Research Article

Enhancing Prerequisites for Future Primary Care Physicians via Portfolio*

Chatnarin Metheekul [1] **

[1]Assitant Professor, Faculty of Medicine, Thammasat University,
Program Director, Innovative Health Care Management (Inter'l) College of Innovation, Thammasat University

Abstract

Background *Scarcity of primary care doctors worldwide results from low motivation and understanding of primary care in doctors. Enhancing prerequisites needed in primary care is essential, in which portfolio's reflective method might be promising.*

Objectives *The study aims to increase attitude and understanding of primary care via a newly design portfolio, as well as determine the effect of the portfolio.*

Methods *The Holistic Healthcare 3 subject committee re-designs the portfolio, which is comprised of knowledge knowledge application skills, values &beliefs and emotional awareness as learning domains. The students complete the portfolio as needed throughout the 4-week course. Analyzed data using descriptive analysis , mean, p-value calculated by non-parametric statistic (Mann-Whitney U test) is performed.*

Results *Four themes emerged. Theme 1 indicates prerequisites include knowledge, knowledge application skills, values &beliefs and emotional awareness as learning domains. Theme 2 shows that students perceive the portfolio to be a burden, despite better attitude and understanding of primary healthcare. In Theme 3, students show low motivation and appreciation toward primary care, partly from the curriculum itself, in which lecturers as role models are influential in choosing career paths. Theme 4 indicates that students achieve prerequisites of knowledge and problem solving skills while performing the portfolio.*

Background

A world – wide need for primary care physicians or generalist doctors is prominent and Thailand also shares this need. Strategies in fulfilling this need includes higher production of medical students by old and newcomer medical schools, developing rules for graduates from governmental medical schools to spend 3 years of internist (with periods of working in government sector primary care system) after graduation as well as increase in salary and other incentives to work in rural areas. Despite these strategies, doctors tends to have an attitude in career development towards being a specialist working in urban area's hospitals, which may be related to personal motivations, non-holistic medical curriculum and workplace settings preference. Academics can play a crucial role to explore this phenomenon and promptly administer the prerequisites needed by medical students in the area of primary care, expecting higher understanding and interest toward the field.

Student portfolio, apart from assessment purpose can serves as a tool to implant prerequisites for working in primary health care system. It also shows achievement in reflective observation, in which students are able to internally examine and explore issues of concern in primary care through experience that accounts for changing student's conceptual perspectives.

Objectives

The objectives of this study are the followings

a) Help students explore their own perception and build positive attitude towards being a primary care physician through reflective practice using portfolio.

b) Determine the possible components of medical student's portfolio in primary health care subjects.

Methods

The design of this study is an experimental study to renovate the use of portfolio in academic settings.

Settings

The setting of this study is operated in the Faculty of Medicine, Thammasat University, Thailand.

* This work was supported by the National Research University Project of Thailand Office of Higher Education Commission

** Corresponding author: itimwinter@yahoo.com

The curriculum for medical students in Thammasat University is a spiral curriculum, in which students will be introduce to certain areas of body of knowledge repetitively in different depth and perspectives.

Participants

a) Ten faculty members of the Department of Family Medicine & Community Medicine share opinions on designing a new portfolio in the subject's subcommittee meeting.

b) All 4th year clinical students in the class of 2011 are involved. The students has passed all major specialties, comprised of Medicine, Surgery, OB – GYN and pediatrics before finishing their 4th year (6 year curriculum) with a subject called Holistic Health Care 3 involving primary healthcare and family medicine.

Materials and Methods

a) Subject's subcommittee meeting

Ten faculty members of the Holistic Health Care 3 Subject share discussion and reach consensus on redesigning the portfolio before the opening of the course.

b) Kolb's experiential learning model

Learning methods in Holistic Health Care 3 is based on Kolb's experiential learning model in which students develop their own concepts and hypothesis through direct experience from site visits at primary care units (PCU), which will undergo reflection, concepts formulation and testing of these concepts by wrap up from tutorial groups, lectures and panel discussions during a 4- week period.

c) Portfolio

The portfolio, developed from lecturer's and student's feedbacks on previous Holistic Health Care 3 course are divided into 7 parts by subject subcommittee as the followings

1) Articles on the use of student portfolio.

2) Open – end questions concerning attitudes and perceptions towards working in primary care.

3) Exercise on family assessment tools.

4) Reports on

4.1) Health care plan for PCU in urban and suburban areas.

4.2) Health Promotion by PCU and its correlation with Bangkok Charter.

5) Problems during organizing this subject discussed with group tutor.

6) Suggestion by students on component of portfolio that might increase students understanding of primary care.

7) Questionnaires on the effectiveness of portfolio to enhance prerequisites for primary care physicians.

Only the 4th part of this portfolio accounts for grade evaluation. The portfolio is to be hand in at the end of the course.

Data analysis

The data concerning proposed portfolio contents, attitudes and interest towards primary healthcare and evaluation of student's performance are analyzed using descriptive analysis, while student's reflection on the use of portfolio are analyzed using mean, p-value calculated by non-parametric statistic (Mann-Whitney U test)

Ethical approval

All students have the rights to complete or not complete certain parts of the portfolio. Only a part is needed to be done for summative evaluation. The use of this portfolio is approved by the Administrative Committee of the Department of Community and Family Medicine after approval by the subcommittee of Holistic Health Care 3 subject.

Results

Four main themes emerged as results of this study.

Theme1 : Lecturers' preconceived ideas and proposed portfolio's contents and functions

Ten lecturers share discussion on the possible contents of portfolio and how the portfolio could prove benefits. All of the lecturers agree on extending the so called log book (collections of performed activities) into a more functioning portfolio, which should help in establishing prerequisites for working in the primary care sector. The discussion eventually come to a consensus that group the function of the portfolio into four domain of learning, i.e., knowledge, knowledge application skills, values & beliefs and emotional awareness as shown in Table 1. The portfolio is therefore comprised of 7 parts as mentioned before.

Table 1 Agreement on contents of portfolio and domains of learning

Content	Domain of learning	Level of Agreement
Kolb's experiential learning model	Knowledge	8/10
Student's attitude towards primary healthcare	Values and beliefs	10/10
Family assessment tools	Knowledge	7/10
Healthcare plan for primary care unit	Knowledge application skills	10/10
Evaluation of portfolio's effectiveness	Emotional awareness	10/10

Table 2 Student's reflections on the use of portfolio

Question	GENDER	number	Mean	SD	SE	95% CI		P-value
						lower	upper	
Q1 DOING THIS PORTFOLIO INCREASES KNOWLEDGE IN PRIMARY CARE (INTELLECTUAL DEVELOPMENT)	men	29	3.24	0.91	0.17	3.07	3.41	0.598
	women	50	3.22	0.68	0.10	3.12	3.32	
Q2 DOING THIS PORTFOLIO INCREASES UNDERSTANDING OF PROFESSIONAL DEVELOPMENT IN PRIMARY CARE.	men	29	3.34	0.94	0.17	3.17	3.51	0.244
	women	50	3.64	0.90	0.13	3.51	3.77	
Q3 DOING THIS PORTFOLIO CONSUMES A LOT OF TIME AND EFFORT.	men	29	4.17	0.89	0.17	4.00	4.34	0.263
	women	50	3.94	0.87	0.12	3.82	4.06	
Q4 THIS PORTFOLIO HELPS YOU ANALYSE AND EXPRESS YOUR THOUGHT OF PRIMARY CARE .	men	29	3.38	0.94	0.17	3.21	3.55	0.838
	women	50	3.46	0.73	0.10	3.36	3.56	
Q5 THIS PORTFOLIO LET YOUR ADVISOR KNOW YOUR PROBLEM IN STUDYING PRIMARY CARE .	men	29	3.21	1.05	0.19	3.02	3.40	0.248
	women	50	3.50	0.89	0.13	3.37	3.63	
Q6 THIS PORTFOLIO LET YOU PLAN YOUR SELF DIRECTED LEARNING (SDL) IN PRIMARY CARE BETTER .	men	29	3.00	1.10	0.20	2.80	3.20	0.750
	women	50	3.12	0.77	0.11	3.01	3.23	
Q7 THIS PORTFOLIO HELP YOU UNDERSTAND THE PURPOSE OF STUDYING PRIMARY CARE .	men	29	3.21	1.11	0.21	3.00	3.42	0.141
	women	50	2.96	0.73	0.10	2.86	3.06	
Q8 YOU WILL NOT ATTEND TO THIS PORTFOLIO IF THERE IS NO MARKS AWARDED.	men	29	4.10	1.05	0.19	3.91	4.29	0.020*
	women	50	3.68	0.82	0.12	3.56	3.80	
Q9 STUDENTS SHOULD BE ABLE TO SELECT THEIR FIELD OF INTEREST IN PORTFOLIO.	men	29	3.86	0.88	0.16	3.70	4.02	0.782
	women	50	3.84	0.65	0.09	3.75	3.93	
Q10 YOU FEEL FREE TO REVEAL YOUR PERSONAL DATA.	men	29	3.17	1.44	0.27	2.90	3.44	0.146
	women	50	3.74	0.83	0.12	3.62	3.86	
Q11 YOU FEEL FREE TO EXPRESS YOUR FEELINGS AND THOUGHTS.	men	29	3.55	1.33	0.25	3.30	3.80	0.877
	women	50	3.74	0.88	0.12	3.62	3.86	

***p-value** < 0.05 calculated by Non- parametrix statistic (Mann-Whitney U test)

Theme 2 : Student's reflections on the use of portfolio

Students are reluctant to support the portfolio's benefits due to the efforts and restricted time to complete it, in which this finding does not vary with student's gender. Students may find the portfolio useful in demonstrating the framework of primary care but these findings show no statistical significance, while students mentioning that they wouldn't cooperate in doing the portfolio if there is no summative evaluation, reveal statistical significance.

Theme 3 : Student's perception of primary care

Only 4 out of 79 students show interest in being a primary care physician. Most students prefer to be a specialist in Medicine (n=18), Pediatrics (n=14), Surgery (n=12) and OB-GYN (n=9) while some of them prefer to be specialists in minor subjects such as ENT, Radiology, Pathology, etc. Forty-five students point out to their teachers being role models as an important reason for their career choices, including 4 students that prefer Primary Care.

In an open-ended question, many students enter medical school with a concept that primary care is for doctors who can't get further in their career, while others view primary care's weak point is identity deprivation. Most students find primary care as well as family medicine subjective, uneasy to understand and boring. The impact of studying Holistic Health Care 3 subject is not promising. Although students develop positive views of the role of primary care physicians, this can't overcome the interest in other specialties, which occupy a much higher hierarchical perceptions in the medical curriculum.

Theme 4 : Student's performance evaluation via portfolio

All of the students demonstrate a clear understanding of primary care, family medicine and health promotion concepts when they perform their assignments in the portfolio. All of them complete all seven parts of portfolio, despite of the fact that only the 4th part is necessary for summative evaluation.

Discussion

Developing countries are facing the same common problem of healthcare workforce shifts towards specialization. The predisposing factors include the perception, knowledge and expectation of primary care in doctors. In Theme 1 of the results, lecturers have look upon this incidence and add values & beliefs, emotional awareness as well as knowledge and application skills to the portfolio, intending to motivate future doctors towards primary healthcare. This won't be easy as stated in Theme 3 of the results that higher proportions of medical students prefer secondary healthcare. The medical curriculums are also responsible for this preference. The amount of learning credits for secondary healthcare subjects outnumber the primary healthcare subjects. The sequence of the curriculum that arrange primary healthcare subjects after secondary healthcare subjects also yields bias in preferring secondary healthcare. In addition, students' likings for their lecturers as role models effect their likings for the subject, which indirectly implies that such role models in primary care lecturers are not so influential. Social norms through mass media and general population's belief draw pictures of primary care physician as ordinary physicians, the so called not-so-competent , in which , distort the fact that about 80 percent of healthcare visits involve primary health care sector (Thailand Health Report, 2010). Theme 2 indicates that students gain knowledge and application skills by performing the portfolio, although not statistically significant, which might be interfered by the time consuming character of the portfolio. However, emotional awareness is unchanged in the 4-week period. As for lecturer's view and summative outcomes, this portfolio helps students to qualify for understanding and reflection of primary healthcare, despite the fact that their initial attitudes for primary care is negative.

This study reveals an important findings upon the use of portfolio, which at first intends to elevate student's knowledge and attitude towards primary care. The portfolio facilitates students to reflect their attitudes, perceptions of primary healthcare , role models and curriculum arrangement openly. Overcoming the problem in scarcity of primary care physicians need to be managed initially at the academic level, i.e., medical schools must involve more in solving the problem by arranging the medical curriculum that serves societal needs, not merely doing benchmarking for center of excellence (COE) as present.

References

1. Linda, E. & Simnett, I. (2003). What is health. Promoting Health, 5th edition, 1-18.
2. Evan R.I. (1988). Health Promotion. Science or Ideology? Health Psychology, 203-219.
3. Frances H. (2002). Putting One's House in Order. On High-Performance Organizations , 1-6.
4. Jackson A. et al. (2003). Nutrition as a preventive strategy against adverse pregnancy outcomes J Nutr. 133(2), 1589S-1591S.
5. Julian, R. (1998). Ethnicity, health and multiculturalism. Second opinion : an introduction to health sociology, 77-95.
6. Karl, W. & Sutcliffe, K. David Obstfeld. (2002). High Reliability : The Power of Mindfulness, 19-99.
7. Macaran, A. B. & William. D.G. (1998). Families and health. Family Medicine : Principles & Practice, 26-30.
8. Maine, D & Rosenfield A. (1999) The Safe Motherhood Initiative: why has it stalled? Am J Public health. 80 (1),480-482.
9. Markel, H& Golden, J. (2005). Successes and missed opportunities in protecting our children's health : critical junctures in the history of children's health policy in the United states. Pediatrics, 115(4),1129-1133.
10. Ogden, J. (2001) Health psychology, Health Studies, 69-98.
11. Robert B.R.(1998). Family Medicine : Current Issues and Future Practice. Family Medicine: Principles & Practice, 1-4.
12. Roberts, K.B.(1996) Educational Priciples of community-based education. Pediatrics, 98(2), 1259-1263.
13. Rosen, G. (1993). A history of Public Health. Expanded ed. Baltimore, MD: Johns Hopkins University Press, 47-90.
14. Saultz, J. (2000) Contextual Care, Textbook of Family Medicine,135-159.
15. Starfield, B. (1998). Balancing Health Needs, Services and Technology. Primary Care. Oxford University Press, 20-60.
16. Stewart,A. et al.(1997)Primary care and patient perceptions of access to care. J Fam Pract, 10(2), 177-185.
17. Strauss, A. & Corbin, J. (1998). Basics of Qualitative Research. Thousands Oaks, California, 85-96.
18. Wass,V. (2005). Growing your own. Education for primary care,16(1), 215-216.
19. Wilkinson et al. (2003). Impact of undergraduate and postgraduate rural training. Medical Education, 37(1), 9-14.
20. Worley, P. et al. (2004). Cohort study of examination performance of undergraduate medical students in community settings. BMJ, 328(1), 207-209.