesitate because they know the treatment to apply when they work.

P2: The application of IMCI is easy because it has all the guidance, for example if a child coughs, there is a way to check it; or other illness as well, there is also a diagnosis guide, including the medicine. So, all the guides already exist, it is very important for students.

The Deepening of IMCI material

The learning process of IMCI at the academic stage for the diploma III nursing students still requires the deepening of the material. These materials need to be identified in order to avoid overlapping with related subjects that exist in other courses. The IMCI materials that still need deepening in teaching and learning process are materials for children aged 2 months - 5 years including cough / difficulty breathing, diarrhea, malaria, measles, dengue hemorrhagic fever, anemia and worms and referral and counseling of mothers. While IMCI management materials in young infants include the classification and management of young infants who have jaundice, low birth weight, local infections, very severe disease and eating problems management. The IMCI chart is also a subject that the students must learn further. While other IMCI materials have been studied in the nursing lecture of pediatric, maternity, and medical surgery nursing. This is explained in the following statements.

Q4: Yes, the problems related to IMCI in children are definitely taught such as measles, cough, fever, and pneumonia. But malaria and dengue are not specific; it is just to distinguish redness in measles or dengue. If it relates to age, it may be included in the sub courses, there is no special subject.

Q2: Yes, I only teach ratings, classifications and actions for dengue fever in children, just only that, because the material has been divided, I have to do according to my part.

P5: There is diarrhea material in medical surgical nursing, no difference between children and adults.

P4: Not all baby care is discussed, only newborn care, while for Dengue fever there is a discussion of its own sub subject as well, but not as deep as we want, only a glimpse starting from pathophysiology, handling only in theory, but practice is not there.

Learning methods of IMCI in the class and clinic should be active and structured

The learning method of IMCI in class and clinic must be active and structured so that the learning objectives of IMCI can be achieved. This is explained in the following statements:

Q4: Teaching learning related to the class material is certainly a lecture, question and answer, and discussion. But when it comes to practice, for example there are procedure standards how to handle child seizures that are practiced in the laboratory. But this practice is only for some important cases, not all are given in the form of a simulation or role-play in the laboratory. However, to integrate IMCI into the nursing school is important, we need to clarify which stimulation, role-play, and practice could be included in IMCI, because so far, I know the learning is not good enough.

P4: For Upper Respiratory Infections subject, such as pneumonia is usually in the form of a seminar, there is no practice, whereas diarrhea is learned how to deal with mild, moderate, and severe diarrhea, but no special treatment with the method of discussion.

Q2: The method of practice or stimulation is done after given the material. The method varies, sometimes we teach first the theory today, and tomorrow we practice in laboratory. Sometimes there is a practice, sometimes no practice, especially for competency. Usually, those who can practice competence are only students who practice in IMCI section, otherwise those who practice in other subjects; they do not have any competencies about IMCI.

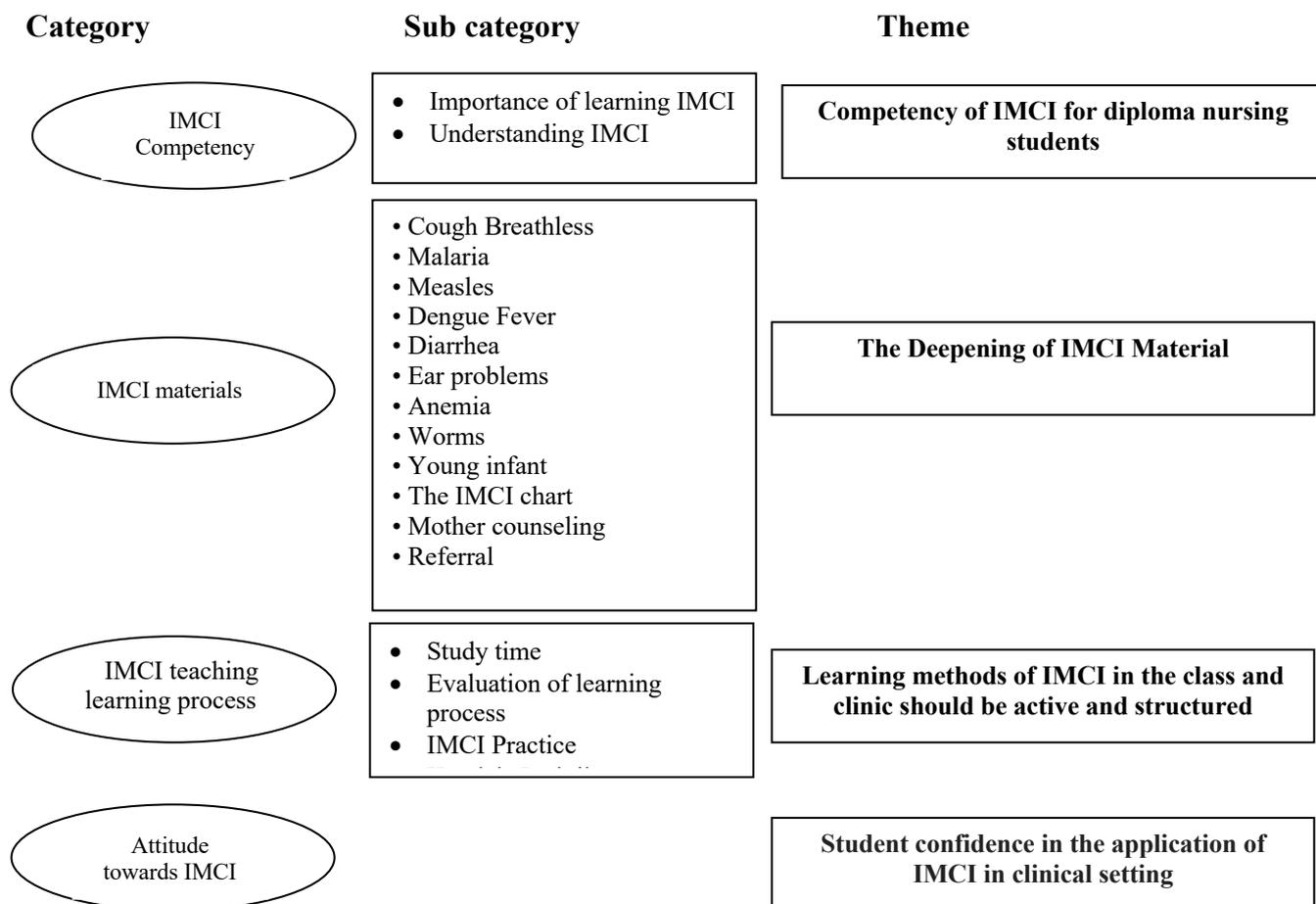


Figure 1 Theme, category, and sub category of perspectives of lecturers about the materials of MTBS learning for diploma nursing students

Student confidence in the application of IMCI in clinical setting

Student confidence in applying IMCI to clinical setting is the result of academic learning process. If students have received adequate learning, they become confident when implementing IMCI, but students are not confident in applying MTBS because their learning experience is not optimal yet, so they assume IMCI competency is not important for them. This is explained in the following:

I1: So far, many students do not meet the competence of IMCI. But the condition was not

seen when the students completed the practice. At the time the students were re-tested during practicing or final examination of the practice, they complained that they could not do anything because they were practicing in the other wards like in polyclinic instead of IMCI ward in the community health center. So, the students hesitate during practice and eventually they failed during the exam.

I2: Most of the students cannot practice IMCI, maybe because the setting is different, so they are frustrated when entering the hospital, as if it is a new item for students. It is shocked although we have taught them already.

DISCUSSION

Competency of IMCI for Diploma Nursing Students

The competency of IMCI is important for the Diploma nursing students as guidance in performing care for children and infant illness and guidance to work. In addition, it is necessary to sort and emphasize that the IMCI materials must be studied by the students so as not to overlap with other courses and can deeply learn the materials.

As the MTBS technical consultation in Geneva in 2007 recommended that we need innovative approaches to implement competency-based IMCI training through individual learning, group learning, local clinical mentoring and evaluation and monitoring. The emphasis of the learning process is to develop competencies thus improves knowledge and attitude in daily clinical practice. The learning process should be developed based on IMCI core competencies as a guide in implementing IMCI.¹⁴ The same thing can also be seen from the evaluation of the quality assessment of IMCI on health professionals who have been trained IMCI in South Africa, which indicated that IMCI was applied, but the assessment was often not complete, and immediate referral was not done. If key interventions were used to save a child's life, what needs to be done was the improvement of competence in identifying specific signs and comprehensive child assessment by IMCI practitioners. However, the role of supervision in the maintenance of skills of health workers needs further investigation.¹⁵

The competency of IMCI is an important thing in working for health workers.

Competency is the ability of individuals to perform work quickly; behaviors provided with structured guidance, can be evaluated and developed.¹⁶ Competency is also a combination of theoretical knowledge, cognitive skills and behaviors and values that can improve the appearance or determine quality adequately, and have the ability to form a specific role.¹⁷ Similar with Mulyasa^{8,18} mentioned that competency is a combination of knowledge, skills, values and attitudes reflected by thinking and acting that can be measured from the learning outcomes. Competency can serve as a foundation for learning and determining indicators for achievement of measurable and observable learning outcomes. Competency is an action on different situations and contexts. In emergencies, competency can be a reaction to situations related to previous behaviors to be able to do something. Being a competent person requires the ability to interpret situations in a context that allows repetition of actions to be performed and trained. The hierarchy of competency begins with false intuition, then false analysis, correct analysis and ends with true intuition.^{8,18} Competency is an important thing and must be owned by someone to be able to do something that can be obtained through the learning process. Thus, diploma-nursing students in this study should have competency of IMCI.¹¹

In line with that, IMCI is an integrated approach in the management of sick children who come to health services made in a form of chart that makes it easier for health workers to perform systematic steps in handling toddlers and infants.¹ Organizing the learning process of IMCI during the lecture is one way to teach IMCI in the pre-service setting. IMCI pre-service will provide benefits in

the long term, namely, first is cost effectiveness, because if the IMCI included in the learning, tuition fees for practice can be avoided. Second, IMCI can improve basic skills, because IMCI learning in college will always update the concept. Third, learning IMCI during lectures will get the opportunity to practice properly, gain strengthening and support from various parties.⁵

The learning process of IMCI should be conducted in an integrated manner between practice, and technical scientific knowledge to improve the health of children in the health service setting, home and community; and increase the ability of parents in communicating with health workers.^{19,20} The learning process of IMCI should be designed to form a group of core competencies for prospective health workers in order to care for sick children.⁵

However, the IMCI competency differs in each country and region according to local conditions. Medical and nursing students are potential health professionals who play a key role in the care of sick children. They require the development of core knowledge and skills in dealing with sick children. Therefore, the competency of IMCI becomes important so that they can prevent and handle serious disease problem in children, improve health system and the ability of family and society to support prevention and management of children dealing with serious condition.⁵

The deepening of IMCI material

The results showed that some IMCI materials have been studied in several other subjects, although the material has

not been able to meet the expected competencies of IMCI. Therefore, it is necessary to deepen the materials of IMCI that must be studied to achieve the competency of IMCI of the students.

The follow-up of pre-service IMCI education in Vietnam was conducted on 224 postgraduate students in the children's health section of the medical and pharmaceutical universities in Ho Chi Minh City from 2000-2005 on the practice of IMCI correctly. It was 90% of respondents reported applying IMCI to sick children, and 55% of doctors applied case management guidelines correctly. The practice's appearance was significantly related to the MTBS learning process at university.⁵

In addition, a study conducted by Al-Araimi and Langrial on a hypothetical model to predict nursing students' perceptions of the usefulness of IMCI pre-service training at Sur Nur Institute Oman, found that all constructs have alpha values above 0.700, except for improving skills (Cronbach alpha 0.694). Overall, this study indicates that nursing students who have received IMCI learning felt very useful and eager to apply IMCI in relation to knowledge and skills in clinical practice.²¹ Thus, it is indicated that the learning process implies the improvement of knowledge, skills, and attitudes in the application of IMCI in the clinical setting, which is why an effective, active and structured IMCI learning process is needed. The material and skills of IMCI must be balanced so that the learning objectives can be achieved.

The core competencies of IMCI are numerous to be achieved by a nurse. Therefore, it is necessary to mapping the material well. Material mapping is an

activity to get a thorough and whole picture of all the material to be learned. Learning materials should be designed in accordance with the learning objectives that will help teachers to organize effective teaching and learning process, and learners will get the right source of learning.²²

However, in preparing learning materials of IMCI, lecturers must adjust to the condition, needs and characteristics of students. The IMCI material also conforms to the existing detailed learning programs and should be evaluated to measure the level of success or achievement of the expected competencies. The preparation of learning materials should be systematic, including the knowledge, skills and attitudes required to achieve competency.²² For instance, IMCI materials about difficult breathing and diarrhea should be studied by Diploma nursing students. This is in accordance with the competency that must be fulfilled by students is to implement nursing care in patients with respiratory, fluid, electrolyte and blood disorders. In this competency, the student must have knowledge related to the respiratory system and body fluids, and the skills to perform nursing care in the child with the case of respiratory and fluid problems. The student must carry out the assessment, determine the problem, develop the plan and carry out the action according to the existing problem.¹¹

In addition, the materials about anemia, low weight and intestinal worms are also needed for students to carry out the competency of fulfillment of nutritional needs in patients. Students should be able to conduct assessment to perform actions related to nutrition, especially mother counseling about food in infants and

toddlers, giving iron tablets, breast milk and nutritional fulfillment and prevention of blood sugar decrease. Students should also be able to assess whether food problems in infants and toddlers have been resolved or require repeat visits and referrals. Besides, materials related to young infant care are also necessary. Students should also be able to perform nursing care in healthy and sick children, high-risk babies and newborns. If the material can be mastered properly then the student will be able to perform health related actions on infant such as immunization and baby care with jaundice, low birth weight, severe disease and local infection.^{11,23}

The IMCI technical consultancy in Geneva also recommended that important principles of IMCI should be well studied. These principles include the use of the IMCI chart, finding common alarms, color codes for risk categories, using formats for classification and management, communication with mothers and an integrated approach must be studied. Such materials should be specifically designed to improve understanding and problem solving.¹⁴ Fujimori, et.al study on learning strategies of IMCI in undergraduate nursing students by integrating multicentric international with cross-sectional online surveys on 571 undergraduate students, revealed that 64% of programs incorporate the IMCI strategy in theory and 50% in practice. The location used for practice is the primary care unit. The module is not much used by the program, but the most widely used is the IMCI's instruction manual.¹⁹

It could be said that the IMCI learning program should reduce the overflow of the material; the lecturer should clarify core or critical knowledge, and should

enhance the experience and skills of students in learning IMCI. ¹¹Additionally, the learning materials of IMCI should focus on prevention and treatment of frequent infant and childhood conditions, defining essential knowledge and skills required to effectively manage children and infants in the clinical setting. The learning objectives of IMCI should enable students to develop a strong foundation of core knowledge and skills to build theories and approaches that can be applied to the clinical setting.^{5,20}

Learning methods of IMCI in the class and clinic should be active and structured

The learning process of IMCI must be planned and implemented actively, structurally, and equally between theory and field practice. Students must obtain complete material and field practice experience of IMCI during their time. Such learning process will instill a strong knowledge base on IMCI and its application.

A qualitative study conducted by Horwood, et.al on the experience of training and implementation of IMCI in South Africa, showed that the training was interesting and very informative; and its empowerment had an impact on improving their skills in dealing with sick children. They highly appreciated the varied learning methods, and they felt that repetition is essential to strengthening knowledge and skills. The presence of a highly knowledgeable and committed facilitator is helpful in addressing the problems that participants found during the training, thus training with longer time is necessary. This result showed that the learning process of IMCI should be

prepared as possible. The material variation is needed to avoid boringness, and effective learning process must be implemented to achieve learning objectives.¹⁵

Pre-service IMCI education is a learning process that integrates the principles of IMCI science and practice into the diploma or undergraduate health education curriculum. In addition, Diploma nursing III graduates serve as skilled nurses in solving the procedural problems of nursing, either independently or in groups, planned according to the standard of nursing care with the ability to accept responsibility for the decisions and actions of professional nursing care in accordance with the scope of practice and law / acts. Therefore, the learning process must really be able to achieve it.^{11,12}

The learning process of IMCI must be designed creatively so that the active learning process can be realized. Students must be turned towards the better, have the will and the readiness to learn. Learners should be able to think reflectively, critically and creatively. The end result of the learning process is an increase in knowledge and skills and the ability to make effective decisions.²⁴

Learning in the classroom requires teachers' sensitivity to the values demonstrated by learners. A healthy class atmosphere will give the benefits to the students to share their sense of humor, open and relax. The climate in the classroom should make the learner speak openly and confidently as well as trust and respect for teachers and classmates.¹¹ Koh, et al said that changes in behavior and appearance are the results of a process of learning with certain materials. It is a learning achievement that influences the

interaction of various components including teachers, learners, curriculum, methods, facilities and learning media.³ Learner factors are internal factors such as psychological conditions, mental readiness and attention, physical health and initial ability of the learners. External factors are the situation of the lighting room, the exchange of healthy and comfortable air and enough facilities. System factors are the ability of faculty as a facilitator and motivator. However, teachers should be able to provide flexibility to create and take the initiative to develop a good learning situation and goals to be achieved and design the learning process.³

Effective education should be balanced between theory and practice to help learners develop important competencies before they enter the profession or working period.³ For prospective health workers, education will result in increased knowledge, skills, related to the duties of providing health services. The classroom learning process consists of theoretical based learning (e.g. in the classroom) and practices such as in laboratories and clinics that are designed to prepare students as health care providers under a certain category.¹⁰

WHO said that there is a need of a strengthening phase before implementing IMCI. The process begins with planning and orientation for the learning process, and then proceeds with the preparation and implementation of learning. At this stage, it is necessary to strengthen the curriculum, prepare the required materials and tools, prepare the practice field and the teaching staff, train teachers, coordinate and monitor the learning process, and then to review and revise the

learning; and final stage is to evaluate learning by reviewing existing results.⁵

Student confidence in the application of IMCI in clinical setting

The IMCI learning has not been optimal and not considered as an important competency. Thus, many students have not gained experiences in applying IMCI in clinical setting. A qualitative study by Fujimori, et.al on 396 undergraduate students at the University of Sao Paulo nursing school, found that almost all participants still remember the IMCI strategies taught in the undergraduate curriculum and most consider them useful. On the other hand, it shows that over a third feel less confidence to apply it and little contents of the theory can be consolidated.¹⁹ This condition supports the need for improvement in the learning process of IMCI.

Self-confidence is to convince the ability and judgment in doing the task and choosing an effective approach. Confidence is important in the learning process, because it will make the student confident of himself and be responsible. Confidence is the basis of motivation to succeed. The presence of confidence makes students dare to take action and confident with its success. This condition will make a success in the learning process. Students who have confidence will be active during the learning process. In contrast, students who do not have confidence will hinder the achievement of intellectual, skill and independence and socialization ability. Self-distrust causes students to be less motivated to move forward, lazy or half-hearted in their learning.²⁵

Thantawy argues that self-confidence is a mental or psychological condition of an individual that gives a strong belief in himself to do or act. Students with confidence will have high tolerance, independence in making decisions, or doing tasks, optimistic and dynamic and have a strong sense of achievement.¹⁷

Confidence is formed by learning process, seen from the development of attitudes and feelings of someone after learning something. According to De Anggelis, confidence arises because we are able to do or do something. The more proficient or the higher the level of a person's ability to do something, then the confidence is also higher. The confidence that comes from the heart is not an artificial process. Thus, a teacher must be able to design a balanced learning process between theoretical concepts and skills in applying IMCI in students.²⁶

CONCLUSION

There are four themes emerged for the data: 1) Competency of IMCI for Diploma Nursing Students, 2) Deepening of IMCI Material, 3) Learning methods of IMCI in the class and clinic should be active and structured, 4) Student confidence in the application of IMCI in clinical setting. In order to streamline the learning process of IMCI in Diploma nursing students, it is necessary to prepare the learning process and effective practice. The nurse educators need to review IMCI material thoroughly in order not to overlap with the same material in other courses. In addition, they also need to design active classroom learning methods, proper and regular field practice to enhance the competency of the students in implementing IMCI.

Declaration of Conflicting Interest

None declared.

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Authorship Contribution

All authors have equal contribution in this study.

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