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Effectiveness of One Minute Preceptor Model of Teaching, in Ophthalmology Students of Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, Azad Jammu Kashmir

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ABSTRACT

Objective: To evaluate effectiveness of one minute preceptor Model of Teaching in Ophthalmology students in MBBS, MC, Mirpur, AJK.
Study Design: Cross-sectional Study.
Place and Duration of Study: Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, AJK , Pakistan, from Oct 2019- Sep 2021.
Methodology: After permission from RERC, sampling was done by Census method, Non-Probability convenience sampling. An orientation session about one minute preceptor Model of teaching was held, so that students can understand its methodology. The students were exposed to OMP Model in OPD clinical classes, after which a questionnaire comprised of 12 closed ended questions was filled by students to check effectiveness of one minute Preceptor Model. ***Results:*** The survey questionnaire comprised of 12 questions, it was filled by 100 students to check effectiveness of one minute preceptor. So, a total of 1200 responses to various aspects of one minute preceptor model were obtained. Around 722(60.16%) strongly agreed with the questions, 236(19.66%) agreed, 21(1.75%) remained neutral, disagreed with the questions, 18(01.50%) slightly disagreed with the questions, 08(0.66%) strongly disagreed about effectiveness of one minute preceptor model. Maximum students strongly agreed upon one minute preceptor model facilitating Understanding treatment of disease 69(69%), followed by Case Presentation skills 66(66%) and Discussion of Diagnostic tests 66(66%).A statistically significant correlation was observed between "Assessment of history taking skills and "Making a spot diagnosis",i-e p-value<0.001. Another significant correlation was found between Case Presentation skills and assessment of physical examination skills. (p-value<0.001).
Conclusion: OMP Model is an effective teaching tool in OPD.

Keywords: Effectiveness, One Minute Preceptor, Ophthalmology, Out-Patient Department.

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INTRODUCTION

Clinical teaching programs are generally conducted in busy OPDs. A uniform framework for teacher–learner discussion within the limited time available for teaching junior students is not readily available. A teacher or preceptor is a mentor who must acquire multiple micro teaching skills like Skill of Probing Questions, Skill of Explanation, small group discussions skill etc.[1] Preceptor-ship lies in the domain between clinical teaching (integrating knowledge in a group or individual setting) and mentoring (providing substantial support that goes beyond technical knowledge).[2]

There are several methods for improvement of learning clinical skills like SNAPPS (summarize, narrow, analyze, probing, management Plan, select a topic), OMP, illness script writing etc. All these methods are useful in busy clinical settings, however there is much controversy regarding which method is superior.[3] One-Minute Preceptor (OMP) Model of clinical teaching was described in 1992 in Washington University by family physicians. The goal of OMP Modelis to provide clinical preceptors with the tools necessary to teach a general principle in a short time. The method features five "microskills" that allow preceptors to assess a learner's knowledge base and thought process, teach a specific principle, and provide timely feedback.[4] The five micro skills of OMP Model include: Get a Commitment, Probe for Supporting Evidence, Reinforce What Was Done Well, Give Guidance About Errors/ mistakes, Teach a General Principle.[5]

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S. No	Name of Skill	Interpretation
1	Get a Commitment	Encourage the learner to commit to one of the aspects of patient management Strategies: Use open-ended questions.[6]
2	Probe for Supporting Evidence	Identify the learner's knowledge base and clinical reasoning for the commitment Strategy: Avoid passing judgment
3	Reinforce What Was Done Well	Positive feedback reinforces desired behaviors, knowledge, skills, or attitudes.[7]
4	Give Guidance About Errors/ mistakes	Try to fill knowledge gaps of the learner Strategy: Focus on 1-2 teaching points or clinical pearls.[8]
5	Teach a General Principle	Reward appropriate behaviors and actions. Build self-esteem.[9]

The first micro skill can be used in assessing clinical concepts, including history taking, physical examination, differential diagnosis as well as management aspects. For example, the preceptor may ask the learner one of the following questions: What do you think is causing the patient's symptoms? Which laboratory test would you like to order? Which medication do you think would be best to treat their symptoms? The second micro skill "Probe for Supporting Evidence" enhances critical thinking ability of the students. The next steps involve building confidence of student, correcting mistakes and providing timely and effective feedback.[10]

METHODOLOGY

This study was conducted at Outpatient Clinics of Ophthalmology Department, at Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, AJK Pakistan. In this study, all the 100 students of 4th year MBBS participated in their clinical rotations over a period of 09 months, from 1st Oct 2019- 30th Sep 2021. The research question was "Is OMP model effectivein assessment of learner's knowledge and provision of effective & timely feedback in busy OPDs?"Non-Probability convenience sampling was done in which total population (all fourth-year students) was included in the sample. The study was approved from Ethics Review Committee by written permission(No.03/RERC/20). An Informed written consent was taken from students.

Inclusion Criteria: Fourth year MBBS students who took orientation session.

Exclusion Criteria: Fourth year MBBS students who refused to participate in the study.

In this study, all the 100 students of 4th year MBBS participated at Ophthalmology OPD from 1st October 2020–30th September 2021. The sampling population (4th Year MBBS Student) was pre-defined. None of the students refused consent to participate in the study. After permission from RERC (No.03/RERC/20), an orientation session about OMP modelof teaching was held, so that students can understand its methodology. This was a 1-hour orientation session conducted by the author himself with power point presentation. Operational Definition of OMPmodelwas "10 minutes clinical teaching session, which integrated five steps to conduct a learning session for medical students in the OPDs. These steps included, Got a Commitment, Probed for Supporting Evidence, Reinforced What Was done well, gave guidance about mistakes and taught a general principle".

The students were exposed to OMP model in OPD clinical classes. After OMP session,a questionnaire comprised of 12 closed ended questions was filled by students to check effectivenessof OMP model. The questionnaire was filled in anonymously to protect the identity of students. It included 12 closed ended questionson a 07 point Likert scale rating. The questionnaire explored effectiveness of OMP modelin clinical concept making, case presentation, critical thinking about patient management as well as providing timely feedback.

Data analysis was done using IBM Statistical Package for the social sciences (SPSS) version 28:00. Chi-square test was used to compare observed results with expected results. The $p \leq 0.05$ was considered statistically significant relationship between two variables.

RESULTS

Out of a total of 1200 responses, 722(60.16%) were strongly agreed, 236(19.66%) slightly agreed, 141(11.75%) agreed, 54(04.50%) neutral, 21(1.75%) disagreed, 18(01.50%) slightly disagreed, 8(0.66%) strongly disagreed about effectiveness of OMP sessions (Table-I).

Maximum students strongly agreed upon OMP model facilitating Understanding treatment of disease 69(69%), followed by Case Presentation skills 66(66%) and Discussion of Diagnostic tests 66(66%), Identification of risk factors of the disease 65(65%),

Table-I: OMP Model Perceptions by the Students

OMP has helped me in: n (%)	Strongly Disagree	Slightly Disagree	Disagree	Neutral	Agree	Slightly Agree	Strongly Agree
Assessment of history taking skills			01(01%)	05(05%)	11(11%)	23(23%)	60(60%)
Making a spot diagnosis				03(03%)	18(18%)	25(25%)	54(54%)
Case Presentation skills		01 (01%)	02 (02%)	02 (02%)	13 (13%)	16 (16%)	66 (66%)
Assessment of physical examination skills.	04(04%)	06(06%)	02(02%)	11(11%)	04(04%)	27(27%)	46(46%)
Discussion of Ocular findings in your case			01(01%)	07(07%)	16(16%)	12(12%)	64(64%)
Identification of risk factors of the disease	02 (02%)	03 (03%)	01 (01%)	04 (04%)	11 (11%)	14 (14%)	65 (65%)
Discussion of Diagnostic tests			01(01%)	03(03%)	09(09%)	21(21%)	66(66%)
Understanding the treatment of disease			03(03%)	02(02%)	08(08%)	18(18%)	69(69%)
Formulation of a surgical plan		02(02%)	02(02%)	05(05%)	11(11%)	23(23%)	57(57%)
Understanding the prognosis of the disease		01(01%)	05(05%)	03(03%)	12(12%)	29(29%)	50(50%)
Thorough feedback of the instructor	01(01%)	03(03%)	01(01%)	05(05%)	17(17%)	12(12%)	61(61%)
Encouragement to read more about the disease later	01(01%)	02(02%)	02(02%)	04(04%)	11(11%)	16(16%)	64(64%)
Total n (%)	08 (0.166%)	18 (01.50%)	21 (01.75%)	54 (04.50%)	141 (11.75%)	236 (19.66%)	722 (60.16%)

Discussion of Ocular findings 64(64%) and Encouragement to read more about the disease later 64(64%).

Regarding the OMP effectiveness in assessment of history taking skills, 60 students (60%) strongly agreed with the opinion that OMP sessions are helpful in, 23 students (23%) slightly agreed, 11 students (11%) agreed, 5 students (5%) were neutral and only 1 student (1%) disagreed.

About Making a spot diagnosis, 54 students (54%) strongly agreed, 25 students (25%)slightly agreed, 18 students agreed (18%)and only 03 students (03%) had a neutral opinion. Regarding case presentation skills, 66 students (66%) strongly agreed, 16 students (16%) slightly agreed &02 students (02%) disagreed. OMP efficacy regarding Assessment of physical examination skills revealed 46 students (46%) strongly agreed, 27 students (27%)slightly agreed, 02 students (02%) disagreed, 06% students (06%) slightly disagreedand 04 students(04%) strongly disagreed. Discussion of Ocular findings during OMP session revealed 64 students (64%) strongly agreed, 07 students (07%) neutral, 01student disagreed 0(1%).

As far as identification of risk factors of the disease during an OMP session was concerned, 65 students (65%) strongly agreed, 14 students (14%) slightly agreed, 01 students (01%) disagreed, 03 students (03%) slightly disagreed and 02 students (02%) strongly disagreed. Regarding discussion of Diagnostic tests, 66 students (66%) strongly agreed, 21 students (21%) slightly agreed, 09 students (09%) agreed, 03 students (03%) remained neutral and 01 student (01%) disagreed. As far as efficacy of OMP model in Understanding the treatment of disease, 69 students (69%) strongly agreed, 18 students (18%) slightly agreed, 08 students (08%) agreed, 02 students (02%) remained neutral and 03 students (03%) disagreed. OMP model effectiveness in formulation of a surgical plan, 57 students (57%) strongly agreed, 05 students (05%) remained neutral, 02 students (02%) disagreed and 02 students (02%) slightly disagreed.

Maximum students strongly agreed upon OMP facilitating Understanding the treatment. A statistically significant association was observed between "Assessment of history taking skills"and "Making a spot diagnosis"i-e *p*-value<0.001 by using a Chi-square test (Table-II).

Minimum response for OMP model was about understanding the prognosis of the disease. 50% strongly agreed, 03% remained neutral, 05% disagreed and 01% slightly disagreed. Relating Thorough feedback (timely & effective) of the instructor with OMP model, 61% strongly agreed, 05% remained neutral, 01% disagreed, 03% slightly disagreed and 01% strongly disagreed. Another significant correlation was found between Case Presentation skills and assessment of physical examination skills. *P*-value was <0.001 by using a Chi-square test (Table-III).

Table-II: Making a Spot Diagnosis * Assessment of History Taking Skills

Baseline Characteristics	Study Groups					*p*-value
	Group A disagree (n=100)	Group B Neutral (n=100)	Group C Agree (n=100)	Group Dslightly agree (n=100)	Group E strongly agree (n=100)	
Assessment of history taking skills	01 (01%)	05(05%)	11(11%)	23(23%)	60(60%)	0.001
Making a spot diagnosis	00(0.00%)	03(03%)	18(18%)	25(25%)	54(54%)	0.001

Table-III: Correlation b/w Case Presentation Skills & Assessment of Physical Examination Skills

Baseline Characteristics	Study Groups					*p*-value
	Group A disagree (n=100)	Group B Neutral (n=100)	Group C Agree (n=100)	Group Dslightly agree (n=100)	Group Estrongly Agree(n=100)	
Case Presentation skills	02(02%)	02(02%)	13(13%)	16(16%)	66(66%)	0.001
Assessment of physical examination skills:	02(02%)	11(11%)	04(04%)	27(27%)	46(46%)	0.001

The last aspect i-e further encouragement to read about the disease after OMP session revealed 64% strongly agreed responses, 04 neutral, 02% disagreed, 02% slightly disagreed and 01% strongly disagreed. Similarly, Strong disagreement was observed on Assessment of physical examination skills by using OMP model of teaching and *p*-value was 0.022. No significant correlation was observed between Discussion of Ocular findings and Identification of risk factors of the disease (*p*-value 0.175)

DISCUSSION

Solving a clinical problem by critical thinking or making appropriate differential diagnosis is known as clinical reasoning. Time limitation is a well known factor for clinical preceptors as theyhave multiple tasks like, patient care, caring out research and student teaching as well. Therefore, it is important that they acquire and utilizetime-saving teaching methodologies.[11] A total of 100 students were exposed to OMP sessions during their clinical rotation in Ophthalmology. This study is comparable to another study, done in Rawalpindi, Pakistan in which 75 medical students' experienced OMP session during their Gynecology and Obstetrics rotation, after that they were evaluated regarding effectiveness of OMPmodel.[12]

Regarding the assessment of history taking skills in OMP model 60% students were of the opinion that OMP sessions are helpful in assessment of history taking skills. In contrast, Ali S *et al*. in their study found no remarkable difference between traditional methods of teaching versus OMP mode.[13] As far as Making a spot diagnosis was concerned, 54% students strongly agreed and 25% students slightly agreed. Chandra etal demonstrated 70% positive results that OMP modelImproved critical thinking and clinical reasoning skills and enhanced knowledge retention. Their OMP sessionparticipants also obtained significantly higher post-test marks as compared to the low efficacy of traditional methods.[5]

Regarding case presentation skills, 66% students strongly agreed and 02% slightly disagreed. These results are lower as compared with study by Moinet al who showed OMP model effectiveness in improving the case presentation skills of students, provision of timely & effective feedback making a correct plan assessment and stimulation to acquire further knowledge about illness later on in 77% of the students.[12]

As far as efficacy of OMP in Understanding treatment of disease, 69% strongly agreed and 03% disagreed. These results are comparable with a study in Jalandhar, India in which almost all students stated that OMP modelimproves clinical reasoning skills. Also, the faculty members said that OMP model can be implicated in all domains of learning. They also had a consensus that OMP model can be incorporated in busy OPD setting as an effective teaching tool.[13]

Providing effective as well as timely feed back is very important. This will not only guide learner about his short comings but also helps them to appreciate how the preceptor noticed the session.[11] This seems to be a significant benefit of OMP modelas compared to traditional teaching methods.[14] Relating Thorough feedback (timely & effective) of instructor with OMP model, 66% strongly agreed. This is comparable with study by Cheema *et al*. who showed that 63% of the participants suggested that feedback given by OMP model was helpful.[13] The last aspect i-e further stimulation to acquire knowledge about the illness later on after OMP session revealed 64% strongly agreed responses. These results are comparable to Cheema *et al*. who showed that 77% participant felt encouragement to read more about disease after OMP session.[13]

Out of a total of 1200 responses, 699(58.25%) were strongly agreed, 18(01.50%) slightly disagreed, 10(0.83%) strongly disagreed about effectiveness of OMP model. Similar inferences are presented by another study that OMP facilitates learner centered learning which is active learning.[11] OMP model makes preceptor, a facilitator who plays like a ''guide on the side''. He facilitates learners to construct their own knowledge by critical thinking, open discussions and timely feedback rather than a ''sage on the stage'' who passively delivers knowledge to students by compulsory listening.[15]

Maximum students strongly agreed upon OMP facilitating Understanding treatment of disease (69%), followed by Case Presentation skills (66%) and Discussion of Diagnostic tests (66%). This is comparable to Noor *et al.* that students had a statistically significant gain in knowledge after undergoing OMP sessions in their clinical rotations (58.50% v/s 90.60%).[11] Whereas minimum weight age was given to Assessment of physical examination skills (46%). In a study, the three positive aspects of OMP model remained as making a diagnosis, case presentation and disease discussion.[16] Similarly, Strong disagreement was observed on Assessment of physical examination skills (4%) followed by thorough feedback of instructor (1%) and Encouragement to read more about the disease later (1%). This is in contrast to another study that showed that more number of students had a motivation to acquire further knowledge about disease after OMP session.[17] This study is comparable to another study by Arya *et al*. upon Pediatric residents which proved that OMP model ascertains student's diagnosis and assesses student's underlying clinical reasoning. In that study 78.3% strongly felt that OMP model assesses students' knowledge gain & 95.6% felt that it provides constructive feedback.[18]

LIMITATIONS OF STUDY

Students had different OMP sessions as OPD patients were different at every encounter so experience was not be same.

CONCLUSIONS

OMP model of learning encourages students to think about diagnosis and management, gives them immediate feedback on their thinking, and helps them rectify their mistakes.

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Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

WAK & TK: Study design, drafting the manuscript, data interpretation, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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