



Teaching Strategy of One Minute Preceptor and its Approaches in the Past Two Decades: Systematic Review

Reihaneh Shagholi (Ph.D)¹, Saeed Eslami Hasan Abadi (Ph.D)², Akram Moghaddasi (MSc)³, Tayyebeh Sayyadee (Ph.D)⁴, Maryam Tayefi (Ph.D)^{5*}

¹Academic Member Imam Khomeini Higher Education Center, Agricultural Research, Education and Extension Organization (AREEO), Karaj, Iran.

²Department of Medical Informatics, Faculty of Medicine, Mashhad University of Medical Science, Mashhad, Iran.

³Clinical Development of Ghaem Center, Mashhad University of Medical Sciences, Mashhad, Iran.

⁴Anvari Abivardi EMS Education Center Dargaz, Mashhad University of Medical Sciences, Mashhad, Iran.

⁵Clinical Research Unit, Mashhad university of Medical Sciences, Mashhad, Iran.

ARTICLE INFO

Article type

Systematic review

Article history

Received: 17 Jul 2018

Revised: 15 Aug 2018

Accepted: 13 Nov 2018

Keywords

One minute preceptor

Systematic review

Teaching strategy

ABSTRACT

Introduction: In order to know the procedure of one-minute preceptor (OMP) teaching method, the relevant English language articles were searched in 5 databases, namely Clinical Key, ProQuest, PubMed, Scopus, and Web of Science in-process. **Methods:** The search process was conducted on the articles published during 2000-August 2017 using the term "one-minute preceptor" in title and abstract. Letter to the editor, articles irrelevant to OMP, articles with no full-text, and duplicate articles were removed from this study.

Result: The search result led to the identification of 133 articles. After employing the exclusion criteria, 31 articles remained for detailed analysis. The main outcomes of the investigated studies were categorized into 7 main groups, namely 1. OMP and effectiveness, 2. OMP and develop 3. OMP and SNAPPS, 4. OMP and Traditional Mode, 5. OMP as a teaching tool, 6. OMP and teaching skill, and 7. Teach OMP. The commonly used study designs in the order of frequency were opinion review, and observational without control studies, non-randomized controlled trial, pretest-posttest design, randomized controlled trials, and systematic reviews. The OMP improved processes and outcomes of education. Its effectiveness was in both teaching and patient diagnosis; moreover, it improved the quality of feedback and residents' teaching skill in the clinical setting. Furthermore, OMP did not show statistically significant improvements in teaching behavior.

Conclusion: Results showed that the OMP workshop for faculty staff does not enhance the quality or quantity of residents' perceptions. There should be a nonstop effort by faculty members to increase the quality of clinical teaching.

Please cite this paper as:

Shagholi R, Eslami Hasan Abadi S, Moghaddasi A, Sayyadee T, Tayefi M. Teaching Strategy of One Minute Preceptor and its Approaches in the Past Two Decades: Systematic Review. *Rev Clin Med.* 2018;5(4):123-131.

Introduction

In the past two decades, educational researchers paid great concerted attention to clinical preceptors and their pedagogical behaviors at work (1). Nowadays, One-Minute Preceptor (OMP) is

one of the general teaching models, which have been addressed in the literature. It has been stated that OMP is time efficient and one of the effective teaching ways (2). The "one minute" in

*Corresponding author: Maryam Tayefi.

Clinical Research Unit, Mashhad University of Medical Sciences, Mashhad, Iran.

E-mail: tayefim@mums.ac.ir

Tel: +985138022097

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

“one-minute preceptor” does not refer to time limitation (3); this method is even useful in short encounters (4).

According to Chan and Wiseman the OMP was first introduced by Neher et al. in 1992 (5). This technique was used by busy ambulatory care practitioners for the first time (3) as an alternative method to traditional presentation method (6). The aim of developing OMP was to diagnose the patient, manage learners simultaneous way of thinking, and also increase learners' confidence and satisfaction (7). It simplifies the presentation of learners' thought and eases patient and learner diagnoses (6). Neher et al. stated that OMP is time efficient and learner-based method, which can easily simplify the process of remembering and application for both new information and new ways of thinking. This simplification is applicable for part-time and junior faculty members who do not have enough experience in teaching (4,5). The main benefit of OMP include the enhancement of problem-solving in learners, increase learners' responsibility, and provision of learner's feedback and reaction (3). Most of the time the OMP has five-step micro skills (4) but sometimes it contain six stages (8) as follows:

1. Getting a commitment: This skill helps to diagnose the learners' knowledge and encourage them to answer the posed preceptor questions. Therefore, this skill pushes a preceptor to a direction which needs more care. The questions which might raise by a preceptor after listening to a presentation of one person can be What do you think about the cause of chest pain? (1) Or what is going on with the patient (9).

2. Investigating the supporting evidence: The preceptor should give the learner the chance to give his/her reasons about the answer and focus on the right part of the answer before making any judgment about his/her response. This procedure allows the preceptor to determine the capacity of learner's knowledge and investigate the reasons for the given answer (5). This micro skill is also considered as a diagnosing tool. The following questions can be asked by preceptor after listening to learner presentation: What did lead you to that conclusion? Or how did you get your answer? (1).

3. Teaching a general rule: Preceptor should determine all the gaps in learner's knowledge and errors by providing an objective language without any subjective judgment (5). Moreover, the preceptor would use the opportunities to teach learners the general rules on clinical diagnosis or management and help them to apply their knowledge to other situations in a specific case. Furthermore, these rules should be general (4). Therefore, the

aim of teaching rules is to secure the future (9).

4. Strengthening what was done correctly: The provision of positive feedback and a better learning situation for learners encourage them to solve their problems by themselves and motivate them to have sensible behaviors and competencies (4). Accordingly, positive feedback may lead to the enhancement of learners' confidence in what they did (9).

5. Correcting errors and filling in omissions: The preceptor should use the chance to teach an instruction or key points according to a specific question in hand. Accordingly, if the learner faces any similar situation in the future, s/he can apply the learned knowledge through an appropriate teaching (5). Although a positive and proper learning space is very beneficial for learning, all gaps and errors should be corrected without any judgmental language (4). Most authors consider this as a thirds step of OMP, but others consider this as a separate step when all the learning issues of the available question have been clear (5). Generally, four explained skills give the pathway to how the preceptor would reply to the learner, prepare clinical teaching, and give feedback.

6. Determining the next learning step: In some situations, researchers consider “Identify next learning steps” as the last step of OMP (8). Although OMP leads generally individuals to reach the right patient diagnosis and have good feedback from learners and preceptors, it does not guarantee the quality of patient care (1). Furthermore, some researchers have the idea that there should be more investigations on the effects of OMP procedure on fresh preceptors. As a result, the current study focused on the OMP model in the past two decades (2000-2017).

Methods

This systematic review was conducted through searching English language articles on OMP. We searched five databases, including Clinical Key, ProQuest, PubMed, Scopus, and Web of Science in-process for the published articles from 2000 to August 2017 using the following search term “one minute preceptor” in titles and abstracts. Figure 1 illustrates the search steps and the corresponding search flowchart. Additionally, the hierarchy of study designs is shown in Table 1. The literature search was performed in August 2017. Letter to editor, irrelevant article with OMP, articles without full paper and duplicate articles were excluded from this study.

Results

The search process of online databases resulted in 133 articles, including 35 Clinical Key, 3 Pro

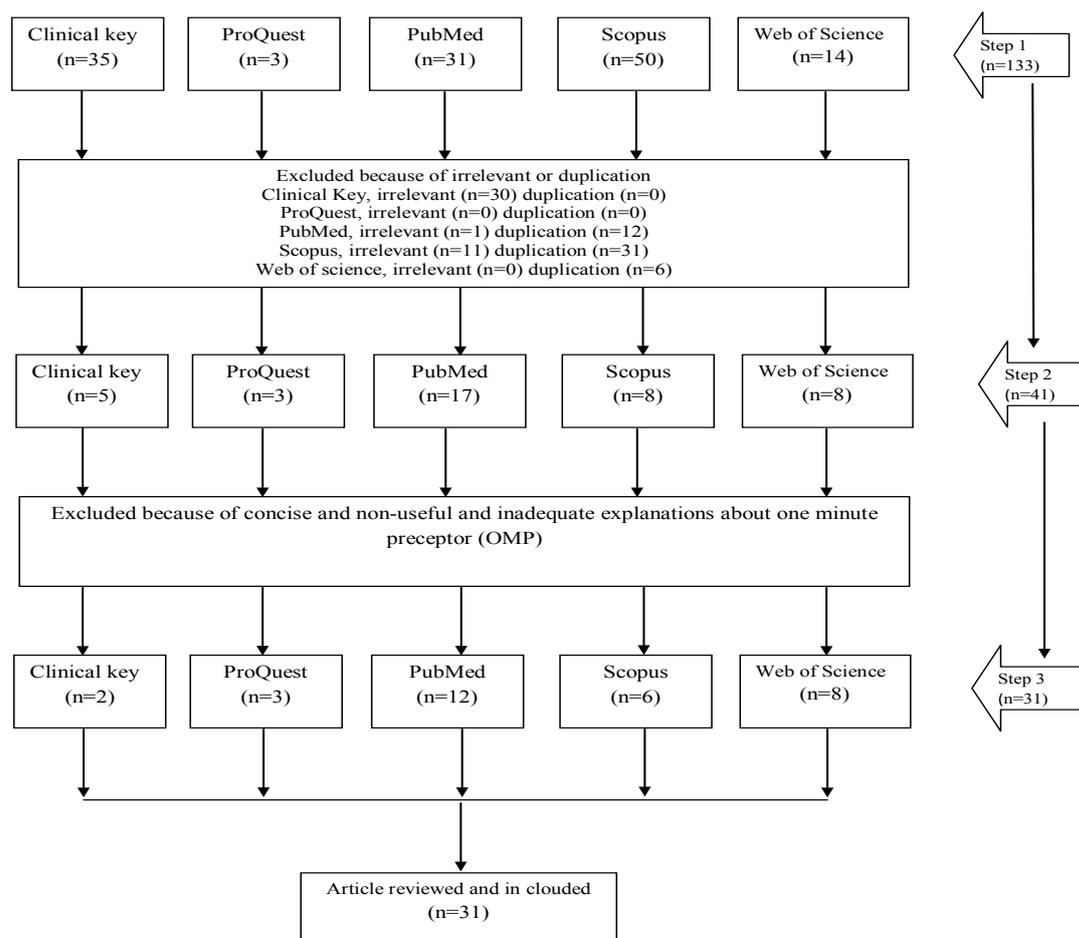


Figure 1. Applied search and the corresponding search flowchart

Table 1. Hierarchy of study designs.

Level	Study design	Description
I	Randomized controlled trial	A study in which subjects are allocated randomly (by chance) to get one of the clinical interventions. One of these interventions is the standard of comparison or control.
II	Non-randomized controlled trial	A study in which a specified subject (the cohort) is followed over time, to identify associations between different interventions and measured outcomes. A 'prospective' cohort study selects participants before any intervention and follows them into the future (pretest-posttest)
III	Observational study without a control	One common observational study is related to examine the probable effect of treatment on participants, where the assignment of subjects into a case group versus a control group is beyond the control of the researcher.
IV	Systematic Review	Systematic reviews are kind of literature reviews that select and critically analyze several research studies or articles, using methods that are suitable for research questions are asked, and then selecting and analyzing studies that relate to those questions and answer them in an accurate methodology.
V	Mini Review	Mini reviews provide a concise, focused review of the literature related to a question of current interest in the scientific community, especially related to human pathology, disease or therapy. These papers are highly cited and have an important role in the presentation of complicated pharmacological material to a vast audience.
VI	Narrative Review	The aim of narrative reviews is identifying and summarizing what has been discussed before. Also, searching for new topics not addressed yet.
VII	Comparative Study	The comparative study is often applied in the first steps of the development of one science area. It can be useful for the researcher to go from primary levels of exploratory case studies to a more advanced level of general theoretical models, variations, such as causality or evolution.
VIII	Opinion Review	Reviewing the status or system, its official review by the people who are responsible. This is usually done to determine if it can be improved or corrected. If someone reviews and reports something, they will comment on it.

Quest, 31 PubMed, 50 Scopus, and 14 Web of Science indexed articles. After initial screening of titles and abstracts, 42 articles were excluded since the evaluation was not performed on OMP. Moreover, 50 articles were removed due to duplication. Based on the full-text review, 10 articles were excluded as they did not have useful content related to OMP. Therefore, 31 articles remained for the detailed analysis (Figure 1). The commonly used study designs in the order of frequency were opinion review (n=9), observational studies without a control group (n=8), non-randomized controlled trial (non-RCT) studies with pretest-posttest design (n=7), and randomized controlled trial (RCT) studies, and systematic review (n=2). Most papers evaluated multiple outcome measures. In all these studies, the main outcome measures of the articles were categorized into 7 main groups according to the goals and content of the article as well as experts' opinion. The groups included 1) OMP and effectiveness (n=5), 2) OMP and develop (n=6), 3) OMP and SNAPPS (A six-point learner approach to clinical education (Summarize the History and findings. Narrow the differences to two or three matters. Analyze of differences in comparison and opposition opportunities. Probe the preceptor by questions of uncertainty, problems or alternative methods. Plan the process of patients' medical issues. Select a subject for self-learning.) (n=4), 4) OMP and traditional model (n=2), 5) OMP as a teaching tool (n=8), 6) OMP and teaching skill (n=6), and 7) Teaching OMP (n=1). Table 2 shows a brief summary of all steps separately for different study designs and different outcome groups. More Details regarding materials and results are shown in the supplementary section.

Discussion

According to the goals and content of the articles, seven groups were considered in OMP.

1. One-minute preceptor and effectiveness

Three types of research were identified in this group. The first one described OMP via observational study without using a control group that reports statistically significant positive effects. Preceptors using OMP through viewing scripted and videotaped teaching encounters were in the same level or higher level than preceptors using a traditional model in terms of the diagnosis of patients, solving medical problems, having higher self-confidence in grading students, and rating the encounter more effectively and efficiently (10, 12, 11). Another research was a nonrandomized controlled trial (3), which showed statistically significant positive effects. In this research, the reports of learners showed that they had better

learning experience after the OMP teaching session. By OMP model, the novice teachers got engaged by more commitments from students. The last research in this group was a randomized controlled trial, which showed positive, negative, and no effects. Anatomy teachers used the OMP model and did not observe any improvement in students learning in the gross anatomy laboratory. Teachers used their own policy with similar components to OMP through focusing on learner-based aspect, adapting to students' requirements, applying feedback strategy, and increasing teacher immediacy. They do not have a very clear pathway, such as OMP; therefore, they are more mature and flexible. The homogeneity of teachers' behaviors and OMP method makes some limitations regarding performance. Although there are benefits in apply OMP method, but it is necessary to investigate OMP by further studies (4).

2. One-minute preceptor and develop

Six articles were included in this group. There were two observational studies without a control group (9,13). The first study had a positive effect but without mentioning any statistical significance and the second one reported the results without statistical arguments. Furthermore, one paper was an opinion review (9) that reported a positive effect without arguing any statistical significance. Another two remained articles in this category described OMP through a nonrandomized controlled trial which respectively showed a combination of statistically significant negative and positive effects (14,15).

The OMP faculty development had a workshop on the self-assessment of faculty and also evaluated the residency of faculty which was more effective and led to five micro skills. Residents reported that there were no significant improvements in the policy of teachers' behavior using OMP. Although the OMP did not have an effect on teaching behavior, researchers believed that OMP had an effect on the quantity and quality of outpatient feedback. The OMP clinical teaching showed modest improvements in the quality of feedback in the ambulatory setting (15). In the models which evaluated the process of trainee applied the mini-clinical examination (mini-CEX) and are well-organized in the integration of OMP. The mini-CEX usually covered history taking, clinical examination, communication, clinical judgment, professionalism, and organizational efficiency. The replacement of mini-CEX with OMP principles offered a well-structured way to help surgical preceptors to learn more about their trainees' knowledge. Moreover, it provides an opportunity, which is time-efficient for evaluation and teaching

Table 2. Effects of OMP on outcome categories subdivided by quantitative study designs .

Outcome category	Study design	Total		Positive effect		No effect ¹	Negative effect		Mixed effect ²	Overall conclusion
		Demonstrated ³	Statistically .sig	Statistically .sig	Demonstrated ⁵		Statistically .sig	Mixed ⁶		
OMP & Effective ness	Systematic Review	1	-	-	-	1	-	-	-	The OMP is learner-centered, simple to remember, easy to apply prompts the concepts and learners' knowledge and satisfaction of learner, effective and efficient teaching in a clinical setting. In addition the OMP able to correctly diagnose patients' medical problems, had greater self-confidence in rating learners, and rated the encounter as more effective and efficient than when viewing the traditional model. The results showed in the OMP training, the novice preceptors were observed to engage more in getting commitments from the learners and in reinforcing what the learners have done right, but some researchers believed effects of the OMP training on novice preceptors still need to be supported by further studies.
	Mini Review	1	-	-	-	1	-	-	-	
	RCT	1	-	-	-	-	-	-	1	
	Non RCT	1	-	-	-	1	-	-	-	
	Obs Without Ctrl	1	-	-	-	1	-	-	-	
OMP & Develop	Non RCT	2	-	-	-	1	-	-	1	The results of the OMP faculty development workshop showed faculty reported improvement in behavior and residents reported no significant improvements but this study is an important step in extending assessment of faculty development. In addition the OMP clinical teaching resulted in modest improvements in quality of feedback in the ambulatory setting too.
	Obs Without Ctrl	3	2	-	-	1	-	-	-	
	Opinion Review	1	1	-	-	-	-	-	-	
OMP & SNAPPS	Comparative Study	1	-	-	-	1	-	-	-	SNAPPS requires both preceptor and trainee to learn the framework and implement it's systematically. SNAPPS may induce more meaning units related to questions and uncertainties and give more satisfaction to residents than the OMP. Both SNAPPS and the OMP allow preceptors to assess the diagnostic reasoning skills of learners and preceptors require a deep understanding of the teaching method to lead improve educational processes and outcomes.
	Narrative Review	1	-	-	-	1	-	-	-	
	Opinion Review	2	2	-	-	-	-	-	-	
	Obs Without Ctrl	2	-	-	-	2	-	-	-	
OMP as Teaching Tool	Opinion Review	6	4	-	-	2	-	-	-	The OMP is more effective and efficient than the traditional model. Traditional approach were more likely to teach generic skills while OMP teach about the patient's specific illness in terms of diagnostic tests and the natural progression of disease
	Systematic Review	1	-	-	-	1	-	-	-	
	Non RCT	1	-	-	-	1	-	-	-	
OMP & Teaching Skill	Obs Without Ctrl	1	-	-	-	1	-	-	-	The OMP was designed to enhance the teaching skills of physicians involved in the clinical education of new residents and offer feedback to them. An OMP workshop for faculty members does not substantially improve residents' perceptions of the quality or quantity of clinical teaching. The results of this study indicate that the effort to improve clinical teaching by faculty must be a sustained effort. Future studies should investigate the barriers of the OMP micro skills.
	Non RCT	3	-	-	-	2	-	-	1	
	RCT	1	-	-	-	1	-	-	-	
Teach OMP	Obs Without Ctrl	1	1	-	-	-	-	-	-	Development and use of Scripted Filmed Scenarios to teach the OMP Model.
	Systematic Review	2	-	-	-	2	-	-	-	
Total	Mini Review	1	-	-	-	1	-	-	-	Development and use of Scripted Filmed Scenarios to teach the OMP Model.
	RCT	2	-	-	-	1	-	-	1	
	Non RCT	7	-	-	-	5	-	-	2	
	Obs Without Ctrl	8	2	-	-	4	2	-	-	
	Comparative Study	1	-	-	-	1	-	-	-	
	Narrative Review	1	-	-	-	-	1	-	-	
	Opinion Review	9	7	-	-	2	-	-	-	

1 When reported as such by the authors, with or without statistical arguments.

2 Mix of positive, absence of, and negative effects.

3 When the authors report a positive effect but without reporting statistical significance

4 Mix of statistically significant and demonstrated positive effects.

5 When the authors report a negative effect but without reporting statistical significance

6 Mix of statistically significant and demonstrated negative effects

7 Mix of statistically significant and demonstrated negative effects

(9). The OMP developed teaching and learning procedures, which can effectively give clinicians the ability to convert clinical teaching into a conversation with the help of learner, intern or trainee. Furthermore, it offers both depth and breadth of teaching opportunities for learners. The arrangement of workshops for clinical preceptors by combining the principles associated with OMP can increase the teaching effectiveness and balance “getting the job done” with more experience (13). In this regard, initial planning and emphasize on the role of learners in asking them instead of telling can be helpful.

3. One-minute preceptor and SNAPPS

Four articles were included in this group. Two of them were described OMP through opinion review (16,17). In both of these articles, a positive effect was reported but without any mentioned statistical significance. Another article was a comparative study with a simulated patient case (2). The results showed a combination of statistically significant positive effects for OMP. The last article was a narrative review (6) that compared two teaching methods without statistical investigation.

The OMP and SNAPPS are two strategies that can be applied in office perception to make an improvement in educational processes and outcomes. The SNAPPS has the following steps: 1) Summarize the history and findings briefly, 2) narrow the differences to two or three matters, 3) compare and contrast differences opportunities, 4) probe the preceptor by questions of uncertainty, problems, or alternative methods, 5) plan a process for patient’s medical issues, and 6) select a subject for self-learning. The OMP is an older method and has been studied more efficiently; moreover, it is easy to learn and utilize by having the presence of the residents as preceptors, compared to SNAPP. In contrast, SNAPPS requires both preceptors and trainees to learn the framework, so it needs to be implemented systematically via a clerkship or residency program and provides a novel approach to teaching clinical reasoning. The SNAPPS may create more meaningful units regarding questions and uncertainties and make more satisfaction for residents than OMPs.

For both SNAPPS and OMP, preceptors need a deep realization of the teaching process and have the capability of training according to the characteristics of learners. Further studies are required to measure learner’s features and cultural backgrounds, which may affect the case presentation. Both SNAPPS and OMP let preceptors assess the learner’s diagnostic argument skills. Two issues

would be identified by applying these models: the patient’s problem and the learner’s realization of the patients’ problem. The realization of these points is critical for effective patient care and excellent clinical education. Hospitalists do not need to apply all phases of each framework for each gradual approach; however, they can use the components of both models depending on individual learners, team structure, time available, or clinical case.

It is essential to conduct further studies on the use of both frameworks depending on the teaching and evaluation of patients. These studies need to address more accurate results for both models will be reviewed, including the change in clinical practice, the performance of the learners’ and residents’ tests or patient outcomes, such as the length of stay, the cost per item, or the need for rapid response/care units.

4. One-minute preceptor and Traditional Model

This group entails two articles. Both of them were observational without using a control group (2,7) and the authors reported a mix of statistical significance and demonstrated positive effects related to OMP, compared to the traditional model.

The OMP is a learner-oriented and patient-centered method that helps to make the learners’ learning needs visible for teaching purposes. The OMP is a more effective teaching model in comparison with traditional ones. Learners are satisfied with OMP due to learners feedback in the decision-making process. This is done by the first two steps in the OMP method. The utilization of OMP method gives preceptors more confidence to rate the learner’s knowledge and clinical reasoning skills. This is why preceptors prefer OMP model to traditional models. For teaching points, preceptors should distinguish the characteristics of the case and address the learners’ requirements. Preceptors should be aware that learners’ aim regarding teaching points is similar to what they really share, focusing on diagnostic reasoning as well as evaluation and treatment. OMP technique has been delivered teaching points from genetic clinical skills to disease-specific (2).

5. One-minute preceptor as a teaching tool

Nine articles were included in this group. One article in this group described OMP via observational study without using a control group (18) without statistical arguments. In addition, one of this article is a nonrandomized clinical trial (19) showed a combination of statistically significant and positive effects. One RCT (20) reported as such by the authors, without statistical arguments. Six articles were opinion reviews in this

group (2,5,21,22,24,25). Out of six articles, four articles (5,22,23,25) reported a positive effect but without any statistical significance. The two remained articles in this group (20,24) had no statistical arguments.

The application of OMP as a teaching tool improves the way of eliciting medical learners' knowledge and teach them the new things since they want to learn and grow more as a clinician and preceptor (18). One new method of teaching in this group was ICARE which stands for Initiate, Contribute, Apply, Reflect, and Execute. It was the modified version of OMP in a dental clinic setting that increases the learner value and learner interactions. It develops learners' critical thinking and encourages students to use clinical evidence for decision-making on patient care in the clinic. The ICARE can help dental preceptors and learners to provide the best available patient care when learners increase their knowledge of oral health principles (23).

Additionally, the OMP has the following potential benefits when applying the small group settings in the anatomy lab. Laboratory 1 encourages active learner-centered learning, laboratory 2 enables preceptors to adapt to the individual learner's learning requirements, laboratory 3 provides feedback to the learners, and laboratory 4 makes a clear structure that allows the preceptor to use this structure even when there is an encounter with brief learning according to the learner-centered approach. Laboratory 5 offers fresh preceptors a benchmark which improves teaching materials and includes many essential components for promoting effective learner learning, laboratory 6 makes learners ready for clinical learning, laboratory 7 is ideally convenient for small group setting, which considered in the gross anatomy laboratory, and laboratory 8 offers opportunities to increase preceptor immediacy.

Therefore, the OMP in the gross anatomy laboratory is a method that enables preceptors to change structure-identification questions to active learning opportunities for learners (5). There is another model of teaching in clinical problem-solving area suggested by American Society of Health-System Pharmacists (ASHP). This method focuses attention to the innovative and adaptable application of the four major preceptor roles, namely direct instruction, modeling, coaching, facilitating. The ASHP suggested a pathway to teach clinical problem-solving skills, which are applicable within an educational structure prepared by pharmacy schools as well as pharmacy residency programs (21). In addition, the model of teaching in clinical nursing education is Five-Minute Preceptor (5MP) modified version of OMP in medical

education.

The 5MP steps are as follows: 1) Get the learner to make determination 2) Investigate for supporting evidence 3) Teach common rules 4) Make more positive points, and 5) Make a correction on errors or misinterpretations. As 5MP has a simple set of important clinical teaching behavior, it is considered a relatively easy tool due to its time efficiency. In this regard, it helps preceptors to provide frequent high-quality educational experiences to learners in multiple clinical settings (22). The application of OMP model as a template has benefits for both health care providers (HCPs) and patients, in such a way that works for the provider as an organized time-efficient method. It also helps HCPs to know the patient's requests and encourage positive practices (25). This clinical teaching is patient-centered, meaning that most of the learner-preceptor interaction emphasizes patient care issues instead of educational requirements.

The single teaching interference can be noticed as time efficient, successful, and academically sound training policy for the ambulatory constitution. The typical case scenarios indicate that OMP is the most suitable model for the single-user of corridor consultation, whether for diagnosis questions or instituting a therapeutic plan. The ad hoc teaching may provide the best unique training opportunity (24). Research on residents-as-preceptors' curricula has a limitation in both the number of studies and also methodology. The results showed residents as preceptor's curricula can significantly improve the teaching skills of residents. Furthermore, the methodologies which used in these studies have been improved in the course of time. Considering these data, the authors recommend an evidence-based intervention, evaluation, and reconsideration with more than three hours of intervention (and, if possible periodic augmentation) based on the OMP. The assessment should be conducted through a randomized controlled trial study using an objective structured teaching examination (20).

Results indicate that residents' knowledge, skills, attitudes, and values related to teaching varies in the domain of institutions and training programs. Psychiatry residents would not clearly realize their role and position as educators in relation with patients and medical learners. Moreover, they do not allocate a great deal of time for educating patients rather than family medicine residents, which might be due to different patient populations and treatment structures. The study states that psychiatry residents are not comfortable with OMP technique in psychiatric structures (26).

6. One-minute preceptor and teaching skill

This group was composed of five articles. There are an observational study without using a control group in this category (27) and a randomized clinical trial (28) that authors report a mix of statistically significant and positive effects. The three remained articles in this group were nonrandomized clinical trial studies, which one of them showed (29) mix of statistically significant and negative effects and two of them (30) showed the combination of statistically significant and positive effects.

The five steps of learning in the OMP program persuade asking more questions, making feedback, and proving an option for reflection throughout clinical experience. Learning is relevant to realize and solve clinical issues. Through conversation with the preceptor, the newest learner is more enthusiastic to discuss, analyze, and think in another way. Therefore, it is important to make those preceptors ready with the skills to nurture and develop critical thinking skills among the fresh nurses. Considering all steps, OMP is a bridge to reach a successful orientation program (31). Learners consider the use of OMP micro skills in clinical teaching importance and value. They became aware that OMP micro skills would improve the quality and quantity of teaching, as well as the quality of preceptors in the structured programs. Faculty stated positive attitudes regarding teaching (27). The Micro skills of learning seminar transformed a set of well-established teaching principles from a resident to a preceptor (30). In contrast, a one-time OMP workshop for faculty staff does not significantly refine residents' perceptions of the quality or quantity of clinical education. The results demonstrated that the improvement of clinical teaching by a faculty must be a tolerable attempt effort (29). Moreover, a number of researchers believe that OMP model provides little improvements in residents' teaching skill (28).

7. Teach One-minute preceptor

This group includes one article. This observational study described OMP teaching method without using a control group (19). They showed a positive effect but without any significant statistical evidence. The combination of film, role play, group discussion, and academic presentation more effect as preceptors' workshops. These training sessions can go further through sharing videos on a website, which an applicable instrument.

Conclusion

The approaches to the OMP model in the past

two decades emphasized that OMP was effective and efficient. It could provide a better learning experience to both preceptor and learner. The OMP developed teaching and learning activities, converted teaching into a conversation. Both in OMP and SNAPPS, preceptors require a deep understanding of the teaching method, which considers the characteristics of the learner and assesses the diagnostic reasoning skills of learners. The SNAPPS provides a novel approach to teaching, induces more meaning units related to questions and uncertainties, and gives more satisfaction to residents, compared to OMP. Preceptors felt more confident in their ability to rate learners' knowledge when using the OMP.

In addition, OMP is learner-oriented; therefore, preceptors and learners prefer the OMP model rather than a traditional model. Applying the OMP as teaching tool helps learners to know and teach what they have not yet learned and developed personal learning and growing as a clinician and a preceptor. The use of OMP skill in clinical teaching can improve the quality and quantity of teaching and contribute to a successful orientation program. Finally, the application of OMP via film combination, role play, group discussion, resident engagement as preceptors' workshops, and utilization of video sharing website on most devices will be beneficial.

Acknowledgements

None.

Conflict of Interest

The authors declare no conflict of interest.

References

1. Bowen JL, Eckstrom E, Muller M, et al. Enhancing the effectiveness of One-Minute Preceptor faculty development workshops. *Teach Learn Med.* 2006;18:35-41.
2. Irby DM, Aagaard E, Teherani A. Teaching Ppoints identified by preceptors observing one-minute preceptor and traditional preceptor encounters. *Acad Med.* 2004;79:50-55.
3. Chan LK, Yang J, Irby DM. Application of the One-Minute Preceptor Technique by Novice Teachers in the Gross Anatomy Laboratory. *Anat Sci Educ.* 2015;8:539-546.
4. Chan LK, Sharma N. Effects of training experienced teachers in the use of the one-minute preceptor technique in the gross anatomy laboratory. *Anat Sci Educ.* 2014;7:124-129.
5. Chan LK, Wiseman J. Use of the One-Minute Preceptor as a Teaching Tool in the Gross Anatomy Laboratory. *Anat Sci Educ.* 2011;4:235-238.
6. Pascoe JM, Nixon J, Lang VJ. Maximizing teaching on the wards: Review and application of the one-minute preceptor and SNAPPS models. *J Hosp Med.* 2015;10:125-130.
7. Teheranti A, O'sullivan P, Aagaard EM, et al. Student perceptions of the one minute preceptor and traditional preceptor models. *Med Teach.* 2007;29:323-327.
8. Seki M, Otaki J, Breugelmans R, et al. How do case presentation teaching methods affect learning outcomes? SNAPPS and the one-minute preceptor. *BMC Med Educ.* 2016;16:12.
9. Rashid P, Churchill JA, Gendy R. Improving clinical teaching for busy clinicians: integration of the one-minute preceptor into mini-clinical examination. *ANZ J Surg.* 2017;87:535-

- 536.
10. Aagaard E, Teherani A, Irby DM. Effectiveness of the one-minute preceptor model for diagnosing the patient and the learner: proof of concept. *Acad Med.* 2004;79:42-49.
 11. Farrell SE, Hopson LR, Wolff M. What's the evidence: A review of the one minute preceptor model of clinical teaching and implications for teaching in the emergency department? *J Emerg Med.* 2016;51:278-283.
 12. Lockspeiser TM, Kaul P. Applying the one minute preceptor model to pediatric and adolescent gynecology education. *J Pediatr Adolesc Gynecol.* 2015;28:74-77.
 13. Gallagher P, Tweed M, Hanna S. Developing the one-minute preceptor. *Clin Teach.* 2012;9:358-362.
 14. Eckstrom E, Homer L, Bowen JL. Measuring outcomes of a one-minute preceptor faculty development workshop. *J Gen Intern Med.* 2006;21:410-414.
 15. Salerno MS, O'Malley CA, Pangaro NL, et al. Faculty development seminars based on the one preceptor improve feedback in the ambulatory setting. *J Gen Intern Med.* 2002;17:779-787.
 16. Cayley WE Jr. Effective clinical education: strategies for teaching medical students and residents in the office. *WMJ.* 2011;110:178-81.
 17. Bannister SL, Hanson JL, Maloney CG, et al. Using the student case presentation to enhance diagnostic reasoning. *Pediatrics.* 2011;128:211-213.
 18. Jones K, Reis S. Learning through vulnerability: A mentor mentee experience. *Ann Fam Med.* 2010;8:552-555.
 19. Hickie C, Kelly B, Nash L. Development and Use of Scripted Filmed Scenarios to Teach the One-Minute Preceptor Model. *Acad Psychiatry.* 2017;41:110-113.
 20. Post RE, Quattlebaum RG, Benich JJ 3rd. Residents-as-teachers curricula: A critical review. *Acad Med.* 2009;84:374-380.
 21. Weitzel KW, Walters EA, Taylor J. Teaching clinical problem solving: A preceptor's guide. *Am J Health Syst Pharm.* 2012;69:1588-1599.
 22. Bott G, Mohide EA, Lawlor Y. A clinical teaching technique for nurse preceptors: The five minute preceptor. *J Prof Nurs.* 2011;27:35-42.
 23. Sakaguchi RL. Facilitating preceptor and student communication in a dental school teaching clinic. *J Dent Educ.* 2010;74:36-42.
 24. Molodysky E. Clinical teacher training: Maximising the 'ad hoc' teaching encounter. *Aust Fam Physician.* 2007;36:1044-1046.
 25. Vaughan EM, Moreno JP, Johnston CA. Utilizing the one-minute preceptor for patient education. *American J Lifestyle Med.* 2015;224-226.
 26. Brand MW, Ekambaram V, Tucker P, et al. Residents as teachers: Psychiatry and family medicine residents' self-assessment of teaching knowledge, skills, and attitudes. *Acad Psychiatry.* 2013;37:313-316.
 27. Ong MM, Woo KM, Cook S. A general survey on learners and faculty perspectives on educational activities held in the National Dental Centre, Singapore. *Proceedings of Singapore Healthcare 2016;* 25:158-168.
 28. Furney SL, Orsini AN, Orsetti KE, et al. Teaching the one-minute preceptor: a randomized controlled trial. *J Gen Intern Med.* 2001;16:620-624.
 29. Ong MM, Yow M, Tan J, et al. Perceived effectiveness of one-minute preceptor in micro skills by residents in dental residency training at National Dental Centre Singapore. *Proceedings of Singapore Healthcare 2017;* 26:35-41.
 30. Amorosa J, Graham MJ, Ratan RB. Medical students as learners: Transforming the resident-level micro skills of teaching into a parallel curriculum for medical students to aid the transition from classroom to OB/GYN clerkship. *Educ Health (Abingdon).* 2012;25:135-140.
 31. Kertis M. The one-minute preceptor: A five-step tool to improve clinical teaching skills. *J Nurses Staff Dev.* 2007;23:238-242.